INTERACTIVE EMPATHY AND LEADER EFFECTIVENESS: AN EVALUATION OF HOW SENSING EMOTION AND RESPONDING WITH EMPATHY INFLUENCE CORPORATE LEADER EFFECTIVENESS

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INFLUENCE CORPORATE LEADER EFFECTIVENESS

A dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy in Business at Virginia Commonwealth University

by

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Abstract

INTERACTIVE EMPATHY AND LEADER EFFECTIVENESS:
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Empathy has been shown to be a very powerful social and work ability. This study surveyed 754 employees of a privately held eastern United States company, and incorporated annual performance evaluations to empirically link interactive empathy to leader performance of 102 leaders. Data was collected from the leader’s followers, peers, and supervisors and from self-report personality evaluations. The results of this study show that leaders that are willing to engage their followers with empathic displays are seen as better leaders from their supervisors and have more engaged employees. Other contributions of this study include validation of the interactive empathy scale in a corporate environment and empirical support to show how interactive empathy adds incremental explanatory power of leader’s performance above and beyond that explained by personality. Directions for future research and practical implications of these results are also offered.
Chapter 1: Problem Statement

Empathic inference is a complex psychological action in which observation, memory, knowledge, and reasoning are combined to interpret the thoughts and feelings of others. Ickes (1997, p. 2) stated that empathy “may be the second greatest achievement of which the mind is capable, consciousness being the first.” For most, empathy is such a natural occurrence that we rarely even consider our empathic actions. Conversely, we come to expect others to be empathic in their thoughts and actions towards us. This intimate interaction between individuals has such an effect on relationship quality that it has been investigated by psychologists, neuro-scientists, and other fields of research. However, it has only recently been researched as a leadership construct. The problem that this dissertation is designed to address is:

What is the relationship between a leader’s perceived empathy and leader performance?

Before proceeding into the nature of this question it is imperative to identify working definitions for the construct of interest. Empathy is most often defined in the management literature as the ability to comprehend another’s feelings and to re-experience them oneself (Salovey & Mayer, 1990). This definition illustrates two very important aspects of empathy. First, empathy is an event that occurs between two people. One person perceives the condition of another and is affected in some way. Second, the person perceiving the other’s situation often does not know the true situation of the other and has to understand what the other person is feeling or enduring. Based on this concept the term empathic will be used as an adjective to identify concepts that are related to empathy, or characterized by empathy. Examples of this are empathic concern where one person is showing concern for another based on their perceptions of
the situation. Another common term that will be used is empathic inference which illustrates the person’s incomplete understanding of the other’s situation, but that still is characterized by the desire to show empathy. Similarly, the terms empathic displays, empathic response, empathic feelings, empathic individuals, empathic manner, and many others will be used throughout this dissertation to identify concepts that are related to, or characterized by empathy. Further discussion of the definition of empathy is offered in Chapter 3 where I will review the previous definitions used for empathy and refine them to a recommended definition for the study of leadership, based on the leader’s ability to share and re-experience others’ feelings (Kellett et al., 2006) in order to show empathy.

The importance of the previously stated research problem is embedded in the notion that work is a natural extension of an individual’s social interactions since almost every job requires workers to interact with others. Each of these interactions presents a range of social exchanges, including empathy. This study will look specifically at the relationship between a leader’s empathic displays and leader performance in a corporate setting. A secondary objective of this paper is to develop a definition of empathy that specifically fits the social exchange between a leader and their follower. This definition will then be used to empirically test a new empathy scale while controlling for other leadership variables. A summary of all expected contributions are included at the end of this section.

**Empathy as an emerging field of study**

The topic of empathy has been discussed for many decades. Katz (1963) stated almost fifty years ago that empathy had become a part of the working vocabulary for laymen, philosophers, sociologists, and members of the helping professions. During this time, empathy has become a well researched construct, especially in the counseling and psychotherapy
literature (e.g., Gladstein, 1977, 1987; Rogers, 1951, 1957, 1961). More recently empathy has received increasing attention in management (Sadri et al., 2011). Management research has shown the connection between empathy and work performance across a wide range of areas, including communication styles (Silvester, Patterson, Koczawara, & Ferguson, 2007), job interview performance (Fox & Spector, 2000), improved patient treatment (Friedman & DiMatteo, 1982), displays of organizational citizenship behaviors (Wong & Law, 2002; Joireman, Kamdar, Daniels, & Duell, 2006), decreased employee somatic complaints (Scott et al., 2010), improved sales performance (Tobolski & Kerr, 1952), and increased company profits (Stein et al., 2009).

In a broader sense, empathy is one of the primary emotional constructs which are being researched for inclusion into management and leadership theories. Ashkanasy and Humphrey (2011) stated that most theories of leadership, especially charismatic and transformational leadership, have become inherently emotional (see Shamir & Howell, 1999, on charismatic leadership; and Ashkanasy & Tse, 2000, on transformational leadership). In spite of the increase in emotions research, leadership scholars have not incorporated the increased understanding of individual emotional constructs into broadly-based theories of leadership (Ashkanasy & Jordan, 2008). The need to further understand these constructs and how they fit into leadership theory, still exists.

**Context of this study**

The opening statement of this chapter outlined the importance of empathy as a social skill. Empathy “may be the second greatest achievement of which the mind is capable, consciousness being the first” (Ickes, 1997, p. 2). Most individuals display empathy every day; sometimes automatically, while other occurrences are quite intentional. Based on the frequency
of empathic displays, empathy eventually makes its way into the work environment. Weiss (2002, p.1) stated that work “is a place where all our basic processes, including emotional processes, play out daily.” At work we have emotional exchanges with our co-workers, customers, bosses, and followers. Each of these exchanges has the potential to strengthen or weaken the bond between individuals. Using this context it can be seen that leaders who engage in emotional exchanges like empathy have the ability to influence the relationship between them and their followers. Empathy therefore may be a significant indicator of the relationship between the employee and the leader.

A second major consideration for viewing empathy in the context of leadership is to determine the benefit of the leader’s empathic response on the subordinate’s well-being and work engagement. Leaders and followers receive and evaluate information from each other’s emotions and emotional displays based on their emotional sensitivity, the emotional expression used, and their emotional regulation (Riggio & Reichard, 2008). The capability of a leader to express empathy may significantly influence the attributions that the follower or the supervisor makes about the leader. Gooty et al. (2010) stated that empathy helps leaders establish a connection with followers by having the leader recognize the follower’s needs and thereby develop a shared identity. The study of empathy and leadership can not be just about feeling the emotion; it must also include a reaction that is visible to the employee, and one that affects the emotions of the group. My intent is to focus on this “interactive empathy,” where the leader both senses the follower’s emotions, or the emotional situation, and then makes an empathic action that is aimed at influencing the emotions of the group.

From this discussion it is important to note that empathy in leadership is significantly different from many other studies of empathy. Batson (2009) stated that feeling as others feel
may actually inhibit other-oriented feelings if it causes the empathizer to focus on their own emotional state. Sensing the worry for a subordinate who is concerned about losing their job may become detrimental if the leader begins to feel the same worry of losing their own job, and therefore changes the focus of the emotion from the employee to themselves. A leader’s interactive empathy must remain focused on the subordinate’s well-being and group performance.

**Contributions of this study**

Gooty and her colleagues (2010) stated in their review of the state of the science of leadership that there is an urgent need for leadership scholars to focus attention on explanatory theory and development of reliable, valid measures targeted at specific constructs of interest. The first anticipated contribution of this study is the refinement of the definition of empathy in a leadership setting and the subsequent evaluation of a new “interactive empathy” scale.

This dissertation will show how the few research studies on the topic of leadership empathy have produced widely variable results ($r$ values of .14 to .55) based on the different definitions of empathy and the reliance on scales that do not fully capture the explanatory relationship of “interactive” empathy and leadership. My research will be the first to provide an overview of empathic definitions to demonstrate how empathy research should focus on the construct of empathy as it pertains to leadership, and then will provide a proposal to conduct an empirical investigation of interactive empathy using a scale developed for evaluating the relationship between interactive empathy and leader performance.

Over the past 50 years, leadership and management scholars have developed and used a myriad of scales and various multi-factor inventories of personality to evaluate empathy (Munro
et al., 2005). However, only one scale has been developed to evaluate “interactive empathy” (Kellett, Humphrey, & Sleeth, 2006). This interactive scale has shown to have explanatory power in a laboratory setting and my research will be the first to test this scale in a corporate setting where long term employee attributions of the leader’s interactive empathy can be linked to the leader’s performance as rated by their supervisor.

A supporting step in developing explanatory theories is to review empathy in conjunction with other proven leadership constructs. A second anticipated contribution of this study will be to investigate the incremental explanatory power of leader empathy above and beyond what may be explained by the leader’s personality effects on leadership performance. A review of leadership empathy research has shown that no studies have evaluated empathy and personality at the same time, in spite of the significant relationships between personality (as evaluated by the Five Factor Model, Digman, 1990; Goldberg, 1992) and leader performance as well as the relationship between personality and empathy. The proposed design of this study investigates the relationship between a leader’s empathy and their performance while controlling for personality effects on empathy and performance. Any additional explanatory power of empathy will help develop more explanatory theories of leadership.

Similar to the contributions of controlling for leadership personality, my dissertation study plan will attempt to remove artificial explanatory research artifacts. Leadership studies that use only one survey method have been criticized for having common-source biases (Dionne, Yammarino, Atwater, & James, 2002). This dissertation will minimize the variance attributed to common-source methods by obtaining information from three sources. The leader’s perceived interactive empathy will be evaluated by the leader’s direct reports. The leader will provide their
own assessment of personality. And, the leader’s supervisor will complete an assessment of the leader’s performance.

A third and final expected contribution is the evaluation of two outcomes related to interactive empathy. Most leadership research has focused on the supervisor’s evaluation of leader performance as a primary indicator of leader performance. This study will first investigate the relationship between interactive empathy and leader performance using a supervisor rating. It is expected that this first evaluation will allow for direct comparison with previous research. However, in an effort to develop more explanatory understanding of the interactive empathy construct, the proposed study plan will include employee engagement as a second leader performance outcome.

In summary, empathy is an under-researched leadership construct that may add explanatory power on a leader’s performance above those constructs that have been previously researched. This dissertation is designed to assess this relationship using sound research methods. Finally, the expected contributions of this dissertation are:

1. Define empathy in a leadership context
2. First evaluation of “interactive empathy” scale in a corporate setting
3. Determine the relationship between “interactive empathy” and leader performance as evaluated by the leader’s supervisor
4. Determine the relationship between “interactive empathy” and leader performance as evaluated by follower engagement
5. Determine the explanatory power of interactive empathy above and beyond leader personality and leader performance
(6) **Use of three evaluation sources (leader, follower, and supervisor) to investigate**

relationship between “interactive empathy” and leader performance
Chapter 2: Literature Review: The Importance of Empathy as a Multi-Discipline Construct

The purpose of this chapter is to demonstrate the importance of empathy as a multi-discipline construct and to illustrate the complexities of studying empathy. I will begin by reviewing early research on empathy to introduce the importance of the construct and will then provide evidence from multiple fields of research that illustrate the cognitive and affective nature of empathy. Finally, I will frame these results in a way that will facilitate the discussion of empathy as a leadership construct.

The term “empathy” has become a very familiar term and an integral part of the working vocabulary of laymen, philosophers, psychologists, sociologists, and to members of the helping professions (Katz, 1963). In one of the earliest discussions of empathy, Katz (1963) referred to empathy as “a somewhat odd and elusive skill, a divinatory art, a sixth sense, an instinctive and primitive form of penetrating to the core of another person.” Alfred Adler (1956) quoted an anonymous English author to say that “to empathize is to see with the eyes of another, to hear with the ears of another, and to feel with the heart of another” (see Katz, 1963, p.1) These quotes illustrate the fact that empathy is an important construct for human interaction, and therefore many disciplines.

Perhaps it is because empathy is so intertwined in our work and personal lives that empathy research has been conducted across many disciplines. Kellett et al. (2006) stated that the fields of counseling and psychotherapy have shown the importance of empathy in establishing interpersonal relationships (Rogers, 1951), producing change and learning (Rogers 1975), and in establishing an “ideal relationship” between a psychotherapist and a client (Rogers, 1951, p. 52). Mahsud et al. (2010) claimed that empathy is the ability to recognize and
understand the emotions and feelings of others, and that this interpersonal skill can make it easier to develop cooperative relationships built on mutual trust. Similarly, Goleman, Boyatzis, and McKee (2002, p. 50) stated that empathy is “the fundamental competence of social awareness” and “the sine qua non of all social effectiveness in working life.” These quotes show that empathy is an important social construct and a review of its origin is necessary to provide the background for this study.

The term empathy has been attributed to the German psychologist Theodor Lipps (Rader, 1935) who published a description of the process of appreciating a work of art (Lipps, 1903). Lipps used the term Einfühlung (translated to empathy by Titchener, 1909) to describe how one could lose self-awareness while viewing an extraordinary painting or sculpture. The observer becomes so captured by the object that all of their attention is absorbed. When a person shows empathy, they abandon themselves and relive the emotions and responses of the other person. Katz (1963) stated that the empathizer remains an individual in their own right with their own private experiences, but in moments of empathy they experience the most vivid sense of closeness or sameness with the other person.

In early empathy studies, much of the discussion focused on how the empathizer experiences someone else’s feeling as if it were their own. Katz (1963) stated that the empathizer sees, feels, responds, and understands as if we were the other person (Katz, 1963). At the same time, the empathizer is not unaware of their empathizing (Katz, 1963). In fact, we are often conscious of our empathic responses towards others and may even ask another person to empathize with us. We may pull another person into the feeling by asking them what they would do in our situation.
As such, empathy has an implied social norm where the other person is expected to take our perspective, just as we are expected to take and feel theirs (Katz, 1963). A husband is expected to celebrate his wife’s success, the mother is bound to empathize with a daughter who has lost a pet, a boss is expected to show empathy towards a follower who been treated poorly by a customer. This social expectation suggests that empathy is a cognitive construct whereby the one showing empathy makes a conscious choice to interact with another.

However, people often have a sudden and inexplicable sensation of empathy with a person they do not know. In this situation the person showing the empathy may not even know why they have had an emotional reaction. However, their emotional response is real and they are no less affected by the event. This discussion of empathy shows that empathy is not just cognitive. There is definitely an emotional dimension for this construct.

This discussion has shown that empathy is a complex event and is not a separate emotion by itself. Plutchik (1987, p. 43) stated that empathy is a “kind of induction process by which emotions, both positive and negative, are shared.” This sharing of similar positive or negative emotions can increase the chance of similar behavior which may promote a bond between individuals. When we empathize it helps us to understand the other person from within. The empathizer communicates on a deeper level and comprehends the other person more completely. With this kind of communication we can find ourselves accepting the other person and we may enter into a relationship of appreciation (Tiedens, 2000). In addition to the deepened communication, we also receive a source of personal reassurance. When someone empathizes with us we are reassured that our feelings are justified. We can enjoy the satisfaction of being understood and accepted as a person, or as an equal. The empathizer receives the benefit of
connecting with the one feeling the emotion. The one receiving the empathy is recognized and accepted for the particular kind of person they are.

Conversely, when others fail to empathize with us we feel disappointed and rejected, “we experience ourselves more as objects and less as persons” (Katz, 1963, p. 496). We look for a feeling response and when that is lacking, we feel that something is wrong, especially if we have a personal relationship with that person. When empathy is lacking, our self-awareness and self-respect can be diminished.

This background discussion illustrates the importance of empathy as a social construct that can create bonds between individuals. Positive and negative emotional responses connect individuals and give credibility to the way that people experience the world around them. However, it has also demonstrated the complexities of empathy that must be considered by researchers. In the next section I will review the cognitive and affective dimensions of empathy and then support these dimensions with neurobiological studies.

