Literature Review
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Dissertation title: Effects of mindful-insight mediation on self-awareness, awareness of emotion, and awareness of effects of emotion in leaders: An experimental study.

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Research topic

The dissertation topic considers the impact of strength-based mindfulness training on self-awareness within the theoretical construct of Emotional Intelligence (EI) for the purpose of improving leader performance. Exploring ways to improve leader performance has long been a topic of research within I/O Psychology (Boyatzis, 2008; Dane, 2011). One avenue of thought and research has explored the contribution of EI to leadership performance (Bowen, 2014; Côté, Lopes, Salovey, & Miners, 2010). Research in the area of EI and leader development has argued that self-awareness is a foundational component of EI (Côté et al., 2010; Goleman, Boyatzis, & McKee, 2001). Supporting this line of research, Higgs and Rowland (2010) argued that self-awareness in senior leaders helped predict positive performance. Finally, in an effort to identify training interventions that could improve EI and leader performance, researchers have studied the effect of strength-based mindfulness training on performance outcomes (Dane & Brummel, 2013; Hulsheger, Alberts, Feinholdt, & Lang, 2013; Purser & Milillo, 2015; Roche, Haar, & Luthans, 2014). This research will fill the gap in current research by exploring the effect of a mindful-insight training intervention on self-awareness and EI in a business population.

Literature review

        The literature review will be organized into three sections. The first section will review the literature surrounding research in emotional intelligence and self-awareness. Section 2 will consider studies that have explored mindfulness theory and application. Lastly, Section 3 will review conflicting theories and perspectives to those presented in previous sections will be considered.
        Section 1: Emotional Intelligence and self-awareness. Salovey and Mayer (1990) and Goleman (1995) are largely credited with conducting seminal research in the area of emotional intelligence (Boyatzis, Gaskin, & Wei, 2015). Boyatzis et al. (2015) argued that there were three significant models of EI within current psychology research and theory. Boyatzis et al. (2015) argued that one approach is an ability-based model

grounded on the research of Salovey and Mayer (1990). The second model identified by Boyatzis et al. (2015) is a self-perception approach based on the research of Bar-On (1997). The final model of EI identified by Boyatzis et al. (2015) is a behavior or competency approach based on research by Goleman (1995). Sadri (2012) asserted that the two most popular approaches to EI are the ability-based approach and the competency approach. The ability-based approach has four dimensions; "regulating, understanding, assimilating, and expressing emotions" (Salovey & Mayer, 1990, figure 1). The competency model has two competencies (Boyatzis, Goleman, & Rhee, 2000); self-awareness and self-management. Self-management is comprised of four clusters. These four clusters are "emotional self-control, adaptability, achievement orientation, and positive outlook" (Boyatzis et al., 2015, p. 249). Next, research focusing on EI in the business environment will be explored.

Emotional intelligence theory has been an emerging area of study in organizational settings, particularly in the area of leader development. This research will be discussed in greater detail next. An early organizational study evaluating an EI training program at American Express showed performance for sales staff increased after EI training (Cherniss & Caplan, 2001). Within the domain of leadership research, the application of EI has been studied as a predictor of leader performance (Fambrough & Hart, 2008; Goleman et al., 2001; O'Boyle, Humphrey, Pollack, Hawver, & Story, 2011; Yip & Côté, 2013). Goleman et al. (2001) argued that EI was a better predictor of leader performance than IQ. Fambrough and Hart (2008) conducted a meta-analysis of the impact of EI on leadership outcomes and concluded that a leader's knowledge and awareness of his/her emotions positively impacts performance. In supporting research; Côté et al. (2010) found that EI was a better predictor of leader emergence than IQ or personality, while O'Boyle et al. (2011) found that EI could help explain the variance in predicting job performance outcomes. Lastly, Yip and Côté (2013) found that leaders that had higher measurements of EI were better at identifying and regulating emotions that could cause anxiety and influence decision making. Next, this section will argue that the construct of self-awareness is a critical competency in EI application.