**Cognitive and Affective Dimensions of Empathy**

Empathy involves understanding and experiencing another person’s feelings (Salovey & Mayer, 1990). This brief definition articulates two key aspects of empathy. First, understanding another’s feelings implies a highly cognitive component of empathy. Second, experiencing another’s feelings is a more affective component. I will examine both of these construct components by reviewing literature from psychology and neuroscience.

Shamay-Tsoory (2009) stated that there are two competing psychological theoretical views of how people understand others’ behavior. Behind each of these two approaches is an attempt to account for the cognitive mechanisms that allow one person to predict another
person’s feelings and behaviors. The first is the theory of mind theorists (ToM theorists) who believe that the mental states attributed to other people are unobservable. To predict the feelings and behaviors of another begins with theoretical posits about that person, their situation, and the development of a scientific theory of how that person will react (Gopnik & Meltzoff, 1998; Wellman & Wooley, 1990). This kind of process is truly a “theory” of the other’s mind since we predict and explain the behaviors of others based on our theoretical constructs of others’ behaviors, thoughts, and feelings (Shamay-Tsoory, 2009). This approach could be used to show that empathy is a cognitive process whereby the one feeling empathy arrives at their mental and physical state by predicting the feelings of others.

Conversely, the simulation perspective (Gallese & Goldman, 1999) is based on the belief that the empathizer can adopt the first-person perspective by accurately tracking and matching the emotional state of others and then applying them to the empathizer’s own resonant states. The simulation perspective has been supported by findings regarding “mirror” neurons. Neurobiology research on empathy has used functional neuroimaging studies to show that the human Mirror Neuron System (MNS) is associated with individual differences in affective components of empathy (Pfeifer & Dapretto, 2009). Mirror neurons are a particular class of visuomotor neurons, originally discovered in the premotor cortex of monkeys (Rizzolatti & Craighero, 2004). Neuroimaging studies have shown that mirror neurons discharge both when the monkey does a particular action and when it observes another individual (monkey or human) doing a similar action (Di Pellegrino et al., 1992; Gallese et al., 1996; Rizzolatti et al., 1996). This has led to the conclusion that unlike most species, humans are able to learn by imitation, and this faculty is at the basis of human culture (Rizzolatti & Craighero, 2004).
Continued study in this area has shown that shared emotional states and more general social abilities are related to mirror neurons and that these associations are especially prominent in children. Researchers now believe that shared affect may provide a neural and behavioral foundation for interpersonal understanding (Pfeifer & Dapretto, 2009). One particular research area has looked at the empathetic responses to pain or distressful situations and found that the empathizer uses the same neural mechanisms as when they are in painful situation themselves. This sharing of sensation offers an interesting foundation for empathy because it provides a functional bridge between the empathizer and the empathy recipient (Decety & Sommerville, 2003; Sommerville & Decety, 2006). Shared emotional experience allows a possible route to understanding others (Pfeifer & Dapretto, 2009). This research again confirms the neurological affective processes that take place in empathy. However, in support of the cognitive empathic approach other research indicates that the neural response to others in pain can by moderated by various situation and dispositional variables. Therefore, more support has been shown that empathy operates through both conscious and automatic processes (Niedenthal et al., 2005). We now review other MNS research that shows support for empathic differences based on gender and dissimilarity of participants.

Previous discussions have shown that there may be gender differences for empathic responses. Pfeifer and Dapretto (2009) suggested that females, on average, might exhibit stronger MNS involvement, as an evolutionary response to caretaking for young. This claim is consistent with the extreme male brain theory of autism (Baron-Cohen, 2002), which suggests that males on average are more analytical than empathic, whereas females exhibit the reverse pattern. Both comments support the observations of researchers in other disciplines.
A second area of importance is that empathic responses vary based on the degree of difference between members. Preston and de Waal (2002) showed that behavioral empathy increases with greater similarity between the empathizer and the target. Difference factors include species, personality, age, and gender. Therefore, the ability to empathize with another may be rooted within the empathizer’s MNS where they can specifically mirror the emotional response based on their similarity to the other (Pfeifer & Dapretto, 2009). One neuroimaging study confirmed this belief by observing greater similarity of actions performed by humans with other humans, versus lower similarity of actions between humans with monkeys and dogs (Buccino et al., 2004). Thus, the MNS may non-consciously affect social interaction. Examples of this are represented by the selection of friends or play partners where there is a strong preference for same-sex play partners at early ages (Ruble & Martin, 1998), strong preference for similar body type (Ruff, 2002), and even a preference for similar facial structures (Ferrario et al., 1993). The MNS may therefore play a large role in social construction and on empathy.

More support for this affective component of empathy comes from current neuroscience and physiological research that further connects empathy to the autonomic nervous system. Sometimes when we empathize we recognize that our own affective state is altered (Vignemont & Singer, 2006). Carter et al. (2009) argued that emotional and visceral states influence how we feel about and react to others, and thus our capacity for empathy. The connection between emotions and visceral sensations are found in the autonomic nervous system whereby the visceral states and feelings are transmitted to the brain, and the subsequent sending of defensive signals and emotional cues back to the periphery (Carter et al., 2009). The important part of this discussion for empathy research is the understanding that external interactions, including social
cues, can activate higher brain structures which control the heart and regulate autonomic states (Critchley et al., 2006).

More in-depth research has shown that the key elements for this neural system rely on brain stem neuropeptides, such as oxytocin and vasopressin. Carter et al. (2009) stated that some empathic responses may be generated by neuropeptides which were evolutionarily developed to allow for social safety and social communication. The importance of this autonomic response between receiving an external emotional cue and feeling an internal emotional response comes from the idea that selective social behaviors, like empathy, may facilitate survival and reproduction and promote safety and a sense of emotional security (Carter et al., 2009).

This research also adds credence to the observation that there are individual or gender differences associated with the ability to feel or display empathy. Thompson et al. (2006) found that there is evidence that vasopressin has different effects in males and females, and that vasopressin may be more important for males, and Jacob et al. (2009) stated that the genetic substrates responsible for the production of oxytocin and vasopressin receptors have been linked to disorders such as autism.

This review of neurobiological, psychology, neuroscience, and physiology research has given support for many previously observed empathic dimensions, and will provide as a scientific basis for examining other empathy research. Pfeiffer and Dapretto (2009) argued that from a developmental social neuroscience perspective that it is critical to look more closely at the relationship between empathy and other aspects of social cognitive development. They suggested that better understanding of the neural systems supporting both affective and cognitive components of empathy might help design effective interventions for social development.
disorders like autism, as well as training programs for those lacking in empathy or related prosocial behaviors.

Management researchers have begun to investigate these insights from neuroscience and have explored aspects of brain functions and emotional intelligence (Bar-On, Tranel, Denburg, & Bechara, 2003; Bechara, Tranel, & Damasio, 2000; Killgore & Yurgelun-Todd, 2007). Walter and his colleagues argued that future work in neuroscience may uncover biological foundations for the leader’s emergence, influence and effectiveness (Walter et al., 2011). However, before connecting the research between leadership and other disciplines it is important to address three key elements of empathy: (1) there are individual differences on sensing and displaying empathy, (2) empathy at times may be a matter of choice, and (3) empathy can have both positive and negative effects on the empathizer and the recipient.

To illustrate these elements, consider a team of employees where one of the employees has recently been promoted and is undoubtedly elated as a result. A more empathic co-worker is more likely to recognize and share in the employee’s feelings of elation and success, whereas a co-worker with less empathy may fail to notice or be unable to display an appropriate empathic response. This example above shows that there are those that are better at displaying empathy (Dymond, 1949; Buck, 1984; Ickes, Stinson, Bissonette, & Garcia, 1990; Carter et al., 2009) and that empathy may be an integral part of the individual’s traits. Scott et al. (2010) claimed that individuals high in empathy may possess a more pro-social orientation toward others, and will display more consideration and concern for others (Eisenberg & Miller, 1987). Conversely, those low in empathy may possess a more anti-social orientation, and thereby engage in aggression or unethical decision-making (Detert, Trevino, & Sweitzer, 2008; Miller & Eisenberg, 1988).
A second option for the example above is that the co-worker may choose to not vicariously experience the employee’s feelings of joy over the promotion. Katz (1963) stated that we usually empathize with those that are close to us. We empathize with relatives, friends, and others who are like us and who have similar experiences. We appreciate their suffering and happiness and we intently know how events can affect them, especially since we already know their predispositions on a personal level. However, we find it more difficult to empathize with strangers, or those that are very different from us. An upper middle class professional may find it hard to empathize with a homeless person begging on the street corner. Age differences also interfere with empathy. Sometimes this is due to the experiences that one gains over time. Grandfathers can empathize more easily with children, but as sons or grandsons we can have less empathy with the elderly because we do not have personal experience of being an older person (Katz, 1963). Perhaps one reason that humans are selective with whom they empathize with is that they do not have the emotional capacities to invest themselves emotionally in everyone. Regardless, empathy may often come as a choice.

The third element illustrated in the co-worker example is that empathy can have positive or negative effects on the empathizer and also the recipient. Scott et al. (2010) stated that although empathy typically is thought of as a response to another’s suffering, individuals can also experience empathy toward another’s well-being (Nezlek, Feist, Wilson, & Plesko, 2001). An example of positive empathy is the sharing of a celebration in another’s success (Gable, Reis, Impett, & Asher, 2004). Therefore, empathic feelings can be triggered by both positive and negative emotions displayed by others. Gable et al. (2004) argued that positive responses by empathic individuals are likely to intensify the receiver’s positive feelings. Conversely, negative
responses or the lack of an empathic response may decrease the receiver’s positive feelings or induce negative feelings.

This chapter has allowed for a full discussion of the importance of empathy as a multidisciplined construct and has pointed out the complex nature of this construct. There are significant individual differences in one’s ability to detect and engage in empathy, and there are cognitive choices based on social norms and personal desires that drive the times that the person will feel and display empathy. The complex nature of empathy therefore lends itself to being measured in many ways and also in the definition of empathy. Those that choose to investigate the cognitive elements of empathy will undoubtedly address the construct differently from those that are interested in the affective elements. In the next chapter I will begin to address how empathy has been researched as a leadership construct and outline how important it is to properly define empathy for this dissertation and for future research on empathy.
Chapter 3: Literature Review: Empathy and its Relationship to Leadership

The idea that emotions play an important role in leadership and leadership effectiveness is not a new concept (Ashkanasy & Humphrey, 2011). Researchers have shown how emotion has been a common leadership theme for over 2000 years (Mastenbrock, 2000). However, the attention on emotions has continued to increase over the past two decades and some have claimed an “affective revolution” (Barsade, Brief, & Sparato, 2003, p. 3) where leadership is moving from a purely cognitive focus to more affective models of behavior (Gooty et al., 2010). This literature review will take one of the emotional constructs (empathy) and show how important it is for leaders and leadership research. Specifically, management research will be separated into two areas of analysis: studies on individual differences in empathy and the direct effect of empathy on leadership. These ideas will support the research presented in the previous chapter that demonstrates empathy as an individual difference, that empathy is often performed by choice, and that it can be used for positive or negative events. This chapter will use previous research to show how important it is to properly define empathy in a leadership context. The chapter will conclude with a review of the association between empathy and other leadership variables and how to accurately measure empathy.

Research on Empathy as an Individual Difference

In the previous discussion it was demonstrated that empathy contains both neurobiological cognitive and affective components. In this section I will show how those components manifest themselves in an individual’s ability to accurately detect empathy and then discuss research designed to improve empathic ability with training.
Empathic accuracy is the measure of one’s skill in making empathic inference (Ickes, 1997) and it is a fundamental dimension in assessing social intelligence (Cantor & Kihlstrom, 1987; Goleman, 1995; Goody, 1995). Ickes (1997) stated that some people are empathically accurate perceivers and that they are consistently good at “reading” other people’s thoughts and feelings. “All else being equal, they are likely to be the most tactful advisors, the most diplomatic officials, the most effective negotiators, the most electable politicians, the most productive salespersons, the most successful teachers, and the most insightful therapists” (Ickes, 1997, p. 2). However, there are others who are consistently poor at “reading” other people’s thoughts and feelings. Goleman (1995) stated that these empathically inaccurate perceivers lack social intelligence. Research has confirmed these individual differences in accurately perceiving these emotional social cues (Salovey & Mayer, 1990).

The ability to identify others’ emotions “involves clearly recognizing emotions in other people through attention to language, sound, appearance, and behavior (Mayer & Salovey, 1997, p. 12).” Perhaps one of the key components of this statement is the perceiver’s requirement to pay attention to a multitude of signals, especially since some of the signals may be contradictory. Saarni (1999) suggested that facial expressions may represent a social, not an emotional response. Inaccurate perceivers may see the smile as happiness or contentment. An accurate empathizer may see past the mask and be alerted that the person is not revealing their true feelings. Using this sixth sense (Katz, 1963), the socially adept person will detect the underlying emotion by analyzing the inconsistencies in physical and emotional displays, and by evaluating these displays in the overall social and interpersonal context (Goldstein & Michaels, 1985). These inconsistencies can only be accurately detected by a person who has experience interpreting the emotions of others, and also those that value the true detection of the emotion.
To these individuals, physiological changes (perspiration on the forehead, resistance to make eye contact, tensing jaw, or change in the tone of voice) may be detected as a means of consciously controlling, or camouflaging, a true emotion (Ashkanasy, Hartel, & Zerbe, 2000; Goleman, 1995).

Along with individual differences, research has shown that there are also gender differences in accurately detecting emotions. In a review of ten studies of empathic accuracy, Graham and Ickes (1997) concluded that the stereotype of women’s intuition contains the proverbial kernel of truth, but the gender differences appear to be small rather than large, and specific rather than general in scope. Specifically, women (on average) are more accurate decoders than men of other people’s nonverbal behavior. These nonverbal behaviors include a relatively modest advantage of decoding facial expressions that convey intended, rather than unintended emotions. The study also showed that there was virtually no evidence that women were better than men at inferring the specific content of transient thoughts and feelings. Confirmatory research showed that these gender differences seem to disappear when corrective feedback is given (Graham, 1996). Therefore, it is likely that the gender difference may be more of a differential motivation factor, rather than differential ability, where women are more motivated to detect the accurate emotion (Graham & Ickes, 1997). Another explanation of the gender difference is that some men may want to promote an uncaring image, although they may possess the ability to accurately detect emotion. Hancock and Ickes (1996, p. 197) noted, “If men appear at times to be socially insensitive, it may have more to do with the image they wish to convey than with the ability they possess.” This line of research points to the previous discussion that some people are better at performing empathy, but that this may be due to ability and choice.
There are individual and gender differences in accurately perceiving emotions. Some are highly accurate emotional perceivers while others are dramatically inaccurate. Goleman (1995) stated that if those that lacked this social intelligence were left unremediated, it is likely to push them to the margins of society. This comment is based on the need for individuals to be socially adept to be successful in academic environments, friendships, marriages, parenting, and at work.

Goleman’s (1995) comments suggest that empathy is an ability that can be improved. Recent research has supported the claim that empathy, although naturally developed through brain maturity, can also be taught through formal and informal education, and in various environments (Izenberg, 2007; Holt & Marques, 2012). Weinstein (2009, p. 20) stated that individuals can be taught to ask questions to enhance understanding that build connection between people and helps them to perceive the emotions of others.” Another approach has been to introduce a process that helps students to develop self-awareness, which promotes authenticity and helps identify and clarify student values and beliefs (Eriksen, 2009).

Empathy training is also a skill that can be beneficial for business. Karnes (2009) confirmed that empathy and social skills are under trained and under developed in organizations. This may explain the downward spiral that starts with leadership void of emotional intelligence. Less empathic leaders may develop cultures that lack social skills, which can lead to employee discontentment and all its consequences (Karnes, 2009). Mahsud et al. (2010) suggested management development programs and executive coaching as effective ways to increase empathy. Using this process various courses and instruments are being developed to allow individuals to further increase their cognitive understanding of empathy and to potentially overcome any affective and cognitive deficiencies. Investments from companies in these training sessions and devices have delivered encouraging results so far (Weinstein, 2009).
Research on Empathy and the Relationship with Leadership

The previous section showed that some individuals are better at performing empathy. The focus of this dissertation is on the interaction between empathy and leadership effectiveness. As such, I will review several of the recently published articles relating empathy to leadership. I will follow the discussion with a proposed conceptualization of empathy in a leadership context.