Within the seminal EI research, self-awareness was found to be a foundational competency of EI (Cherniss, Goleman, Emmerling, Cowan, & Adler, 1998; Goleman, 1995; Mayer, Caruso, & Salovey, 1999). Subsequent research in I/O Psychology and leadership development concurred with the foundational assertion that self-awareness was an import element of EI (Ashkanasy & Dasborough, 2003; Bar-On, 2010; Higgs & Rowland, 2010; Rentsch, Gunderson, Goodwin, & Abbe, 2007). Boyatzis (2011) argued that the self-awareness competency was a foundational component of EI and a critical leader skill. Houghton, Wu, Godwin, Neck, and Manz (2012) asserted that the self-awareness found in EI theory was a key component of leader self-efficacy, performance, and stress management. The Houghton et al. (2012) model integrated the concept of self-awareness found in EI theory with the competency of self-awareness found in social cognitive theory (Bandura, 1991). Houghton et al. (2012) argued that initial quantitative research confirmed the usefulness of the integrated model in improving management student performance outcomes. Lastly, probably the most significant argument for the importance of self-awareness within EI theory comes from the competency EI model of Boyatzis and Goleman (2007). This model of EI has only two competencies; self-awareness and self-management (Boyatzis et al., 2015). In this

model, self-awareness accounts for half of the model that is used to explain and understand emotional intelligence and is seen as a foundational competency for the entire theory (Boyatzis et al., 2015). Boyatzis et al. (2015) defined the construct of self-awareness within EI theory as "knowing one's internal states, preferences, resources, and intuitions" (p. 249). Next, this literature review will consider the relationship between self-awareness and leadership outcomes.

Higgs and Rowland (2010) found that self-awareness in senior leaders was a good predictor of managing change in high stress environments. The research of Higgs and Rowland (2010) used a qualitative design to identify themes in interviews of 33 leaders from different organizations. The researchers found that self-awareness helped the leader work in the moment and know when his/her ego was affecting decision making (Higgs & Rowland, 2010). The Higgs and Rowland (2010) study provides a good narrative of the experiences of organizational leaders, but the qualitative design and a lack of a standardized self-awareness measurement makes it difficult to generalize these findings outside of the study.

In a quantitative study, Bratton, Dodd, and Brown (2011) researched self-awareness and EI in a North American business population. The researchers had a large matched sample population of 146 managers and 1,314 direct reports (Bratton et al., 2011). The study used an analysis of survey answers provided by the leaders and direct reports; EI was measured using the Emotional Quotient Inventory (Bar-On, 1997). The Emotional Quotient Inventory (EQ-i) is a self-perception approach based on the research of Bar-On (1997). The study was concerned with the nature of self/other reports as a perception of leader performance (Bratton et al., 2011). The research found that self-awareness was positively correlated to higher ratings in job performance for leaders that underestimated their leadership ability (Bratton et al., 2011). However, there was a negative correlation in leadership performance for leaders that overestimated their leadership ability (Bratton et al., 2011). Bratton et al. (2011) acknowledged that the results were somewhat inconclusive. One difficulty identified with this study was that the correlational design made it impossible to make causal inferences and while there was scientific merit in understanding the relationship between self-awareness and perceived performance, the research was unable to shed light on aspects of self-awareness development that could push the research further.

Dane and Brummel (2013) conducted quantitative research to study aspects of awareness and job performance and engagement in a dynamic service industry. The research sample included 102 employees of restaurant chains in the southwest United States (Dane & Brummel, 2013). Dane and Brummel (2013) studied awareness through the lens of mindfulness as defined as "a psychological state in which one focuses attention on events occurring in the present moment" (p. 106). Embedded in the concept of mindfulness is the construct of self-awareness (Dane, 2011). Dane and Brummel measured employee mindfulness and awareness with the Mindful Attention Awareness Scale (Brown & Ryan, 2003). Performance was assessed by immediate supervisors in a survey (Dane & Brummel, 2013). Dane and Brummel (2013) found that there was a relationship between mindfulness (in the moment awareness) and performance. Dane and Brummel (2013) also found a negative correlation between mindfulness and turnover. The Dane and Brummel (2013) study showed the importance of self-awareness in workplace performance. In the Dane and Brummel

(2013) study, the employees did not receive any self-awareness training, but were tested and assessed on innate (trait) self-awareness competencies. This research is important in showing how the ability of self-awareness can improve performance outcomes, but the research does not provide answers to what types of interventions might develop self-awareness. Next, areas of mindfulness research will be reviewed.

  Section 2: Mindfulness research review. The study of mindfulness has been conducted in many areas within the field of Psychology and related fields of research. The effect of awareness on memory and plasticity has been studied in Cognitive Psychology and Neuropsychology (Lutz, Slagter, Dunne, & Davidson, 2008; Singleton et al., 2014). Lutz et al. (2008) studied the effect of Tibetan Buddhist methods of mindfulness in cognitive and neuroscience. The study used a sample of long-term meditation practitioners with 15-40 years of experience practicing Tibetan meditation techniques (Lutz et al., 2008). The study showed that prolonged meditation practice can alter the nature of brain processing from moment to moment and could increase brain plasticity and emotional regulation (Lutz et al., 2008). In later neuroscientific study, Singleton et al. (2014) found that grey matter increased in several areas of the brain after an eight-week mindfulness training program that stressed self-awareness development. The mindfulness method used by Singleton et al. (2014) was a form of Mindfulness Based Stress Reduction (MBSR) created by Kabat-Zinn (2009). While this study was encouraging for the application of mindfulness-based training, the MBSR method of training included several types of interventions (self-awareness, nutrition, yoga, and Qigong) adding confounding variables to the study. These confounding variables make it difficult to determine if the grey matter increases were from a particular intervention or a combination of all methods.

  In the field of medical research, Perlman, Salomons, Davidson, and Lutz (2010) studied the effect of mindfulness practices on pain perception. The MBSR program has been adopted in many medical pain clinics as a way to reduce chronic (Kabat-Zinn, 2009; Perlman et al., 2010). Perlman et al. (2010) studied the effects of pain on two matched groups. The first group was experienced Tibetan Buddhist meditators with over 10,000 hours of mediation; the second group was novice meditators that participated in a seven-day self-directed mindfulness program. Perlman et al. (2010) found that the experienced meditators had a lower emotional response to pain stimuli than novice meditators even when both groups reported the same intensity of pain.

  In the area of Educational Psychology a two-week mindfulness training program that stressed self-awareness was found to increase test performance and attention in the classroom (Mrazek, Franklin, Phillips, Baird, & Schooler, 2013). This research provided encouraging results for the study of the effects of mindfulness practice on self-awareness, but this study also had methodological problems. The Mrazek et al. (2013) study used a two-week variation of the eight-week MBSR program. Like the Singleton et al. (2014) study, the Mrazek et al. (2013) two-week program also introduced confounding variables. Group discussions were used in the intervention as were multiple techniques of mindfulness that made it difficult to identify the active component of the intervention.

  Research in Gender Psychology by Lomas, Edginton, Cartwright, and Ridge (2014) studied the effect of self-awareness and mindfulness training as a way to help men develop EI and regulate negative emotion. The mixed methods study analyzed

cognitive abilities and EI over a one-year period in a group of 30 men participating in a mindfulness program that focused on self-awareness development. The study found that the men experienced both attention and EI improvement over the one-year period (Lomas et al., 2014). Lomas et al. (2014) used the ability-based EI model of Salovey and Mayer (1990). As discussed in an earlier section, the ability-based model measures outcomes of self-awareness, but does not directly measure self-awareness. This measurement distinction is problematic when trying to isolate active variables. Another problem of the Lomas et al. (2014) study was that the meditation intervention was not standardized for all 30 participants. This non-standardization of the training intervention made it difficult to draw conclusions about what condition caused the measured result. In addition, Lomas et al. (2013) did not use a control group design in their research. Lomas et al. (2014) acknowledge these short comings in the study and conclude that casual relationships could not be determined from the study.