Kellett, Humphrey, and Sleeth (2002) empirically showed two distinct behavioral routes that influence how others perceive leaders in a small group. The first route influences people to perceive leadership from displays of emotional abilities, such as empathy. The second route influences people to perceive leadership from displays of mental abilities, such as complex task performance. To explore these paths, Kellett and her colleagues used a variation of the simulated corporate office designed by Humphrey (1985) and used by Humphrey and Berthiaume (1993). To explore the relationship between mental abilities and perceived leadership, this study allowed participants to choose simple or complex tasks to perform. Students were able to see which tasks were being performed by other students in the group. The study showed that the performance of complex tasks was positively correlated to perceived leadership ($r = .30, p < .01$).

The second route to perceived leadership was investigated using the student’s rating of empathy of their group members. Empathy was defined as “the ability to comprehend another’s feelings and to re-experience them oneself” (Salovey & Mayer, 1990, pp. 194-195) and was measured using a peer-report empathy measure from the Emotional Competence Inventory (Boyatzis et al., 2000). Perceived leadership was measured using peer-reports of the five-item
General Leadership Impression Scale (Lord, 1977; Cronshaw & Lord, 1987). Empathy was found to be correlated ($r = .30, p < .01$) with perceived leadership. Kellett and her colleagues subsequently used structural equation modeling to determine which of the two routes contributed more to perceived leadership. The standardized path coefficients showed that the two paths are of roughly equal importance. This study shows how important emotional abilities, to include empathy, are in the perception of leadership ability by others.

Kellett, Humphrey, and Sleeth (2006) advanced the study of empathy in a leadership setting by including the interactive dimension necessary for leaders. Many previous empathy studies were based on the Salovey and Mayer (1990, pp. 194-195) definition of empathy, “the ability to comprehend another’s feelings and to re-experience them oneself.” Kellett and her colleagues argued that “comprehending” another’s feelings was not enough. “For example, suppose an individual does care about other group members and sympathizes with them. Nonetheless, it is possible that the group members may not recognize the individual’s care and concern. This may occur if the individual is passive, and does not exert influence on the group emotional experience. Because our focus is on leadership, we feel it is important to distinguish between a ‘passive empathy,’ in which one feels sympathy for others but exerts little influence on the group shared emotional tone, and what we call ‘interactive empathy.’” From our perspective, leaders create interactive empathy only when the other group members recognize the leader’s care and concern and the leader’s role in creating the shared emotional experience.” (Kellett et al., 2006, p. 149) As can be seen from this example, a leader’s role is to guide and direct their followers. To accomplish this task in the realm of emotions, the leader must sense the follower’s emotion and then act in a manner that is visible to the group and that is directed at creating an emotional experience.
To support this new idea of “interactive empathy,” Kellett and her colleagues altered the traditional definition of empathy to “the ability to share and re-experience others’ feelings.” An interactive empathy scale was developed to investigate this new approach to looking at empathic leadership.

A second contribution of the Kellett et al. (2006) study was the study of the effect of interactive empathy on task-oriented behavior and relations-oriented leadership (Yukl, 1998; Dansereau & Yammarino, 1998). Kellett et al. (2006) found that interactive empathy was significantly related to task-oriented leadership ($r = .36, p < .001$) and also to relations-oriented leadership ($r = .55, p < .001$). Results from this study show that empathy is important for both emotional and cognitive processes. Emotionally, leaders that are capable of performing interactive empathy build emotional bonds with followers. Similarly, leaders that are good at performing interactive empathy may also be more effective communicators, which can improve decision-making, problem-solving, and performance since more accurate information is gathered and passed to and from others.

A third contribution from Kellett and her colleagues (2006) was the identification of interactive empathy as a mediator of other emotional abilities on task and relations leadership. In particular, interactive empathy was found to mediate the relationship between the ability to identify others’ emotions and relations-oriented leadership ($z = 5.19, p < .001$). This indicates that leaders need to accurately detect emotions, experience, and express their own emotions to their followers since followers value having their emotions understood and appreciated. A second mediation relationship was demonstrated where interactive empathy mediated the relationship between the ability to express one’s own emotions and relations-oriented leadership ($z = 4.58, p < .001$). Kellet et al.(2006, p. 157) stated that “because perceptions of task leadership
require evidence of progress towards goals, it is reasonable to expect that a leader’s full range of emotional expression would supplement empathetic expression to arouse effort and cooperation.”

In a follow on study to Kellett et al. (2006), Mahsud, Yukl, and Prussia (2010) researched the connection between leader empathy, ethical values, and relations-oriented behavior on the quality of leader-member exchange (LMX). Using structural equation modeling this study showed that a leader’s relations-oriented behavior fully mediated the relationship between leader empathy and LMX. This result shows the importance of the leader’s action (relations-oriented behavior) on the resulting relationship between the leader and the follower. Mahsud et al. (2010) concluded that the effects of leader values and skills are mediated by leader behaviors. This conclusion fully supports Kellett et al.’s (2006) claim that for leadership scholars the focus on empathy studies must be on interactive empathy.

Scott, Colquitt, Paddock, and Judge (2010) continued the study of empathy and stated that “leaders who can understand and manage the emotions within their units may therefore be better able to improve the well-being and functioning of those units” (Scott et al., 2010, p. 128). This study demonstrated that groups of employees working for empathic managers experienced lower average daily levels of somatic complaints. A second finding of this study showed that groups with empathic managers were especially likely to experience positive affect on days in which they made progress towards their goals. The results of this study further support the idea that leaders that can display empathy will create positive environments for their followers, which will result in positive results.
Taylor, Kluemper, and Mossholder (2010) found that empathy moderated the effect of agreeableness, conscientiousness, and emotional stability (neuroticism) on interpersonal citizenship behavior. Taylor and his colleague’s study at a large non-profit organization demonstrated that interactions between different traits are necessary to explain interpersonal relation behaviors.

Kotzé and Venter (2011) sampled 114 middle management leaders at a public sector institution in South Africa to investigate if effective leaders scored higher on emotional intelligence than less effective leaders. Emotional intelligence was measured using the EQ-i ® (Bar-On, 2006). There are six composite scales on the EQ-i ®; intra-personal EQ, interpersonal EQ, stress management EQ, adaptability EQ, and general mood EQ. Interpersonal EQ and Stress Management EQ differed significantly between effective and ineffective leaders. The Interpersonal EQ dimension had a mean of 97.20 for effective leaders and a mean of 90.86 for ineffective leaders ($F$-value = 3.81, $p$-value = .05). Two of the three subscales for interpersonal EQ were also found to be statistically significant; empathy ($F$-value = 11.18, $p$-value = .001) and social responsibility ($F$-value = 6.75, $p$-value = .01). The results of this study are interesting since the organization being studied was a predominately male institutional environment.

Fambrough and Hart (2008) suggested that emotions associated with masculine organizations are more aligned with anger, contempt, and aggression, while personal emotions like empathy are considered more feminine. The results of this study show that in this institution that empathy is regarded as being able to develop and maintain healthy, satisfying relationships. The definition for empathy used in this study was the awareness of and appreciation for the feelings of others. Leadership effectiveness was measured using the Leadership Behavior Index (LBI) (Spangenberg & Theron, 2001). The LBI was specifically designed for use in South Africa and
is comprised of four phases of leadership effectiveness: (1) Environmental Orientation, (2) Vision Formulation and Sharing, (3) Preparing the Organization for Implementing the Vision, and (4) Implementing the Vision. The LBI score was obtained by taking the self-evaluation of the leader (20%) and four subordinates evaluation of the leader (80%). Leaders were then ranked by their LBI score from highest to lowest. The leaders with the top 50 LBI scores were considered to be “effective leaders,” the leaders with the bottom 51 LBI scores were considered to be “ineffective leaders,” and the 13 leaders with the scores that did not fall in the “effective” or “ineffective” range were deleted from the sample. The EQ-i ® was a self-report from leaders.

Sadri, Weber, and Gentry (2011) investigated the link between subordinate ratings of a target-leader’s empathic emotion and the target leader’s performance as rated by their boss, across 38 countries. In this study, empathy was defined as the ability to sense what others are feeling (Duan, 2000; Duan & Hill, 1996; Goleman, 2006). The importance of this study is the investigation of the direct link between a leader’s empathy and the perceived performance of the leader by their boss. The resulting correlation between empathic emotion and target-leader performance was .14 ($p<.01$), which demonstrates the importance of empathy on the actual performance of the leader. A second contribution of this study is the investigation of the link between empathy and leader performance over a wide range of cultures. This study included 37,095 leaders from 38 countries. One reported limitation of the study was that it “did not examine how empathic emotion is and is not related to other relevant leadership constructs” (Sadri et al., 2011, p. 827).

**Refining Empathy as a Leadership Construct**

The complex nature of empathy has been demonstrated in the previous discussion. Empathy is cognitive, and still affective. Empathy is a trait, but can also be learned. Empathy is
intimate, but is necessary in work environments. Based on these complexities, empathy research has adopted a myriad of definitions. To accurately depict empathy I will review these definitions and identify the aspects of empathy pertaining to management and leadership.

Management research has defined empathy as “the ability to comprehend another’s feelings and to re-experience them oneself” (Salovey & Mayer, 1990, pp. 194-195); one’s sensitivity to the emotional experiences of another (McNeely & Meglino, 1994); the capacity to place oneself in the “emotional shoes” of another person (Lazarus, 1991, 1999); the identifications with or vicarious experience of others’ thoughts and feelings (Taylor et al., 2010); and the tendency to respond emotionally to the perceived welfare of others (Kamdar, McAllister, and Turban, 2006). This wide range of definitions includes concepts of knowing other’s internal states, adopting other’s emotions, coming to feel as another, projecting oneself into another’s situation, and developing an “empathic concern” for others. This list of definitions closely mirrors the empathic dimensions that have been identified in psychology and neuralscience research.

Batson (2009) argued that empathy research is being delayed by not accurately defining which component of empathy is being researched. His review of empathy research revealed eight empathy concepts. Each of those concepts will be discussed and then connected to leadership research.

Concept 1 is demonstrated in research where the emphasis is on knowing another person’s internal state to include knowing their thoughts and feelings (Preston & de Waal, 2002; Wispe, 1986). Ickes (1993) referred to this as “empathic accuracy” and others refer to it as “cognitive empathy” (Eslinger, 1998; Zahn-Waxler, Robinson, & Emde, 1992). This concept
focuses completely on accurately knowing the state of the other and does not consider the empathic response from the perceiver. This concept also allows for complete empathic accuracy if the other person is truthful in telling the perceiver their actual emotional state. Mahsud et al. (2010) used this concept by stating that empathy is the ability to recognize and understand the emotions and feelings of others.

Concept 2 research is most closely related to Mirror Neuron System research where the perceiver adopts the posture by matching the neural responses of an observed other. This has been referred to as “facial empathy” (Gordon, 1995), “motor mimicry” (Dimberg, Thunberg, & Elmehed, 2000; Hoffman, 2000) or “imitation” (Lipps, 1903; Meltzoff & Moore, 1997; Titchener, 1909). Batson (2009) stated that matching neural representations does not automatically lead to matching feelings, or understanding those feelings. This type of empathic mimicry or imitation may be an active, goal-directed process which serves a higher-order communication function where the perceiver is sending a matching physical display of support to the recipient (Meltzoff & Moore, 1997; LaFrance & Ickes, 1981). Bavelas et al. (1986, p. 322) described this concept as, “I show how you feel” in order to convey “fellow feeling” or support.

Concept 3 refers to empathy as coming to feel as another person feels. This definition has been used by philosophers (e.g. Darwall, 1998; Sober & Wilson, 1998), neuroscientists (Damasio, 2003; Decety & Chaminade, 2003; Eslinger, 1998), psychologists (Eisenberg & Strayer, 1987; Preston & de Waal, 2002); and organizational behavioralists (Salovey & Mayer, 1990). Some researchers have modified the definition to allow the perceiver to feel a similar emotion (Hoffman, 2000). However, Batson (2009) argues that there is no way to determine whether an emotion is “similar enough”. This concept assumes that the perceiver accurately detects the other’s emotion and then matches or catches that emotion (Hatfield, Cacioppo, &
Rapson, 1994). The success of using this empathic concept results in the perceiver having a “shared physiology” with the other (Levenson & Ruef, 1992, p. 234). It has been argued that when someone empathizes with others, they recognize that their own affective state is altered (Vignemont & Singer, 2006). This concept has also been used in management research referring to the vicarious experience of others’ thoughts and feelings (Taylor et al., 2010).

One area of caution for leadership research is that feeling as the other feels may actually inhibit other-oriented feelings if it leads one to become focused on their own emotional state. Sensing the anxiety of an employee afraid of losing their job during a layoff may cause the leader to become anxious as well. If the focus becomes the leader’s anxiety of losing their own job, the leader has been successful in imitating the same emotion as the subordinate, but the leader may no longer be in a position to be empathetic to the well-being of their worker since they are more concerned with themselves than with the subordinate. For those whose profession commits them to helping others (such as clinicians, counselors, physicians, and leaders), accurate perception of the need is much more important than mimicking the emotion, since the perception can lead to adjusting the situation and improving the other’s well-being. Moreover, high emotional arousal, including matching the emotions of another, may interfere with the empathizer’s ability to help effectively (MacLean, 1967). Accordingly, leaders should place emphasis on accurate knowledge of the subordinate’s internal state as the key to making calculated and effective empathic responses, not on matching the displayed emotion.

Concept 4 focuses on intuiting or projecting oneself into another’s situation. This concept of empathy was the one first used by Lipps (1903) as Einfühlung, whereby he imagined what it would be like to be some specific person or some inanimate object. Batson (2009) argued that this original definition of empathy has appeared in recent discussions of simulation
as an alternative to *theories* of mind. However, this is rarely what is meant by empathy in contemporary psychology, or in management research.

Concept 5 is similar to the previous concept, except the perceiver imagines how another is thinking and feeling rather than what it is like to be that person. Batson (1991) referred to this as the “imagine other” perspective since the perceiver takes their knowledge of another’s character, values, and desires and imagines what they are thinking and feeling. This concept has also been called “imagine him” (Stotland, 1969), “psychological empathy” (Wispe, 1968), “projection” (Adolphs, 1999), and “perspective taking” (Ruby & Decety, 2004). Barrett-Lennard (1981, p. 92) argued that in this concept “Person A opens him- or herself in a deeply responsive way to Person B’s feelings and experiencing but without losing awareness that B is a distinct other self”. Downey (1929, p. 177) focused on this concept and stated that “through subtle imitation we assume an alien personality, we become aware of how it feels to behave thus and so, we read back into the other person our consciousness of what his pattern of behavior feels like.”

Concept 6 is also very similar to Concept 4, except that the perceiver imagines how one would think and feel in the other’s place. Adam Smith (1759/1853) colorfully referred to the act of imagining how one would think and feel in another person’s situation as “changing places in fancy.” Others have referred to it as “role taking” (Mead, 1934); “cognitive empathy” (Povinelli, 1993); “projective empathy” or “simulation” (Darwall, 1998); “perspective taking” or “decentering” (Piaget, 1953); and “imagine-self” perspective (Stotland, 1969). The imagine-other and imagine-self forms of perspective taking have often been confused or equated with one another, despite empirical evidence suggesting that they should not be (Batson, Early, & Salvarani, 1997; Stotland, 1969). Batson (2009, p. 11) stated that this concept and concept 4
“were developed independently in very different contexts, one aesthetic and the other interpersonal, and the self remains more focal here than in aesthetic projection, so it seems best to keep them separate.”