   In the area of cognitive process, Van Vugt and Jha (2011) conducted quantitative research using a test/retest control group design to study the effect of an intensive 30-day mindfulness retreat on participants' information processing and working memory. The study found that the experimental group had a significant increase in attention, working memory, and cognitive flexibility. The Van Vugt and Jha (2011) study showed the cognitive benefits of intensive long-term mindfulness practice. However, a potential confounding variable with the Van Vugt and Jha (2011) study was that experienced meditators took part in the retreat. It is impossible to know how the prior experience impacted the results of the study. Zeidan, Johnson, Diamond, David, and Goolkasian (2010) looked at another aspect of mindfulness outcomes and studied the effect of limited mindfulness training on a population with no previous mindfulness practice. Zeidan et al. (2010) found improved executive functioning and cognitive performance after just four mindfulness meditation sessions. The results of the study led Zeidan et al. (2010) to argue that even short-term mindfulness training can produce results that improve performance in cognitive tasks. The study of mindfulness within the field of I/O Psychology will be reviewed next.

   Dane and Brummel (2013) asserted that the study of mindfulness in the workplace has grown significantly in the past decade. Goldman Schuyler (2010) conducted a qualitative study of the use of mindfulness training with leaders in an executive coaching program. The research is important because it is one of the early studies that researched the workplace experiences of leaders practicing a specific method of mindfulness (Goldman Schuyler, 2010). Goldman Schuyler (2010) argued that mindfulness practice with business executives built strategic awareness and resulted in ethical value-based behavior. The Goldman Schuyler (2010) research provided a good example of mindfulness approaches used in I/O Psychology and executive coaching. However, the lack of quantitative data makes the research difficult to empirically evaluate. The coaching process introduced confounding variables that could have influenced the positive outcomes identified by Goldman Schuyler (2010). Subsequent research conducted by Shapiro, Jazaieri, and Goldin (2012) supported Goldman Schuyler's (2010) argument of improved ethical decision making. In a single-group pilot study, Shaperio et al. (2012) found that participants in an eight-week MBSR program showed increased measures of ethical decision making up to two months after the training.

McGarvey (2010) wrote her dissertation while at Harvard University on the effect of mindfulness on leader EI. The study was significant for mindfulness research for several reasons. First, McGarvey made a considerable effort to explain the history and psychological concepts of mindfulness and insight from multiple cultural perspectives. These perspectives provided a greater context for future research. The next significant aspect of McGarvey's (2010) research is that she conducted an early quantitative study of the impact of mindfulness practice on leader EI. McGarvey (2010) used correlational analysis and found that higher mindfulness scores were associated with higher EI scores. While the study was significant in its scope of mindfulness study, the quantitative design was poorly constructed. The correlational design used a population that was already mindfulness practitioners from multiple traditions of practice. The participants were simple asked to complete a questionnaire describing their mindfulness practices and to complete an EI assessment, personality inventory, and a mindfulness questionnaire. The lack of a specific mindfulness practice likely introduced confounding variables into the study that are impossible to account for. The lack of pre/posttest assessment makes it difficult to determine if EI changed as a result of mindfulness practice.

Leroy, Anseel, Dimitrova, and Sels (2013) researched the effect of mindfulness training on authentic functioning and worker engagement within several large organizations. The study used a control group, pre/posttest design with a follow-up measure four months after training and conducted the mindfulness training within the organizational setting (Leroy et al., 2013). The mindfulness training was designed after the MBSR method. Leroy et al. (2013) used structural equation modeling to statistically analyze the results projecting a linear growth trajectory of the variables over time. Mindfulness was found to enhance engagement and authentic functioning (Leroy et al., 2013). The analysis of this research indicates that the study had a sound design and was executed well. One potential problem with the study is that the MBSR method of training uses multiple methods of mindfulness practice within the training approach (Kabat-Zinn, 2009). The multiple methods increase the confounding variables that can complicate the findings especially when results are attributed to mindfulness training.

Aikens et al. (2014) conducted mindfulness research at Dow Chemical using a modified online version of the MBSR that was significantly shortened to meet the time constrains of the busy workers. The purpose of the study was to measure the effect of the training on employee stress, resilience, and vigor (Aikens et al., 2014). An experimental control group pretest/posttest design was used with 89 participants taking part in the study (Aikens et al., 2014). Aikens et al. (2014) used an analysis of covariance to analyze the between group and within-group variance and found that the mindfulness training did reduce stress while increasing resilience and vigor, even after six months. The analysis of this research indicates that the researchers appeared to conduct a thorough scientific study. However, the use of the MBSR based mindfulness intervention is problematic in this research as it has been in other research reviewed in this section. The modified MBSR program used by Aikens et al. (2014) included many types of mindfulness practices including; laying yoga, music meditation, and visualization exercises. The multiple mindfulness practices make it impossible to know if a particular practice or the combination of practices caused the results measured by Aikens et al. (2014). One of the challenges of mindfulness study is the different

between Western and Buddhist perspectives of mindfulness and awareness. These perspectives will be explored next.

Dane (2011) and Quaglia, Brown, Lindsay, Creswell, & Goodman (2015) provide multiple definitions of mindfulness from psychological and Buddhist traditions. A common characteristic of these mindfulness definitions is the act of awareness in the present moment (Bishop et al., 2004; Dane, 2011; Quaglia et al., 2015). According to Purser and Milillo (2015) Western concepts of mindfulness have largely drawn from the work of (Kabat-Zinn, 2009) and treat mindfulness from the psychological perspective of a multifaceted trait that also has state like qualities. The Western approach predominately is concerned with prolonged focused attention that can have individual and organizational benefits (Purse and Milillo, 2015). Within Buddhist tradition, there is a more refined mindfulness practice known as insight meditation within mindfulness study (Goldstein & Kornfield, 1987; Grabovac, Lau, & Willett, 2011). Mindful-insight practice has the added aspects of recognizing in the moment the impermanence of thoughts and feelings, the phenomena of suffering, and the interrelatedness of people and events (Goldstein & Kornfield, 1987; Grabovac et al., 2011). Purse and Milillo (2015) argued that the Buddhist tradition of mindfulness formed a triadic model that included; right view, right effort, and right mindfulness. These qualities transcend simple attentional capacity and lead to skillful capacity and wise behavior (Purser & Milillo, 2015). A significant difference between Western and Eastern conceptualizations of awareness and mindfulness is the deliberate evaluative thought process and non-judgmental self-awareness practiced in Buddhist mindfulness traditions (Quaglia et al., 2015). An important feature of the Buddhist view of self-awareness is the impermanent nature of the ego and the Buddhist concept of non-attachment to distorted mental storylines that attempt to protect the ego (Mosig, 2007). Next, conflicting theories and perspectives will be considered.

Section 3: Conflicting theories and perspectives. This subsection will consider conflicting theories and perspectives in the area of EI theory and mindfulness. Since the inception of EI theory there has been two major criticisms of the theory (Mayer, Savoley, Caruso, & Sitarenios, 2001; Sadri, 2012). The first criticism was that EI is not a real intelligence; that the phenomenon called EI was really an aspect of personality (Mayer, Salovey, & Caruso, 2008; Mayer et al., 2001). Critics argued that in order for EI to be a true intelligence the constructs of the theory had to be measurable and that there had to be correct and incorrect answers to questions designed to measure EI (Mayer et al., 2001). Mayer et al. (1999) and Mayer et al. (2001) argued that EI was a standard intelligence because EI could be operationalized, EI developed/improved with age, and the abilities outlined by EI theory were related and correlated with other types of intelligence. Mayer et al. (2001) argued that EI was a measurable ability with correct and incorrect answers to assessment questions and Boyatzis et al. (2015) outlined two assessments argued to have adequate reliability and validity for measuring EI. The second criticism of EI is that the definition of EI is too broad and varies depending on the EI model selected (Sadri, 2012). Boyatzis et al. (2015) argued that there are three competing theories of EI. The multiple definitions and constructs of EI theory is a valid criticism of the theory (Sadri, 2012).

Next, research presenting opposing views of the relevance and psychological construct of mindfulness will be discussed. The first criticism of the mindfulness

practice is that the effects of mindfulness in some studies have been inconclusive. Van Berkel, Boot, Proper, Bongers, and Van der Beek (2014) found no significant worker performance or health benefits in research looking at a long-term (6 month) mindfulness training programs. The research used a mindfulness training program as part of an e-coaching intervention with business professionals. The mindfulness training that was used was based on the MBSR program that has shown positive results in other studies. A criticism identified in the mindfulness programs reviewed in the previous section identified the MBSR program of mindfulness as adding confounding variable into the research design. Therefore, it is impossible to know what part of the intervention used by Van Berkel et al. (2014) didn't produce positive results.