Concept 7 is a distinctly different perspective where the perceiver feels distress at witnessing another person’s suffering. This concept does not involve any feelings for the other. Instead, the focus is on the perceiver’s distress. It has been referred to as “empathic distress” (Hoffman, 1981), and “personal distress” (Batson, 1991).

Concept 8 is of utmost concern in this review since it focuses on “empathic concern,” or the perceived welfare of someone else (Batson, 1991). This concept has also been called “pity” or “compassion” (Hume, 1740/1896; Smith, 1759/1853), “sympathetic distress” (Hoffman, 1981, 2000), and simply “sympathy” (Darwall, 1998; Eisenberg & Strayer, 1987; Preston & de Waal, 2002; Sober & Wilson, 1998; Wispé, 1986). Perhaps the most similar definition in management comes from Kamdar, McAllister, and Turban (2006), who stated that empathy was the tendency to respond emotionally to the perceived welfare of others.

This discussion of empathy concepts clearly shows that what one researcher refers to as empathy may be very different from another’s conceptualization. This point is made very clear in the definition of empathy in Scott et al. (2010, p.127):

Empathy is defined as “one’s sensitivity to the emotional experiences of another” (McNeely & Meglino, 1994, p. 837). Empathy reflects the capacity to place oneself in the “emotional shoes” of another person (Lazarus, 1991, 1999). Empathic individuals are not only adept at gauging the emotions of others, but they also tend to share in those emotions, experiencing them vicariously. Thus empathy involves both a cognitive (i.e., understanding or comprehending another’s state) and an affective (i.e. sharing another’s state) component (Davis, 1983; Eisenberg, 2000).
Incorporated in this one definition we see elements of empathy as coming to feel as another (concept 3), imagining how another is feeling (concept 5), and imagining what it is like to be another (concept 6). Conducting research with such a broad definition of empathy may delay the advancement of empathy research.

In order to facilitate the advancement of leadership research and to provide a basis for developing leadership theories, it is important to accurately define empathy as it applies to leadership. “Interactive” empathy has been proposed as the most suitable means of empathizing for leaders (Kellett et al., 2006). The concept of “interactive empathy” is most closely aligned with concept 8 since the empathizer must sense another’s situation and then also take action based on the perceived welfare of the other person.

Interactive empathy is defined as the ability to share and re-experience others’ feelings (Kellett et al., 2006). Incorporated in this definition is the belief that the leader’s ability to create a bond or relationship between the leader and the other group members is at least somewhat dependent upon the leader’s ability to perform interactive empathy. In this regard, interactive empathy requires four very important steps. First, the leader must identify the emotions and emotional needs of others. Second, the leader must act in an empathetic manner that demonstrates their empathy and concern. Third, the leader’s actions must be based on creating an emotional response for the group. Fourth, the group must recognize the leader’s care and concern. When all four of these steps are performed the leader creates a shared emotional experience. Subsequently, if any of these steps is not completed then the group will not be capable of relating the connection between the leader’s empathy and the group emotional situation.
Empathy Research Challenges

Conducting research on empathy and other affect based constructs is complicated by the correlation of predictor variables (Zaccaro, 2007), the difference in results due to research setting (Judge et al., 2002), and the use of measures that capture the desired construct. This has resulted in the recommendation for future researchers to develop research that adds predictive validity above other known constructs (Walter et al., 2011). In developing a study for the relationship between interactive empathy and leadership effectiveness it is imperative to look at the relationship between empathy and personality, the relationship between personality and job performance, and the relationship between personality and leadership.

Empathy Relationship with Personality

Personality is often considered to be one of the most prominent individual differences in organizational behavior (Goldberg, 1981; McRae & Costa, 1987; Judge et al., 2002). An entire field of study has been devoted to evaluating the relationship between the five factor model (FFM) (Digman, 1990; Goldberg, 1992, 1999) of conscientiousness, agreeableness, neuroticism (reversely related to emotional stability), openness to experience (imagination/intellect), and extraversion with other organizational behavior constructs.

Empathy has been shown to be significantly related to several of the five personality factors (Munro et al., 2005; Taylor et al., 2010) and it has been suggested that empathy should be added to the Big Five basic personality factors (Caprara, Barbaranelli, & Comrey, 1995).

Taylor et al., (2010) used the NEO-FFI (Costa & McRae, 1985) personality scale and found that empathy significantly related to conscientiousness, agreeableness, extraversion, and openness. In addition, Taylor and his colleagues (2010) found that empathy moderated the
relationship between personality and interpersonal citizenship behavior. In a separate study, Munro et al. (2005) performed two samples of medical students using the IPIP-B5 (Goldberg, 1992, 1999) personality scale. The first study was of 237 medical applicants in New Zealand and the second study was of 510 Scottish medical applicants. Summary results of the correlations between empathy and personality from these studies are shown in Table 1.

The importance of this relationship between personality and empathy is that empathy can be directly linked to an individual’s traits, such as empathy. Therefore, the ability of a leader to display empathy may be “hard-wired.” In the next section I will explore how personality is also related to job performance.

**Personality Relationship with Job Performance**

The relationship between personality and job performance has been studied for many years. A review of 15 meta-analysis almost a decade ago found that two personality factors (conscientiousness, $\rho = .24$ to .27; emotional stability, $\rho = .13$ to .22) were consistently related to job performance (Barrick et al., 2001). A more recent meta-analytic review revised these results by including many more studies (O’Boyle et al., 2011). Similar to this previous study O’Boyle and his colleagues found that the two most highly related personality dimensions with job performance were conscientiousness ($\rho = .24$) and neuroticism ($\rho = -.13$). In addition O’Boyle et al. (2011) found that the three remaining variables were somewhat related to job performance: agreeableness ($\rho = .10$), extraversion ($\rho = .09$), and openness to experience ($\rho = .05$). These two studies give significant indications that a leader’s job performance will at least
be somewhat related to their personality. However, since leaders interact more with their followers, it is expected that the relationship between personality and leadership performance may be different than those observed for job performance.

**Personality Relationship with Leader Performance**

A meta-analysis by Judge et al. (2002) reviewed the five-factor model of personality (Goldberg, 1990) as they relate to leader emergence and leader effectiveness. There are four major contributions from this study. First, the relationship between personality and leader performance is different than what was observed between personality and job performance. A leader’s extraversion ($\rho = .24$) and openness to experience ($\rho = .24$) are much more important to leader effectiveness.

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Insert Table 2 about here

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A second contribution of the analysis is the detailed look at lower order personality dimensions. Judge and his colleagues stated that consensus is emerging that the FFM can be used to describe the most salient aspects of personality. However, one of the criticisms of the Five Factor Model is that it provides too coarse a description of personality (Block, 1995; Hough, 1992). Judge et al. (2002, p. 769) argued that the “Big Five traits may be too broad to predict the leadership criteria, thus masking personality-leadership relations.” To evaluate this relationship extraversion was separated into two facets – dominance and sociability. Similarly, conscientiousness was evaluated as achievement and dependability. Finally, locus of control and self-esteem were used to evaluate neuroticism. Table 3 offers the meta-analysis of the relationship between the lower-order personality traits and leadership. Results from this study
show that the lower-order dimensions are similar to their counterparts, and to the higher order construct. The two lower-order dimensions of extraversion (sociability and dominance) each has an estimated corrected correlation of .37, which is slightly higher than the estimated corrected correlation of the higher order construct of extraversion (.31). This correlation is within the 80% credibility interval (.09 to .53) for extraversion and is only slightly higher than the upper bound of the 95% credibility interval (.36). Similar results were obtained for conscientiousness and the respective lower-level dimensions, and for neuroticism with the reverse coded lower-level dimensions. Judge et al. (2002, p. 774) concluded “that some support is provided for the relative merits of lower order traits,” but that the test was indecisive since “almost no studies included measures of both facets along with the five-factor constructs.”

A third contribution from Judge et al. (2002) is the conclusive evidence that the study setting has an effect on the relationship between personality and leadership. Table 4 shows that the estimated corrected correlation between each big five trait and leadership is lower for business and government/military studies than they are for student studies. Judge and his colleagues offered two explanations. First, student settings were relatively unstructured with few rules. Prior research noted that weak situations allow dispositional forces to be more powerful (House, Shane, & Herold, 1996). Second, that student’s naïve conceptions of leadership may have influenced the results. Consistent with other research, Table 4 shows that the number of student studies (118) is considerably higher than business studies (49) and government/military studies (45).
A final contribution from Judge et al. (2002) is the differentiation between the effects of personality and leadership criteria. Leadership can be separated into two broad categories: leadership emergence and leadership effectiveness (Lord et al., 1986). Leadership emergence is concerned with the factors that allow a person to be perceived as a leader (Hogan et al., 1994). As such, leader emergence refers to the degree that someone is viewed as a leader by others. One caveat is that leadership emergence is often judged by those that know little about the person being judged. In striking contrast is leader effectiveness which refers to the leader’s ability to influence and guide the activities of their followers (Stogdill, 1950). Leader effectiveness must therefore be measured in terms of group, team, or organizational outcomes (Hogan et al., 1994). Judge et al. (2002) argued that leadership effectiveness is most commonly assessed by the leader’s supervisor, peer, or subordinates. This type of measurement has been criticized as contaminated since it represents the evaluator’s perceptions of leadership effectiveness (Lord, Foti, & De Vader, 1984) instead of objective leadership methods (e.g. team effectiveness, or personnel engagement). This distinction between leadership emergence and leadership effectiveness is therefore seen as the difference between whether the person being evaluated is already in a position of leadership. Judge et al. (2002) empirically demonstrated that the relationship between personality and leader effectiveness is relatively equal for neuroticism ($\rho = -.22$), extraversion ($\rho = .24$), openness ($\rho = .24$), and agreeableness ($\rho = .21$). Conscientiousness has a slightly lower ($\rho = .16$) estimated corrected correlation with leader effectiveness. This is in stark difference with the relationship between personality and leader
emergence where extraversion and conscientiousness are the clear predictive leaders ($\rho = .33$ each), and agreeableness has the lowest relationship ($\rho = .05$).

Hoffman, Woehr, Maldagen-Youngjohn, and Lyons (2011) continue this analysis of individual differences and leader effectiveness. Their analysis presents the results of 25 individual differences that have been shown to be related to leadership effectiveness by separating them into trait like (e.g. personality and intelligence) and state like individual differences (e.g. knowledge and skills). One obvious omission from this study is empathy.

**Emotional Intelligence Relationship with Job Performance**

Emotional intelligence (EI) research is important to this discussion since empathy is often used as one of the constructs embedded in EI. The purpose of this section is to provide empirical evidence associated with EI and then to show that empathy is a part of EI that can stand alone.

EI has sometimes been criticized as being “invalid” (Locke, 2005), and that the results are “nonexistent or very weak at best or contradictory at worst” (Antonakis, 2003, p. 359). One reason for the criticism of EI comes from the various ways in which EI has been measured and presented. Ashkanausy and Daus (2005) showed that there are three streams of emotional intelligence that differ based on their definition and the measurement approach. Streams 1 and 2 both use Mayer and Salovey’s (1997) definition of EI, as a set of interrelated abilities for effectively dealing with one’s own and other’s emotions. Stream 1 uses ability-based EI tests that measure a participant’s ability to solve emotional problems. Stream 2 uses self-assessments or other-reports of emotional ability and emotionally intelligent behavior. Stream 3 is based on Bar-On (2000) and Goleman’s (2000) definition of EI as an array of dispositions, competencies, and perceptions related to the effective management of emotions. To measure stream 3, self-
assessments or other-reports of EI-related dispositions, competencies, behaviors, and perceptions.

Walter, Cole, and Humphrey (2011) reviewed the relevance of EI as a leadership construct. In their review they observed recent empirical evidence across all three EI streams. Their investigation showed that “published evidence contradicts extreme claims that EI has no value for leadership theory and practice” (Walter et al., 2011, p.52). Their conclusion was that EI has the potential to contribute to the leadership field, but that researchers should introduce greater methodological rigor, examine more complete theoretical models, and explore innovative research areas in future EI analysis.

Further support for the importance of EI as a leadership construct came from two meta-analyses that evaluated the relationship between EI and job performance. The first meta-analysis looked at the relationship between EI and job performance across each of the three EI streams (O’Boyle, Humphrey, Pollack, Hawver, & Story, 2011). O’Boyle and his colleagues found that stream 1 was more related to cognitive measures and less related to personality. Stream 2 and stream 3 were more predictive of job performance over and above cognitive ability and the five factor model. And that stream 2 and stream 3 are distinct measures. Corrected correlations of EI and job performance ranged from .24 to .30, across all three streams. Dominance analysis also showed that all three streams of EI exhibited substantial relative importance (Stream 1 - 6.4% of explained variance, Stream 2 – 13.6%, Stream 3 – 13.2%) in the presence of the personality Five Factor Model and intelligence when predicting job performance. The conclusion that can be drawn from this study was that EI has three distinct streams of research and that EI yields predictive ability above and beyond the FFM and cognitive ability when looking at job performance.
The second meta-analysis conducted by Joseph and Newman (2010) also noted that there are differences in EI measures that have led to different approaches to researching EI. In particular, Joseph and Newman (2010) suggested that there are two distinct ways that EI can be developed and understood. The first states that EI is a set of specific competencies for recognizing and controlling individual emotions. Joseph and Newman (2010) stated that they found this first way has strong theoretical underpinnings, but that it did not predict job performance across all types of jobs. The second way is a “grab bag of constructs that contribute to job performance but are not redundant with cognitive ability” (Joseph & Newman, 2010, p. 72).

This discussion of emotional intelligence research is important to this discussion since empathy is either implied or explicitly stated in EI. However, researchers have advised that it is important to systematically review the dimensions of EI (Walter et al., 2011). This research will therefore focus only on empathy and not consider other constructs that are related to EI.

**Empathy Relationship with Leader Performance**

The discussion in the previous sections showed that individual differences, in this case personality, cognitive ability, and emotional intelligence, have a significant relationship with leader effectiveness. However, one issue that still remains unresolved is the conceptual discrepancies that remain unresolved with each stream of EI (Walter et al., 2011). “Research has yet to systematically examine the relative contribution of these different EI dimensions for leadership criteria” (Walter et al., 2011, p. 53). The EI dimension that perhaps best captures people’s capacity to understand others and feel concern for them is empathy (Scott et al., 2010). There have been two recent studies that have reviewed the relationship between empathy and leader performance.
Kotzé and Venter (2011) sampled 114 middle management leaders at a public sector institution in South Africa and empirically demonstrated that effective leaders scored higher on emotional intelligence than less effective leaders. The EI subscale for empathy received the highest significance and therefore directly linked empathy to leader effectiveness. Two noted weaknesses of this study were that there was no control for other important leadership variables, like personality, and that empathy was defined as “the awareness of and appreciation for the feelings of others” (p. 406) As mentioned previously, interactive empathy requires a leader to sense and to act. Kotzé and Venter’s (2011) definition requires sensing and appreciation for the feeling, but no action or sharing is required by the leader. Without an action the follower has no means to accurately judge the leader’s true empathy for them.

In a supporting study, Sadri, Weber, and Gentry (2011) investigated the link between subordinate ratings of a target-leader’s empathic emotion and the target leader’s performance as rated by their boss, across 38 countries. Empathy was defined as the ability to sense what others are feeling (Duan, 2000; Duan & Hill, 1996; Goleman, 2006). The correlation between empathic emotion and target-leader performance was .14 ($p<.01$). One reported limitation of the study was that it “did not examine how empathic emotion is and is not related to other relevant leadership constructs” (Sadri et al., 2011, p. 827). A second limitation is the definition from this study does not support the requirement that the leader must share their emotion or to take action.

A separate, but supporting line of leadership research has focused on the relationship between empathy and leadership style. Skinner and Spurgeon (2005) showed a significant positive relationship between empathy and transformational leadership, a negative relationship with laissez-faire leadership, and no significant relationship with transactional leadership, in a study of 96 middle and senior level Western Australian Health Department health managers. A
separate study found that students gave higher transformational leadership and charisma ratings to empathic presidential candidates (Pillai et al., 2003). Previous research has linked transformational leadership and charisma to leader effectiveness, therefore directly connecting empathy to these two constructs does add an indirect link between empathy and leader effectiveness.

**Empathy Relationship with Employee Engagement**

Effective leadership is important to organizations and has been researched by many scholars (Burke et al., 2006; Spangenberg & Theron, 2001; House et al., 2002). Boss ratings of target-leaders have been argued to be the best and most common means of evaluating the target-leader performance (Conway, 2000; Conway & Huffcutt, 1997; Viswesvaran, Ones, & Schmidt, 1996). However, Walter, Cole, and Humphrey (2011, p. 53) argued that the bulk of research on emotions and leadership had focused on transformational leadership behavior and leader effectiveness. They urged other researchers to consider “novel leadership phenomena” to push affect research forward. One possible outcome that has received little attention as a leadership outcome is employee engagement. It is expected that since leadership has been shown to be an antecedent of employee engagement (Christian, Garza, & Slaughter, 2011) that there is potential value of using employee engagement as an outcome for interactive empathy. Further discussion of employee engagement as a construct follows.

Employee engagement has been referred to as *personal engagement* which is the extent that employees “bring in” their personal self during work performance (Kahn, 1990). Using this concept, Kahn argued that work engagement refers to the psychological connection with the performance of tasks and also to the self-investment of personal resources. Christian and his colleagues used Kahn’s (1990) definition to develop a proposed work engagement framework
and supported it with a meta-analysis. This framework stated that there are three major antecedents of employee engagement: job characteristics, leadership, and dispositional characteristics. Christian et al. (2011) further described job characteristics as autonomy, task variety, task significance, problem solving, job complexity, feedback, social support, physical demands, and work conditions. Leadership was referred to as the extent to which leaders demonstrate transformational leadership and the strength of the leader member exchange bond. Finally, the dispositional characteristics that were considered to be the most important antecedents were conscientiousness, positive affect, and proactive personality. Support for each of these antecedents was empirically demonstrated (Christian et al., 2011).

A second framework to employee engagement takes a human resource approach to explain the antecedents of while still using Kahn’s (1990) approach. Grumman and Saks (2011) argued that there are three additional antecedents to consider if the goal is to increase employee performance by enhancing employee engagement. These antecedents to employee engagement are: psychological meaningfulness, psychological safety, and psychological availability. A more complete description of each antecedent follows.

Psychological meaningfulness refers to one’s perception of how meaningful it is to bring oneself to job performance. Individuals who have enhanced psychological meaningfulness often believe that there is a reasonable return on investment for the added personal engagement. This usually occurs when employees feel valued as an integral part of the company. Kahn (1990) found that task characteristics, role characteristics, and work interactions all affected the employee’s evaluation of psychological meaningfulness.
Psychological safety defines one’s evaluation to the level of safety involved in bringing oneself to role performance. Employees will evaluate the potential damage to their self-image, status or career and determine if they are safe to fully engage at work. These dangers are often related to the stability of the job and the social environment, and they will affect the degree to which the employee will feel safe to risk self-expression. Kahn (1990) found that interpersonal relationships, group and intergroup dynamics, leadership style, and norms all effected an individual’s evaluation of psychological safety.

Psychological availability is the degree of availability that someone has to bring themselves to complete their task. Employees have a finite degree to which they can bring their physical, emotional, and psychological resources to work to complete their role tasks. Each of these capacities can be limited by events that happen at work, or in the employee’s home life. Kahn (1990) found that depletion of physical energy, depletion of emotional energy, insecurity, and outside lives had profound effects on psychological availability.

A combined list (Table 5) of employment engagement antecedents (Christian et al, 2011; Gruman & Saks, 2011) shows that there are many antecedents that affect motivation and therefore job performance (Barrick, Mount, & Strauss, 1993; Hackman & Oldham, 1980; Kanfer, 1990; Piccolo & Colquitt, 2006). Kahn (1990) argued that individual, leadership, and organizational factors affect the psychological experience of work and that this drives the employee’s work behavior. Leader’s actions are critical to many of these paths.

Insert Table 5 about here

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Accurately Measuring Empathy for Leadership Studies

Empathy has been studied for many years and with many different scales (Munro et al., 2005). Munro and his colleagues stated that some of these scales have been reported to be reliable, and to have satisfactory validity for specific purposes. However, Chlopan, McCain, Carbonell, and Hagen (1985) found that only a few instruments were psychometrically satisfactory, and that they measured different things. This was empirically demonstrated by a survey of nurses which showed only partial convergence of four empathy measures (Layton & Wykle, 1990). Contributors to this discussion have suggested that there is uncertainty about whether empathy is a unitary or multidimensional construct (Davis, 1983) and that no multipurpose tool for measuring is possible because empathy is a bidirectional interpersonal phenomenon with different meanings for people and situations (Bennett, 1995).

Another problem associated with accurately measuring empathy is that there is poor agreement between self-reports and others’ observations. Hornblow, Kidson, and Jones (1977) found that only peer ratings significantly correlated with self ratings on the Hogan Empathy Scale. A second possibility is self-reported empathy measures may be ineffective since respondents are either unaware of, or are unwilling, to accurately relate their empathic experiences (Batson, 1987).

It is for these reasons that empathy, at least in a leadership perspective, should be measured as the perceived empathy by the follower. Accurately measuring a leader’s empathy and how it will affect leader performance is reliant upon assessing the follower’s perception of the empathic displays. The interactive empathy scale (Kellett et al., 2006) has been offered as an effective way of determining a leader’s empathy since the scale’s objective is to measure the leader’s ability to sense and share the subordinate’s feelings, as assessed by the follower.
Chapter 4: Theoretical Framework

In a review of twenty years of leadership, affect, and emotions, Gooty et al. (2010, p. 981) stated that it is difficult to delineate one consistent theoretical underpinning in leadership studies on affect, mood and emotions since “many empirical studies simply integrate multiple theoretical perspectives of leadership and affect.” Gooty and her colleagues stated that there are two major categories of theoretical support for empirical research connecting emotions and leadership. The first set of studies “focus on current theories of leadership, extending them by explicitly incorporating affective influences.” Examples of this type of empirical research are the investigation of the role of positive emotion and charismatic leadership (Bono & Ilies, 2006), along with studies of emotion and leader emergence, transformation leadership, and leader-member exchange (Connelly & Ruark, 2010; Wolff, Pescosolido, & Druskat, 2002). The second category relies on affect-based theories such as Affective Events Theory (AET: Weiss & Cropanzano, 1996) where leadership serves as the context. Examples of AET based research are the integration of LMX theory and AET (Tse, Dasborough, & Ashkanasy, 2008) and the investigation of how leaders effect subordinate moods, which in turn influence their creativity (George & Zhou, 2007). I will begin this discussion of providing a theoretical framework for interactive empathy by discussing the theoretical support provided by AET and then will further strengthen the support with a broader theoretical framework.

Pinder (2008, p. 141) advocated that “the most comprehensive and well-reasoned attempt to locate emotions in the spectrum of workplace experience was provided by Weiss and Cropanzano (1996)” with the development of AET. Simply stated, people have emotional reactions to work events, and that the employee’s work attitudes and job related behaviors are
based on the combination of these emotional reactions and their environment. Several empirical studies have supported this theory (Basch & Fisher, 2000; Fisher, 2002; Paterson, & Cary, 2002).

Ashkanasy et al. (2002, p. 323) stated that based on AET, “employees’ behavior and performance at work are much more likely to be affected by the way they feel on a moment-to-moment basis than by any vaguely defined set of attitudes related to how satisfied they feel (Fisher, 2000; Hodges & Wilson, 1993; Weiss, Nicholas, & Daus, 1999).” The chain of events that link affective events to performance are: (1) workplace conditions determine the occurrence of discrete ‘affective events’ which (2) lead to affective responses in workers such as moods and emotions, which (3) can lead to impulsive behavior at that time, but will also in the longer term (4) accumulate to influence more stable work attitudes such as job satisfaction, which (5) influence cognitively-driven behaviors, such as (5a) intention to quit, (5b) engagement in anti- or pro-social activities (Organ, 1990), or (5c) the decision to work productively (Wright, Bonnett & Sweeney, 1993; Wright & Cropanzano, 1998).

Another key component of AET is that affective events are determined by work environment elements such as job characteristics, role stressors, and requirements for emotional labor (Ashkanasy et al., 2002). These work events lead to both positive and negative emotions, which in turn determines the way that workers think and behave at work (Fisher & Ashkanasy, 2000; Fisher, 2000; O’Shea, Ashkanasy, Gallois, & Härtel, 1999, 2000a, 2000b; Weiss et al., 1999). Ashkanasy and his colleagues (2002) argued that based on AET, emotions at work, and the events that cause the emotions, should not be ignored. Positive and negative emotions often come from interactions with supervisors, peers, and subordinates, and can occur both within and outside the organizational setting. Research has shown that these events have a cumulative nature where the frequency of events is more important than the intensity of the events (Fisher,
1998, 2000a, 2000b). People are more capable of dealing with infrequent occurrences, even if they are relatively intense, than they are with frequent work hassles. A second finding is that negative effects of these hassles can be avoided by subsequent positive events such as support by friends, family, and colleagues (Ashkanasy et al., 2002).

There are several ways in which leaders can influence affective events and thus employees’ moods (Humphrey et al., 2008). First, leaders can be the original source of positive or negative affective events. Leader induced negative events may be particularly influential on employee moods since people are more likely to recall negative events than positive ones, and that they remember the negative events more intensely and in greater detail (Dasborough, 2006). Second, leader responses, or the failure to respond, to follower affective events can either break the chain of negative events or add to the hassles. The workplace is filled with negative events, and it is the leaders’ responsibility to help employees overcome these problems (Pirola-Merlo et al., 2002) by performing self-sacrificing behaviors (De Cremer & van Knippenberg, 2004; DeCremer, 2006) and managing the moods of their employees (Humphrey, 2002; Pescosolido, 2002).

When leaders perform interactive empathy they are creating positive events in some cases, and reducing the burden of negative events in others. Therefore, affective events theory provides the theoretical underpinnings for interactive empathy. However, it has been recommended that scholars need to broaden their perspective and look at all organizational levels when reviewing emotions in organizations (Ashkanasy & Humphrey, 2011; Ashkanasy & Jordan, 2008). One means of accomplishing this is to move from single level theories, such as AET which focuses mainly on individual level events, and adopt the Five-Level model of emotion in organizations (Figure 1) developed by Ashkanasy (2003a).
The Five-Level model of emotion in organizations provides significantly greater explanatory power for leadership theories since it integrates all five levels seen in organizations (Ashkanasy, 2003b). Level 1 (within person) includes AET, emotional reactions, and impulsive behaviors to account for moment-to-moment emotions for individuals. I have used Level 1 components to provide the theoretical underpinnings for the relationship between interactive empathy and leader effectiveness. However, there are significantly more interactions in play when leaders perform interactive empathy.

The framework provided by the Five-Level model provides greater insight into the interactions that are at play in organizations. This can be seen where Level 2 begins connecting these ideas through the accumulation of emotions felt in Level 1 where more stable attitudinal variables such as job satisfaction (as a between-person variable, see Fisher, 2000) and organizational commitment (Meyer & Allen, 1997) are developed. Also incorporated in Level 2 are individual differences such as emotional intelligence (Mayer & Salovey, 1997), trait affectivity (Watson & Tellegen, 1985), and personality (Digman, 1990). Zaccaro (2007) argued that future research needs to include the interactions of these related variables when researchers are trying to determine the explanatory power of other predictor variables.

Level 3 further demonstrates the complexity of studying organizational emotions by accounting for the interpersonal interactions. In Level 3 emotional perception, like facial recognition of emotions (Ekman, 1984, 1999), is combined with interpersonal relationships. Emotional labor (Hochschild, 1983) is also included in this level since interpersonal interactions
are at play. The concept of groups and teams are included in Level 4, where emotional contagion (Hatfield, Cacioppo, & Rapson, 1993); group mood (George, 1990), Leader Member Exchange (Graen & Uhl-Bien, 1991), have shown to be important to team behavior and work performance (Kelly & Barsade, 2001; Sy, Côté, & Saavedra (2005). Finally, Level 5 connects the previous levels with organizational leadership and organizational performance.

I will offer five hypotheses about the relationship of interactive empathy, leader effectiveness, and important related predictor variables based on the theoretical groundings of AET and the Five-Level model framework. I will start by discussing the relationship between interactive empathy and the leader’s personality. The remaining hypotheses will address the relationship between interactive empathy and two measures of leader effectiveness (leader performance as rated by a supervisor and employee engagement), while considering the effect of leader personality on the same outcome variables.

Leaders perform interactive empathy when they actively engage one or many of their followers. During these scenarios the leader observes the follower’s emotional state and situation, makes a determination if an affective event is necessary, and then will take the required actions. It is expected that many of the leader’s personality traits will affect the leader’s propensity to observe and also to share their emotions.

**Interactive Empathy Relationship with Leader Personality**

Personality is often considered to be one of the most prominent individual differences in organizational behavior (Goldberg, 1981; McRae & Costa, 1987; Judge et al., 2002) and empathy has been shown to be significantly related to several of the five personality factors (Munro et al., 2005; Taylor et al., 2010). Taylor et al., (2010) used the NEO-FFI (Costa &
McRae, 1985) personality scale and found that empathy significantly related to conscientiousness \((r = .14)\), agreeableness \((r = .41)\), extraversion \((r = .30)\), and openness to experience \((r = .24)\). Munro et al. (2005) conducted two separate studies of medical applicants using the IPIP-B5 (Goldberg, 1992, 1999) personality scale and found empathy significantly related to conscientiousness \((r = .16 \& .30)\), agreeableness \((r = .34 \& .40)\), extraversion \((r = .21 \& .36)\), and openness to experience \((r = .34 \& .33)\) and significantly negatively related to neuroticism \((r = -.03)\), in one study. These results show that empathy is related to the Big Five personality traits. However, it is necessary to look at the relationship between interactive empathy and each of these five personality traits since interactive empathy is a new conception of empathy that was not reviewed in the previous studies.

Extraversion measures an individual’s sociability, assertiveness, and high activity levels (McRae & Costa, 1999). Individuals that score high on extraversion are more expressive in their interactions with others and enjoy social attention. Lawler (2001) stated that social interactions are a source of positive feelings and emotions. Positive affectivity has even been used as a marker for extraversion (Watson & Clark, 1997). Empathy has been empirically linked to extraversion (Munro et al., 2005; Taylor et al., 2010). It is expected that leaders that are high on extraversion will be predisposed to engaging employees more often and in more positive ways. Extraverted leaders will perform interactive empathy more frequently and will possibly be better at performing interactive empathy. This will cause followers to perceive extraverted leaders as high on interactive empathy.

**Hypothesis 1a.** Leader’s interactive empathy will be positively related to leader’s extraversion.
Agreeableness is often seen as an individual’s predisposition to be cooperative and tactful, along with a tendency not to be rude, self-centered, or independent (Digman, 1990). Empirical research has shown that agreeableness is positively related to empathy (Munro et al., 2005; Taylor et al., 2010). Leaders who are willing to cooperate with their followers in a tactful manner are expected to produce more positive affective events. Leaders that are high on agreeableness are expected to engage in more positive situations and be more mindful of engaging in negative situations. Followers will observe these behaviors and will consider leaders that are high on agreeableness to display interactive empathy more often.

**Hypothesis 1b.** *Leader’s interactive empathy will be positively related to leader’s agreeableness.*

Conscientious individuals have the tendency to exhibit dependability, self-discipline, and persistence. Conscientiousness has been empirically correlated with empathy (Munro et al., 2005; Taylor et al., 2010). Conscientiousness has also been linked to overall job performance (Barrick & Mount, 1991; O’Boyle et al., 2011). Leaders that are more conscientiousness are expected to be more persistent in observing a follower’s empathic displays and will be more likely to engage in interactive empathy displays.