The second criticism of mindfulness is that there are significant differences in the way the phenomenon is defined and operationalized when viewed through the lens of Western and Tibetan practices (Grossman, 2011; Purser & Milillo, 2015). Grossman (2011) argued that resent research has failed to actually measure mindfulness in the Buddhist tradition. Grossman (2011) argued that popular measurement tools assess how poorly an individual feels they pay attention to trivial activities and not actual awareness. The construct of current mindfulness measurement tools that align with varying definitions of mindfulness is still being debated and is a valid criticism of the practice (Brown, Ryan, Loverich, Biegel, & West, 2011; Grossman, 2011; Tran, Gluck, & Nader, 2013).

Synthesis of the research findings

The literature review began by exploring foundational research in EI theory by Salovey and Mayer (1990) and Goleman (1995), and later Boyatzis and Goleman (2007). The literature review of EI theory identified divergent models and thinking about EI and how to operationalize the construct. While the models of EI diverged in several areas, one area of agreement was the central importance of self-awareness in both models (Boyatzis et al., 2015). In evaluating different models of EI, O'Boyle et al. (2011) conducted an analysis of the different models of EI and how the models predicted workplace performance. The researchers found that the ability-based model of Salovey and Mayer (1990) explained a small variance (6.4 percent), while the competency approach of Boyatzis and Goleman (2007) explained a moderate variance (13.6 percent) in predicting job performance (O'Boyle et al., 2011). Because of the research findings of O'Boyle et al. (2011) and the ability to directly measure the construct of self-awareness, the competency model of EI is argued to be the best theoretical fit for the research topic. Next, the literature review focused on relevant self-awareness research.

The literature review identified research that found self-awareness as an important individual ability in workplace performance (Bratton et al., 2011; Higgs & Rowland, 2010; Dane, 2013). While these studies identified the importance of self-awareness to positive business outcomes, the research did not quantifiably explore methods or training interventions to improve self-awareness. Exploring divergent perspectives of self-awareness in performance, Dane (2013) found that worker experience levels had a significant impact on awareness/self-awareness in dynamic work environments. Dane (2013) argued that situational experience helped the worker

know what aspects of the environment needed to be attended to and which could be ignored. Dane (2013) acknowledged that while experience was found to improve awareness, little was known about ways to improve the acquisition of attentional qualities identified in the study. Dane (2013) asserted that there may be factors that help develop these attentional qualities in the worker that needed to be studied in future research. Next, the literature review focused on mindfulness research and training interventions to improve self-awareness and EI in the workplace.

The literature review of mindfulness identified a growing body of research in mindfulness-based practices explored in a variety of fields. The literature review found that early mindfulness-based research focused on the practice of the MBSR method. The MBSR method has also been a popular technique of mindfulness training in research conducted in I/O Psychology. Shapiro et al. (2012), Leroy et al. (2013), and Aikens et al. (2014) all conducted research within I/O Psychology exploring the performance outcomes associated with mindfulness training based on the MBSR methodology. While the MBSR-based research identified beneficial performance and wellbeing outcomes associated with the mindfulness intervention, the literature review also identified research that argued that mindful-insight methods based on Tibetan practices of meditation could have a significant application in the workplace (Grabovac et al., 2011; McGarvey, 2010; Mosig, 2007, Purser & Milillo, 2015). Despite evidence in the research indicating the potential benefit of mindful-insight meditation training, the literature reviews found that few studies have been conducted using these mindfulness approaches. McGarvey (2010) researched the effect of mindful-insight Tibetan based practices, but McGarvey didn't isolate a particular practice for study. Vogus and Sutcliffe (2012) argued that mindfulness in top leaders is particularly important to strategic thinking and mindful organizations and that future research should explore Eastern methods of mindfulness. Purser and Milillo (2015) and Vallabh and Singhal (2014) argued that future research in I/O Psychology and leader development should explore mindfulness meditation in the Tibetan Buddhist tradition as a means to improve performance and ethics in the business community. The thorough review of the relevant literature has identified a gap in the research. The gap in the literature will be addressed with the following research question and scientific design.

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