**Hypothesis 1c.** *Leader’s interactive empathy will be positively related to leader’s conscientiousness.*

Openness to experience measures an individual’s ability to appreciate different things, different viewpoints, and different emotions (Digman, 1990). Openness to experience (sometimes called intellect) is correlated to divergent thinking (McCrae, 1987) and strongly related to creativity (Feist, 1998; McRae & Costa, 1997). Researchers have also shown that openness to experience is related to empathy (Munro et al., 2005; Taylor et al., 2010). It is
expected that leaders who are more open to experiences will perceive different emotions from their followers and be more creative in their positive emotional displays.

**Hypothesis 1d.** *Leader’s interactive empathy will be positively related to leader’s openness to experience.*

Neuroticism is often considered to represent an individual’s locus of control and their self-esteem (Judge et al., 1998). Neuroticism is often reverse coded and called emotional stability. Individuals who are high on emotional stability are calm, confident, and secure (Digman, 1990). Empirical research has shown a low negative relationship between empathy and neuroticism on some studies and no statistically significant results in other studies (Munro et al., 2005; Taylor et al., 2010). Leaders that are calm, confident, and secure are expected to provide an overall balance to the work environment for followers. In contrast, leaders who are higher on neuroticism are expected to be less effective in displaying positive interactive empathy.

**Hypothesis 1e.** *Leader’s interactive empathy will be negatively related to leader’s neuroticism.*

**Interactive Empathy Relationship with Leader Effectiveness**

Kellett et al. (2006) stated that high quality relationships stemming from empathy are likely to enhance the subordinate’s perceptions of the leader’s integrity, or credibility, and engender cooperation and trust. This in turn is expected to influence the follower’s emotions and attitudes in support of corporate goals and objectives (George, 2000; Lewis, 2000). Leaders that can gain this type of support should be seen as more effective than leaders that are not as effective at interactive empathy. The following discussion will first look at the positive follower
and group outcomes that come from empathy and then will present the empirical evidence that connects empathy with organizational outcomes.

Empirical studies have linked empathy to positive subordinate results. Positive emotional practices produce positive affect in individuals (Cameron et al., 2011), which increases work satisfaction, improves personal well-being, reduces intention to quit, curbs conflict, increases prosocial behavior, and improves social satisfaction (Bono & Ilies, 2006; Cooper et al., 1992; Cote & Morgan, 2002; Donovan, 2000; Eisenberg & Miller, 1987; Lyubomirsky, King, & Diener, 2005; Underwood & Moore, 1982; Van Katwyk, Fox, Spector, & Kelloway, 2000). It has been hypothesized that empathic managers engage in more social support by making work life easier and being willing to listen (Caplan, Cobb, French, Harrison, & Pinneau, 1975). Subsequently, stress research has shown that support has a direct effect on strain (Halbesleben, 2006), thereby reducing daily hassles and creating affective events. Empirical evidence of this relationship found leader empathy to positively affect employee’s average daily levels of somatic complaints (Scott et al., 2010). This indicates that a manager’s empathy directly effects employees’ physical wellness.

A second major finding by Scott and his colleagues (2010) was that perceptions of daily goal progress were more strongly associated with positive affect for groups of employees with empathic managers. This research shows that empathic leaders can positively affect individual and group well-being which supports the Five-Level model where empathic managers have both a direct effect where employees experience lower average levels of somatic complaints, and also indirectly by influencing the strength with which progress or failure at work goals is associated with daily well-being.
The next link in the relationship between empathy and leader effectiveness comes from the expectation that employees who have less stress and more supportive leaders will perform better. Empirical research has directly linked empathy to the successful work performance of physicians, salesmen, and healthcare managers (Friedman & DiMatteo, 1982; Silvester et al., 2007; Skinner & Spurgeon, 2005; Tobolski & Kerr, 1952). This increase in individual performance will thereby improve organizational performance. Case studies by Pescosolido (2002) showed that leadership involves a process of managing group member’s emotions in order to improve performance. McColl-Kennedy and Anderson (2002) demonstrated that leaders strongly influenced sales performance by managing their subordinates’ feelings of frustration and optimism. Pirola-Merlo, Haertel, Mann, and Hirst (2002) found that leaders had a strong impact on affective team climate, which in turn positively influenced team performance, and Stein et al., (2009) empirically demonstrated that empathy was related to company profits. It is now important to link organization performance to leader performance.

Leader effectiveness is defined as a leader’s ability to influence and guide the activities of their unit toward achieving its goals (Stogdill, 1950). Research on empathy has shown that those leaders who are more empathic have employees, groups, and organizations that perform better. Therefore, empathic leaders are more effective. Sadri et al. (2011) empirically showed that leaders with higher ratings of empathic emotion (as rated by their subordinates) received higher ratings of performance (as rated by the leader’s boss). It is anticipated that since interactive empathy is a more active form of the broader construct of empathy that interactive empathy will be positively related to leader effectiveness.

**Hypothesis 2.** *The follower’s perceived interactive empathy of the leader is positively related to leader effectiveness, as rated by a leader’s supervisor.*
Incremental Validity and Relative Importance of Interactive Empathy and Leader Effectiveness

Some researchers have questioned whether emotional intelligence, and therefore empathy, add incremental validity above more established constructs like the five factor model and general mental ability (Conte, 2005; Landy, 2005; Locke, 2005; Newsome, Day, & Catano, 2004; Van Rooy, Alonso, & Viswesvaran, 2005). A recent meta-analysis of emotional intelligence and job performance showed that all three streams of EI have predictive ability above general mental ability and the FFM traits (O’Boyle et al., 2011). This meta-analysis was predicting the effect of emotional intelligence on job performance and EI. Empathy has been shown to be one of the more prominent constructs in EI (Kotzé & Venter, 2011) and leader effectiveness has been demonstrated as a primary indicator of a leader’s performance (Judge et al., 2002). Therefore, it is believed that interactive empathy will add incremental validity and relative importance in explaining leadership performance.

**Hypothesis 3.** Interactive empathy exhibits incremental validity and relative importance in predicting leadership performance above and beyond that which is predicted by the Five Factor Model.

Interactive Empathy Relationship to Employee Engagement

Leadership effectiveness has been referred to as a leader’s performance in influencing and guiding the activities of followers towards the achievement of goals (Stogdill). Hogan et al. (1994) argued that leadership effectiveness should be measured in terms of team, group, or organizational effectiveness. However, most research has used supervisor, peer, or subordinate ratings. Walter and his colleagues (2011) suggested that future research on emotions should investigate alternative and novel leadership phenomena to help advance affective research. One
outcome measure that has received considerable attention over the past few years is employee engagement.

Leaders affect employee engagement by influencing job characteristics, motivation, work environment, and other engagement antecedents (Kahn 1990). Christian et al. (2011) argued that employee engagement was associated with transformational leadership and research has connected transformational leadership to empathy (Skinner & Spurgeon, 2005). Similar research connected higher transformational leadership and charisma ratings to empathic presidential candidates (Pillai et al., 2003).

It is expected that leaders who are better at displaying interactive empathy will have more positive interactions with employees. This will allow followers to have stronger leader-member exchange relationships (Graen & Uhl-Bien, 1991). Leader’s who are high on interactive empathy will sense a follower’s negative emotions and will positively engage the follower. Such actions are expected to reduce the follower’s insecurities and will help the follower recharge their emotional energy. Gruman and Saks (2011) argued that an employee’s psychological availability is related to employee engagement. A similar situation will occur when leaders high on interactive empathy will sense emotions that are occurring from a follower’s outside life. If the follower is experiencing a positive emotion, the leader will share the positive emotion and thereby improve work interactions. Conversely, if the employee brings a negative emotion to work, the leader can perform interactive empathy by sensing the negative emotion and then responding in a supportive or positive way for the follower. It is anticipated that these actions will improve the employee’s mood and will therefore improve the work environment for other employees.
Management behavior has also been empirically shown to moderate the relationship between employee engagement and organizational outcomes (Smith, Huelsman, Bergman, & Ludwig, 2010). Leaders who communicate effectively and have the follower’s well-being as a high priority produce engaged employees (Towers Perrin, 2003) since they build trust (Chughtai & Buckley, 2008). Ludwig and Frazier (2012) suggested that many leadership actions create employee engagement by increasing communication. Leaders who are higher in interactive empathy will therefore positively affect many of the antecedents of employee engagement.

**Hypothesis 4.** The follower’s perceived interactive empathy of the leader is positively related to employee engagement.

**Incremental Validity and Relative Importance of Interactive Empathy and Employee Engagement**

Due to the interaction of many organizational behavior constructs it is important to review the incremental validity above more established constructs like the five factor model and general mental ability (Conte, 2005; Landy, 2005; Locke, 2005; Newsome, Day, & Catano, 2004; Van Rooy, Alonso, & Viswesvaran, 2005). Interactive empathy is expected to be positively related to employee engagement. Similarly, research has shown to the leader’s personality is related to leader effectiveness (Judge et al., 2002) and therefore expected to be related to employee engagement. However, the interactions between interactive empathy and employee engagement are expected to be stronger and to add incremental validity and relative importance in predicting employee engagement.

**Hypothesis 5.** In the presence of the FFM, interactive empathy exhibits incremental validity and relative importance in predicting employee engagement.
Chapter 5: Methods and Procedures

Sample

The purpose of this research was to determine the incremental explanatory power that leadership empathy has on leader performance. To accomplish this goal it was imperative to develop a sampling plan that removed as many potential sampling errors as possible. My goal was to use measures that had either been previously validated in research, or ones that the respondent was already familiar with. To aid in removing other sampling bias, I collected data from three different sources (the leader, the subordinate, and the leader’s supervisor).

Data collection was conducted in two segments. The participating company collected annual performance review, employee engagement, and leader interactive empathy (Appendix A) data during their annual culture-engagement survey. These surveys were collected between November 5th and November 21st, 2013. Interactive empathy, employee engagement, and annual performance review data were received from the company on May 6, 2013. Personality surveys (Appendix B) were emailed to 102 leaders on May 15, 2013.

Engagement surveys and interactive empathy surveys were completed for 754 total employees, which included 102 leaders. The response rate for these surveys was 100 percent since it was done in conjunction with the company’s annual culture-engagement survey. Employees ranged in age from 20 to 72 years with a mean age of 44 years. The average company tenure for employees was 11 years with a maximum of 41 years and a minimum of less than one year. Eighty-three percent of the employees were male, 41% were salary employees, while the remaining 59% were hourly employees. The 102 leaders ranged in age from 31 to 68 years with a mean age of 47 years. The average tenure was 17 years with a maximum of 41 years and a
minimum of 3 years. Eighty-nine percent of the employees were male and all were salaried employees.

Every subordinate rated their leader’s interactive empathy, with the exception of the CEO. This resulted in 753 subordinate ratings of leaders, or 753 dyadic pairs. The average number of subordinates was 7.4 with a maximum of 17 and a minimum of one.

**Measures**

**Leader**

*Personality.* The leader’s personality was measured using a version of the Five Factor model (Goldberg, 1990) consisting of intellect/imagination (openness to experience), extraversion, agreeableness, neuroticism, and conscientiousness was used in this study. The instrument chosen for this experiment was the Mini International Personality Item Pool (Mini-IPIP) (Donnellan, Oswald, Baird, & Lucas, 2006) which is a shortened 20 item version of the original 50 item International Personality Item Pool (IPIP) developed by Goldberg (1999). The Mini-IPIP was chosen since the survey was conducted in conjunction with the climate/culture survey and respondent fatigue might affect results if the full 50 item scale was used. The 20 questions on the Mini-IPIP are composed of four items for each of the five personality traits, using a five point Likert-type scale. The Mini-IPIP has been shown to have very similar reliabilities to longer 50 item measures (Donnellan, Oswald, Baird, & Lucas, 2006). The reported reliabilities of each trait were: extraversion (α = .82), agreeableness (α = .75), conscientiousness (α = .75), neuroticism (α = .70), intellect/imagination (α = .70). Examples of Mini-IPIP items include: “have a vivid imagination” for openness, “am the life of the party” for extraversion, “sympathize for others’ feelings” for agreeableness, and “have frequent mood swings” for neuroticism.
Eighty nine of the 102 leaders responded to the personality survey. The calculated coefficient alphas for this study were: extraversion (α = .85), agreeableness (α = .78), conscientiousness (α = .72), neuroticism (α = .75), intellect/imagination (α = .82).

Subordinate

Interactive empathy. The perception of the leader’s interactive empathy was measured using a five subordinate-report item scale developed specifically for measuring interactive empathy (Kellett, Humphrey, & Sleeth, 2006). This scale asks subordinates to rate their supervisor with items such as, “Shares others’ feelings of happiness.” Participants will respond on a 7-point Likert-type scale ranging from 1 (slightly characteristic) to 7 (very characteristic). Reported alpha reliability coefficient for each interactive empathy is .85 (Kellett, Humphrey, & Sleeth, 2006). The calculated coefficient alpha for this study was .82.

Engagement. The subordinate’s engagement was measured using the Hay Group Insight scale. This scale is based on the subordinate’s response to 5 point Likert type questions. The Hay Group Insight scale is proprietary and therefore only summary results were made available. Documentation on the validity of the Insight Scale shows a Cronbach Alpha of greater than .80 for 11 companies surveyed and a range of .70 to .79 for another 7 companies (Hay Group, 2007).

Target-Leader’s Supervisor

Leader Performance. The perception of the leader’s performance was measured using the company’s internally generated associate performance review. The choice to use the company’s performance review system was to take advantage of an evaluation system that was already in place and that had been generated for the purpose of evaluating practical leader performance. The company’s performance review scale is an average of three components (1) the leader’s
business performance metrics that the leader is responsible for (as determined by the supervisor), (2) a 360 degree evaluation of the leader’s values behaviors (supervisor, 3 to 4 peers, and 5 to 7 subordinates), and (3) the average engagement survey of the leader’s subordinates. In the first component the leader’s supervisor evaluates the leader’s ability to achieve the business goals associated with their unit. This evaluation includes the leader’s ability to influence their subordinates in a manner to meet or exceed the expectations set for that leader’s team. Based on the nature of the company’s business, this measure is often a form of productivity (sales per associate, tons of crushed stone per associate, etc.) and safety (accidents over a period of time, days without an accident, days lost due to accidents). This rating varies based on the leader’s role in the company. The second part of the evaluation is derived from a 360 degree evaluation of the target leader by the leader’s supervisor, peers, and subordinates. Each 360 degree respondent evaluates the target leader based on their evaluation of the target leader’s ability to meet company’s values. The final portion of the annual review is the average employee engagement survey. This average is for all employees that report back through the target leader. This means that the target leader is evaluated for their direct reports and for all other employees that report in some way back to them. The average, maximum, and minimum values for each of the three components and the total performance review are reported in Table 6. Each component is evaluated separately throughout the analysis.

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Insert Table 6 about here

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Control Variables

Several control variables were collected. These include age, gender, company tenure, pay type (salary/hourly), company division, and division location. These control variables were used at both the group and individual level analysis. The reason for using these control variables was based on previous research that showed that women may be better at recognizing emotions (Pfeifer & Depretto, 2009) and that individuals often are more empathic to people that are similar to them (Preston & de Waal, 2002; Buccino et al., 2004).
Chapter 6: Results

The data in this study were analyzed primarily using regression and correlations, with a final review using dominance analysis (Johnson, 2000; Johnson & LeBreton, 2004) to look at the relative importance of each variable. A discussion for each hypothesis and the analysis method follows.

Hypotheses 1a through 1e stated that there is a relationship between a leader’s interactive empathy and leader personality. Since the leader’s interactive empathy measure was an aggregated score across multiple raters, it was necessary to ensure that this aggregation was appropriate. Following Chan’s (1998) typology of compositions models, the leader’s interactive empathy was represented by a direct consensus of the individual ratings by the leader’s subordinates. In addition, the interactive empathy scale is a multiple item measure. The calculated interrater agreement using $r_{WG(J)}$ (James et al., 1984) was .91 which is above the widely applied criterion of .70 (Lance et al., 2006) as the cut-off level for determining if aggregation of subordinate ratings for interactive empathy are appropriate. I also followed the recommendations of Biemann et al. (2012) and calculated the interrater agreement ICC(1). The ICC(1) was .45 for the single measures of interactive empathy and was statistically significant at the <.01 level. Based on the $r_{WG(J)}$ and the ICC(1) results, the individual group member ratings may be justifiably aggregated into the focal unit of analysis (Chen et al., 2004) for interactive empathy.

After aggregating the subordinate ratings of interactive empathy I evaluated the Pearson’s product moment correlation of the averaged leader interactive empathy, and all five personality traits. In spite of the prediction that personality traits were correlated with the average
interactive empathy scale, this study showed no statistically significant relationships. The values of the correlations were: conscientiousness ($r = -0.01, p > 0.05$), agreeableness ($r = 0.09, p > 0.05$), neuroticism ($r = 0.11, p > 0.05$), openness to experience ($r = -0.02, p > 0.05$), and extraversion ($r = 0.00, p > 0.05$). Hypotheses 1a through 1e were therefore, not supported.

Upon completion of the correlation analysis I conducted linear regression and dominance analysis of the five personality traits to determine the relative importance of each trait. The results are presented in Table 7. The calculated $r$ was $0.14 (p > 0.05)$ and resulting $r$ square was $0.02 (p > 0.05)$ for the full model of all five personality traits with interactive empathy.

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Hypothesis 2 claimed that leaders who are rated by their subordinates as having higher interactive empathy will be rated higher on performance evaluations by their supervisors, than those leaders who are rated lower on interactive empathy. To evaluate this claim I calculated the Pearson’s product moment correlation of the leader’s averaged interactive empathy with the leader’s annual performance review rating. The leader’s annual performance review rating is shown as the total performance review and the three subcomponents (360 evaluation, employee engagement, and supervisor’s APR rating). Results are shown in Table 6. The average interactive empathy, as reported by the target leader’s subordinates, showed statistically significant correlations with all three subcomponents of the target leader’s annual performance review and the total performance review.
To further investigate hypothesis 2, I used hierarchical linear regression to evaluate the relationship between the average interactive empathy and annual performance review, while controlling for gender, age, company tenure, and number of subordinates. The overall intent of hypothesis 2 was to evaluate the relationship between the way that subordinates rate the target leader’s interactive empathy and the way that the target leader’s supervisor rates their overall performance. Therefore, the only component of the leader’s performance review that was evaluated was the supervisor’s rating. Results are presented in Table 8. The calculated standardized beta coefficient for interactive empathy was .34 (p < .01).

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Insert Table 8 about here
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Based on these results, hypothesis 2 was supported since the beta coefficient for interactive empathy was both positive (as determined by the beta coefficient) and significant (as determined by the t significance test).

Hypothesis 3 posited that a leader’s interactive empathy will add incremental explanatory power above and beyond that explained by leader personality on leader performance. To evaluate this claim I again used hierarchical linear regression. Control variables of gender, age, company tenure, number of subordinates, and the leader’s personality traits were entered in the first step of the regression. Results are presented in Table 8. The calculated $R^2$ for all control variables was .05 ($p > .05$). The calculated $R^2$ for interactive empathy, while controlling for the other variables, was .15 ($p < .05$) with a change in $R^2$ of .10 ($p < .05$). Based on these results, hypothesis 3 is supported since three criteria are met: (1) the beta coefficient for interactive...
empathy is both positive (as determined by the beta coefficient) and (2) significant (as determined by the $t$ significance test) and the total correlation (as determined by a positive change in $R^2$) increased from .05 to .15 and was significant.

Management and organizational behavior research is often conducted with variables that are multivariate in nature. It was anticipated that interactive empathy was correlated with leader performance and with all five of the Big Five personality dimensions. The use of regression analysis provided beta weights which were compared to each other. However, one assumption of regression analysis is that the variables are not correlated and therefore it is possible for beta weights to be misrepresented. This can be seen where variables of less importance have a positive correlation to the outcome variable, but a negative beta weight when added with other variables in multiple regression. Other researchers have noted this problem and recommended the use of dominance analysis to address this problem (Walter et al., 2011). The results from the dominance analysis for these variables are offered in Table 9 and show that interactive empathy accounts for 76.3% of the variance explained by all variables. This added additional support to the claim that interactive empathy adds incremental explanatory power above and beyond that which is explained by the leader’s personality.

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Hypothesis 4 claimed that the follower’s perceived interactive empathy of the leader is positively related to employee engagement. To evaluate this hypothesis I first analyzed the data from the individual level since the subordinates completed an evaluation of the leader’s
interactive empathy and also their engagement. The correlation for the 754 employees was $r = .33 \ (p < .01)$.

The second analysis for this hypothesis was made at the leader level to control for variables that are associated with the leader. To ensure that aggregating the individual engagement surveys was justified, I calculated the interrater agreement using $r_{WG(J)}$ (James et al., 1984) and ICC(1). The $r_{WG(J)}$ was .85 which is above the widely applied criterion of .70 (Lance et al., 2006) and the ICC(1) was .21 and was statistically significant at the .01 level. Based on the $r_{WG(J)}$ and the ICC(1) results, the individual group member ratings of engagement were justifiably aggregated into the focal unit of analysis (Chen et al., 2004) for subordinate engagement.

To evaluate hypothesis 4 at the leader level I used hierarchical linear regression and controlled for gender, company tenure, age, and number of subordinates. Results are presented in Table 10. The calculated standardized beta coefficient for interactive empathy, while controlling for the other variables, was $$.35 \ (p < .01)$. Based on these results, hypothesis 4 was supported since the beta coefficient for interactive empathy was both positive (as determined by the beta coefficient) and significant (as determined by the $t$ significance test).

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Hypothesis 5 predicted that in the presence of the personality Five Factor Model, interactive empathy will exhibit incremental validity and relative importance in predicting employee engagement. I used hierarchical linear regression and controlled for gender, company tenure, age, number of subordinates, and leader’s personality traits. Results are reported in Table
10. The calculated $R^2$ for all control variables was .06 ($p > .05$). The calculated $R^2$ for interactive empathy, while controlling for the other variables, was .17 ($p < .05$) with a change in $R^2$ of .11 ($p < .05$). Based on these results, hypothesis 5 was supported since three criteria are met: (1) the beta coefficient for interactive empathy is both positive (as determined by the beta coefficient) and (2) significant (as determined by the $t$ significance test) and the total correlation (as determined by a positive change in $R^2$) increased from .06 to .17 and was significant.

I performed dominance analysis to evaluate the relative importance of the variables being tested in hypothesis 5. The results are offered in Table 11 and show that interactive empathy accounted for 90.1% of the variance explained by all predictor variables. This added additional support to the claim that interactive empathy adds incremental explanatory power above and beyond that which is explained by the leader’s personality.

An exploratory analysis for hypothesis 5 was to evaluate the multi-level nature of employee engagement with leader interactive empathy while controlling for the leader’s personality. I followed the guidance by Hofmann, Griffin, and Gavin (2000) and evaluated three relationships for each of the five personality traits. The first relationship tested in hierarchical
linear modeling was the relationship between the personality trait and employee engagement which is determined by the significance of the $\gamma_{01}$ term in the linear regression. The second relationship being evaluated was the significance of the employee’s evaluation of the leader’s interactive empathy ($\gamma_{10}$ term) and the employee’s engagement. The final relationship was the moderating effect of the personality trait ($\gamma_{11}$ term) on the relationship between interactive empathy and employee engagement. Results are presented in Tables 12 through 16 for each of the five personality traits. These results showed that the relationship between each of the individual personality traits ($\gamma_{01}$) was not significant for any of the five personality traits. Prior to testing the other two relationships it was required (Hofmann, et al., 2000) to calculate the ICC. This ICC was the same for the evaluation of each personality trait. The calculated ICC for this study was .80, which indicates that eighty percent of the variance resides between groups, thereby meeting the requirement for testing the remaining two relationships. The evaluation of the relationship between interactive empathy and employee engagement was positive and significant for each of the five evaluations ($\gamma_{01}$ conscientiousness $2.67, p < .01$; agreeableness $2.68, p < .01$; neuroticism $2.70, p < .01$; openness $2.70, p < .01$; extraversion $2.73 p < .01$), thereby adding further support for hypothesis 5 showing that interactive empathy does provide explanatory power above that which is explained by leader personality on employee engagement.

The results for the investigation of moderating effects, using the method outlined by Hoffman et al. (2000), showed that neuroticism was the only personality trait that moderated the relationship between interactive empathy and employee engagement ($\gamma_{11}$ conscientiousness $0.18, p > .05$; agreeableness $-0.74, p > .05$; neuroticism $-0.87, p < .05$; openness $0.37, p > .05$; extraversion $-0.04 p > .05$). Further evaluation of the slopes-as-outcomes hierarchical linear model for the relationship between leader neuroticism showed that in the presence of interactive empathy,
leader neuroticism was a significant predictor ($\gamma_{10} = 5.07$, $p < .05$) of employee engagement and the leader neuroticism has a negative moderating effect on the relationship between leader interactive empathy and employee engagement ($\gamma_{11} = -0.87$, $p > .05$).

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Chapter 7: Discussion

The purpose of this study was to take a deeper look at empathy as a leadership construct for two reasons. First, empathy is an under-researched topic in leadership and second, empathy may add explanatory power about a leader’s performance above those constructs that have been previously researched. Empathy has been discussed for decades (Katz, 1963) and has become a fixture in the working vocabulary for all professions, including business. Although empathy is a well researched construct in counseling and psychotherapy literature (e.g., Gladstein, 1977, 1987; Rogers, 1951, 1957, 1961), it has only recently received increasing attention in management (Sadri et al., 2011). Management research has empirically connected empathy and work performance (Silvester, Patterson, Koczawara, & Ferguson, 2007), job interview performance (Fox & Spector, 2000), organizational citizenship behaviors displays (Wong & Law, 2002; Joireman, Kamdar, Daniels, & Duell, 2006), decreased employee somatic complaints (Scott et al., 2010), improved sales performance (Tobolski & Kerr, 1952), and increased company profits (Stein et al., 2009).

This study contributes to the growing body of management research in six ways. The first contribution addresses the overall advancement of future empathy research by reviewing the current definitions and by offering a definition that can be used by leadership scholars. The next two contributions are built around the design of this study. First, this study was conducted in a work environment and second, the study design included a complex evaluation of empathy by gathering information from the leader, the leader’s subordinates, the leader’s supervisor, and the leader’s peers. The remaining three contributions are all empirical evaluations that had not previously been completed. This study empirically demonstrated (1) a positive relationship between interactive empathy and leader performance, as evaluated by the leader’s supervisor; (2)
a positive relationship between interactive empathy and leader performance as evaluated by follower engagement, and (3) showed that interactive empathy has explanatory power above and beyond how leader personality affects the leader’s performance. These empirical results add credence to the claim that interactive empathy is an important leadership construct that warrants further study. More detailed explanations of these contributions follow.

**Defining Empathy**

Management research is somewhat delayed by the complexity of empathy as a construct. One major contribution of this study is the discussion of the various empathy definitions and the introduction of a definition that can be used for leadership research. Most leadership theories (e.g. charismatic and transformational leadership) have become increasingly aware of emotions (Ashkanasy & Humphrey, 2011). In order for leadership scholars to incorporate empathy into future research it is imperative for these researchers to understand the complexity of empathy as a leadership construct and to properly develop research around specific empathy definitions. This dissertation provided a definition of empathy as an interactive engagement between the leader and the follower. Defining empathy in this manner ensured that the construct was focused directly on the empathic actions that the leader performs that lead to observed leader performance and employee engagement.

**Evaluation of interactive empathy**

A second intended contribution of this study was to review empathy in a corporate setting. Kellett, Humphrey, and Sleeth (2006) advanced empathy research by adding the interactive dimension of empathy necessary for leadership research. Most previous studies are based on an empathy definition that refer to the ability to comprehend another’s feelings and to
re-experience them oneself (Salovey & Mayer, 1990). From a leadership perspective, “comprehending” another’s feelings may not be sufficient because it may lead to passive behavior. Leaders who perform interactive empathy create shared emotional experiences by emotionally engaging with their followers and by encouraging their followers to talk about their feelings. This open display of empathy ensures the follower recognizes the leader’s care and concern. To support this new approach to empathy, Kellett and her colleagues (Kellett et al., 2006) defined empathy as the ability to share and re-experience others’ feelings. Based on this new definition, an interactive empathy scale was developed to test the relationship between empathy and leadership (Kellett et al., 2006).

In a study of university students in an assessment center exercise, Kellett et al. (2006) found that interactive empathy was significantly related to task-oriented leadership (Yukl, 1998; Dansereau & Yammarino, 1998) and to relations-oriented leadership. These results indicate that empathy is important for both emotional and cognitive processes. Leaders capable of performing interactive empathy build emotional bonds with followers and may also be more effective communicators. This study also showed that interactive empathy mediated the relationship between the ability to identify others’ emotions and relations-oriented leadership, and also the relationship between the ability to express one’s own emotions and relations-oriented leadership.

Most individuals display empathy every day; sometimes automatically, while other occurrences are quite intentional. Based on this argument it is not expected that researching empathy in a work environment would be substantially different from that observed in a university assessment center. However, few studies have researched empathy in this manner. Weiss (2002, p.1) stated that work “is a place where all our basic processes, including emotional processes, play out daily.” The emotional exchange between co-workers, customers, bosses, and
followers has the potential to strengthen or weaken relationship bonds. Leaders who engage in emotional exchanges like empathy have the ability to influence the strength of these relationships. This phenomenon could certainly occur in an assessment center setting, but these settings do not normally occur over several months, or years, nor do they involve the high stakes of long term risk and reward associated with employment. Empathy may therefore be a more significant indicator in a work environment. This dissertation adds to the field of leadership knowledge by extending empathy into a corporate setting.

Perhaps the most important contribution of this dissertation is the validation of the interactive empathy scale (Kellett, et al., 2006) and the empirical evaluation of the relationship between interactive empathy and leader performance. These results show the importance of interactive empathy as a leadership construct. More discussion about the relationship between interactive empathy and leader performance will be offered in a subsequent section of this chapter.

Behavioral research is often plagued by introduction of variance associated with the sampling methods that researchers use to collect data (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003). Common method variance refers to the variance attributed to the measurement method rather than to the constructs the measures represent. Since research on empathy can not be evaluated using probes or monitors in most settings, researchers must rely on responses from individuals using methods and measures that often misrepresent the construct. Podsakoff et al. (2003) stated that this variance can inflate the strength of the relationship, especially if the same source (rater) is used and the same methods (survey, etc.) are used. To remove these biases it has been recommended that researchers alter the way in which research is conducted (Podsakoff,
et al. 2003). This study addressed this problem by addressing both the same source and same method biases.

Same source errors were removed by gathering information from multiple sources. Personality surveys were directly obtained from the leaders. Performance evaluations were completed by the leader’s supervisor. Engagement surveys and the evaluation of the leader’s interactive empathy were obtained from the leader’s subordinates. Additional performance evaluations were completed by the leader’s peers.

Same method errors were addressed by using multiple measures. Surveys were used for personality, interactive empathy, and employee engagement. However, leader performance was rated by the supervisor using a performance scale developed by the company. The results from this study are therefore expected to be more accurate since the study removed single source and single method sampling biases.

The relationship between interactive empathy and leader personality

The empirical analysis of this study began by evaluating the relationship between the leader’s personality and interactive empathy. Personality is considered to be one of the most prominent individual differences in organizational behavior (Goldberg, 1981; McRae & Costa, 1987; Judge et al., 2002) and empirical analysis of empathy has been shown that it is significantly related to several of the five personality factors (Munro et al., 2005; Taylor et al., 2010). Taylor et al., (2010) found that empathy significantly related to conscientiousness ($r = .14$), agreeableness ($r = .41$), extraversion ($r = .30$), and openness to experience ($r = .24$). Munro et al. (2005) found empathy significantly related to conscientiousness ($r = .16$ & .30), agreeableness ($r = .34$ & .40), extraversion ($r = .21$ & .36), and openness to experience ($r = .34$
& .33) and significantly negatively related to neuroticism ($r = -.03$), in one study. These results show that empathy is related to the Big Five personality traits. Based on these results I believed that the investigation of interactive empathy and leader performance should begin by controlling for the effects of the five personality traits. Following the recommendations of other researchers on the proper way to address control variables like personality (Becker, 2005; Spector & Brannick, 2011) I included the expected effects of personality on interactive empathy in my first set of hypotheses. My results did not support this expectation. The results of this study showed that the relationship between interactive empathy and the leader’s personality was not significant (extraversion $r = .00$, $p > .05$; agreeableness $r = .09$, $p > .05$; conscientiousness $r = -.01$, $p > .05$; openness to experience $r = -.02$, $p > .05$; and neuroticism $r = .11$, $p > .05$). It is anticipated that there are three potential reasons for this result: (1) the way empathy was measured in previous studies, (2) the way empathy was defined in previous studies, and (3) the strength of the situation present at the company used for this study.

As mentioned previously, in this study interactive empathy was measured by surveying each leader’s subordinates. These surveys asked subordinates to rate their leaders on five questions: (1) values others as individuals, (2) feels emotions that other people experience, (3) makes others feel understood, (4) shares others feelings of happiness, and (5) encourages others to talk about how they feel. Leaders were surveyed to determine their personality traits. I have argued that for leadership studies that it is important for the focus of empathy to be on the other person, not the leader. Therefore, it is imperative to have the subordinate respond about their perception of the leader’s level of empathy.

In contrast to this approach, Munro et al. (2005) evaluated the relationship between empathy and personality of medical students in New Zealand and Scotland in a very different
Medical students completed self report surveys of both their empathy and their personality. In addition, empathy questions were centered about the following definitions (1) enjoys others happiness, (2) upset by others unhappiness or hurt animals, (3) identifies with person in trouble, (4) describes self as emotional, (5) attached to friends, (6) feels sorry for the aged or infirm, (7) angered by injustice, (8) affected by fictional stories, (9) gets satisfaction from looking at others, and (10) others tell about their problems.

Taylor et al. (2010) evaluated the relationship between empathy and personality in a very similar way to Munro et al. (2005). Taylor and his colleagues (2010) surveyed 167 entry level counselors at a midwestern United States large, non-profit organization. The counselors completed self report surveys of personality and empathy. Sample empathy questions were: (1) I often have tender, concerned feelings for people less fortunate than me and (2) when I see someone being taken advantage, I feel kind of protective towards them.

An evaluation of the study design of the two other studies shows that there could be same source bias and same measure bias (Podsakoff, et al., 2003). These biases often increase the strength of the correlation. In contrast, the study design for this dissertation attempted to control these sources of bias by obtaining data from different sources and by using different measures. This dissertation used self reports of personality and observer ratings for interactive empathy. Using external raters to evaluate constructs like personality has shown to alter the strength of the relationship. A meta-analysis of the relationship between personality and job performance (Oh, Wang, & Mount, 2011) showed that the estimated mean validity of the five personality factors is stronger for observer reports than they are for self reports. Oh and his colleagues (2011) showed that by adding a single observer evaluation to a self report rating increased the $R^2$ by .02 to .07 for each of the five factors. Perhaps this change in results is based on the removal of self-
responses aimed at social desirability for certain personality traits. Regardless, future empathy studies should use both self-report and observer ratings of personality and empathy to more completely evaluate the relationship between empathy and other constructs, while controlling for personality.

A second consideration is that the definition of empathy is very different across the three studies. The survey questions from this study focus on the empathic concern of the leader on the subordinate. In comparison, the Munro et al. (2005) survey questions cover a much broader definition of empathy to include concepts like being angered by injustice, attached to friends, and others telling the respondent about their problems. A similar situation is seen with the definition of empathy in the Taylor et al. (2010) questions where new incoming counselors are being asked questions that would expect to have a degree of social desirability (Crowne & Marlowe, 1964) for employees working with others (e.g. concerned feelings for people less fortunate). From this evaluation it can be seen that the relationship being evaluated between empathy and personality could certainly be different across studies.

Other studies (Chatman, 1989) have also discussed how the strength of a situation may affect the results of organizational behavior studies. Chatman’s (1989) study of person-organization fit stated that companies that have crystallized values represent strong situations. These strong situations are identified by conditions where everyone understands the situation in a similar manner, that the response to situations is similar, and that everyone has the skills to perform the task in that specific situation (Mischel, 1977). In these cases, certain constructs like personality may not be as important. The culture at the company studied in this dissertation conducts communication and values training to a level that may significantly reduce the number
of ambiguous situations (Mischel & Peake, 1982), and may therefore reduce the interaction between personality and interactive empathy.

A final observation for the overall results of interactive empathy and personality lies at the discussion of empathy as a personality trait itself. The results from this study showed that interactive empathy was not significantly related to any of the leader personality traits. Many personality studies have been conducted to isolate the unique personality traits that do not have overlapping dimensions. Research has shown that conscientiousness is uniquely different from neuroticism, agreeableness, openness to experience, and extraversion. Similar statements could be made about each of the other traits. It has been suggested the empathy should be added to the Five Factor Model of personality (Caprara, Barbaranelli, & Comrey, 2005). The reasons for this claim are grounded in Hogan’s (1969) scale that defined empathy as “the intellectual or imaginative apprehension of another’s condition or state of mind” (p. 308). Batson et al. (1995) also claimed that in order for people to display empathy that they must first perceive the need of another and then adopt the perspective of the other. This trait of being willing to enter the shoes of another person is not accounted for in any of the current five personality traits. The results of this study suggest that empathy may have enough connection as a personality trait that empathy should once again be considered as a significant personality trait.

The relationship between interactive empathy and leader performance

Hypothesis 2 claimed that interactive empathy would be related to leader performance, as evaluated by the leader’s supervisor. I expected that the supervisor’s rating of the leader’s performance was significantly linked to the leader’s ability to maintain productive employees. Previous studies have shown that positive emotional practices produce positive affect in
individuals (Cameron et al., 2011), increase work satisfaction, improve personal well-being, reduce intention to quit, curb conflict, increase prosocial behavior, improve social satisfaction, and reduce somatic complaints (Bono & Ilies, 2006; Cooper et al., 1992; Cote & Morgan, 2002; Donovan, 2000; Eisenberg & Miller, 1987; Lyubomirsky, King, & Diener, 2005; Underwood & Moore, 1982; Van Katwyk, Fox, Spector, & Kelloway, 2000; Scott et al., 2010). This indicates that a manager’s empathy directly affects several individual and group motivators and employees’ well being. The results of this study support this claim.

Table 8 shows the results of the correlations between interactive empathy and the leader’s annual performance review. At the company studied in this dissertation, the annual performance review is comprised of three components: the supervisor’s rating of the leader’s ability to meet the performance metrics associated with the job, a 360 degree evaluation of the leader’s ability to meet the company’s desired values, and the employee engagement of the leader’s subordinates. Hypothesis 2 is evaluated solely by the positive correlation between the supervisor’s appraisal of the leader’s ability to meet performance metrics and the interactive empathy as indicated by the leader’s subordinates. The correlation for this relationship was .34 and was significant. Leaders that can positively affect employees through the use of interactive empathy are seen by their supervisors to be more effective leaders. These results support the results from previous studies (Kotzé & Venter, 2010; Mahsud, et al., 2010; Sadri et al., 2011; Scott et al., 2010) and empirically show that leaders with higher ratings of empathic emotion (as rated by their subordinates) received higher ratings of performance (as rated by the leader’s boss).

Empirically demonstrating this link between interactive empathy and leader performance in a corporate setting is important. Many researchers have advocated that the business environment has changed and that it has become more emotional, or at least aware of the need
for emotions to be considered. The results from this dissertation show that the followers are aware of the leader’s ability to provide emotional support through the effective use of interactive empathy. Added to this discussion is that the leader’s supervisor gives leaders who can provide this level of emotional support higher evaluations.

A second contribution of this empirical evaluation of empathy and performance is that the leader’s display of interactive empathy is seen throughout the organization. The significant, positive correlation between the leader’s interactive empathy and the 360 evaluation ($r = .37$) shows that actions by empathic leaders are viewed by the leader’s subordinates, peers, and supervisor. This provides indirect support for the Five-Level Model of Emotions (Ashkanasy & Humphrey, 2011) where empathic managers have direct and indirect effects across all five organizational levels (within person, between persons, interpersonal, groups and teams, and organization wide). Leaders that can perform interactive empathy are evaluated at all levels of the company as being more capable of meeting the company’s values. This has significant managerial implications and will be further discussed in that section of this dissertation.

After establishing the relationship between the leader’s interactive empathy and leader performance, I investigated the incremental explanatory power that empathy has above personality in explaining leader performance. The motivation for this analysis is to respond to the number of researchers who have questioned whether emotional intelligence, and therefore empathy, add incremental validity above the five factor model of personality and general mental ability (Conte, 2005; Landy, 2005; Locke, 2005; Newsome, Day, & Catano, 2004; Van Rooy, Alonso, & Viswesvaran, 2005). Empathy is one of the more important emotional intelligence constructs (Kotzé & Venter, 2011) and emotional intelligence has been empirically shown to predict job performance above general mental ability and the FFM traits (O’Boyle et al, 2011).
Based on this argument, I proposed that interactive empathy would exhibit incremental validity and relative importance in predicting leadership performance above and beyond that which is predicted by the Five Factor Model of personality. Results using linear regression, while controlling for personality and other control variables showed that the $R^2$ increased from .05 to .15. This result indicates that interactive empathy explains approximately ten percent of the variance in the relationship with leader performance. Also supporting this claim are the results of the dominance analysis (Table 11) where interactive empathy explains 76.3% of the variance explained in this analysis of leader performance. These results give strong evidence to support the claim that interactive empathy is a predictor of leader performance, and that it offers explanatory power above that which is explained by personality.

**The relationship between interactive empathy and employee engagement**

Organizational researchers have argued that leadership effectiveness should be measured in terms of team, group, or organizational measures (Hogan et al., 1994) and that more novel measures of performance would advance affective research (Walter et al., 2011). Based on these recommendations, a goal of this dissertation was to view the benefit of the leader’s empathic response on subordinate work engagement. Leaders and followers receive and evaluate information from each other’s emotions and emotional displays based on their emotional sensitivity, the emotional expression used, and their emotional regulation (Riggio & Reichard, 2008). I proposed that the leader’s ability and willingness to express empathy could significantly influence the follower’s attributions about the leader and establish a connection based on a shared identity (Gooty et al., 2010). I expected that leaders who were better at displaying
interactive empathy would have more positive interactions with employees and would develop stronger leader-member exchange relationships (Graen & Uhl-Bien, 1991). In addition, I believed that leaders that scored higher on interactive empathy would be better at sensing a subordinate’s negative emotions and would engage the follower in a positive manner. These actions were expected to reduce the follower’s insecurities, recharge their emotional energy, and improve the employee’s psychological availability which is related to employee engagement (Gruman & Saks, 2011).

Supporting this argument is the expectation that interactive empathy is a form of communication. Leaders who communicate effectively and are considerate of the follower’s well-being build trust (Chughtai & Buckley, 2008) and produce engaged employees (Towers Perrin, 2003; Ludwig & Frazier, 2012). Based on these arguments, I proposed that leaders who are higher in interactive empathy would positively affect employee engagement. Results from this analysis of 754 employees showed that the relationship between interactive empathy and employee engagement was .33 and significant at the .000 level. Linear regression including all control variables also showed that interactive empathy was the only significant predictor of employee engagement. Based on these results I concluded that a leader’s ability to perform interactive empathy had a significant effect on follower engagement.

To build on this claim I evaluated the importance of interactive empathy above and beyond how the leader’s personality affects employee engagement. The results of linear regression showed again that interactive empathy was the only significant predictor of employee engagement. Dominance analysis showed that interactive empathy explained 90.1 percent of all variance explained by all variables. Results from the linear regression analysis also revealed that the value of r-squared of all control variables was .05 and that adding interactive empathy
increased this r-squared value to .17. This indicates that interactive empathy explains approximately twelve percent of the variance associated with employee engagement. Based on these results I concluded that interactive empathy adds incremental explanatory power of employee engagement above that which is explained by personality.

To further evaluate the relationship between interactive empathy, leader personality, and employee engagement I used hierarchical multilevel modeling. Evaluation of all personality traits showed that neuroticism was the only significant personality trait in further understanding the relationship between interactive empathy and employee engagement. In the presence of interactive empathy, leader neuroticism is a significant predictor of employee engagement. Leaders that score higher on neuroticism negatively moderate the relationship between leader interactive empathy and employee engagement.

The results from this investigation of the effects of a leader’s ability to perform interactive empathy on employee engagement have significant implications for future research and also on managerial implications. Each of these will be discussed in subsequent sections of this dissertation. The immediate importance of these results helps demonstrate the overall relationship that interactive empathy has on organizational performance. Leaders that can effective communicate their support of followers through the use of interactive empathy help employees become more engaged and this results in the leader’s being evaluated as more effective by their supervisors. This dissertation is the first empirical evidence that this relationship may exist. Regardless of the causal flow, the results of this study offer evidence that interactive empathy is a significant predictor of employee engagement and leader performance.

**Future directions**
Empathy has been researched as a multi-discipline construct for years. However, recent calls have urged others to develop a more deliberate approach to this complex phenomenon (Batson, 2009).

One approach is to focus on empathy as a communication process. Empathy is an induction process where emotions are shared (Plutchik, 1987) and communication of emotions allows one person to enter into a relationship of shared appreciation (Tiedens, 2000). Future research should leverage the communication research and introduce these concepts into future models of empathy and into empirical testing of these models. This line of research could add additional value in understanding empathy as a communication process.

Following this line of research would be a deeper look into how attribution theory (Heider, 1958) affects the empathy process since individuals are free to interpret another’s actions (Dasborough & Ashkanasy, 2002). Leaders may think that they are doing everything possible to increase the strength of the LMX relationship (Graen & Uhl-Bien, 1991) between them and a follower. Even genuine displays of emotions may be dismissed as disingenuous if the follower has a weak relationship with the leader. Similarly, strong LMX bonds may allow the follower to dismiss infrequent emotional mistakes made by the leader. There may also be other factors that affect how others attribute the actions of the leader. The results of this study show that neuroticism moderates the relationship between interactive empathy and employee engagement. It is possible that leaders that exhibit tendencies of being less stable may cause their subordinates to attribute their actions as being more focused on themselves.

This study also showed that empathy may once again need to be reviewed as a potential individual personality trait. Others have proposed this in the past. Future research should find
ways to dissect the more trait-like empathy mechanisms and develop means of evaluating just those elements. Refining empathy as a trait may allow this complex construct to be more critically examined as a potential sixth personality trait.

The remaining two implications for future research are built around research design. The purpose of this study was to determine if there was a relationship between interactive empathy and leader performance/employee engagement. Although this study did offer significant improvements to study design, it did not provide for causal models to be developed. Future research should develop measures that will allow for more advanced techniques like structural equation modeling to be conducted. This type of analysis would allow researchers to compare various explanatory models of the empathy process. Constructs of interest in this modeling would be the strength of the LMX bond, level of communication, and mechanisms that may affect the attribution process (e.g. level of shared values). Along these same lines, future research should address the ways that personality is measured. Personality has been shown to be linked to performance, and the means of measuring personality has a significant effect on this relationship. Using meta-analysis, Oh, Wang, and Mount (2011) showed that the estimated mean validity of the five personality factors is stronger for observer reports than they are for self reports. Adding a single observer evaluation to a self report rating increased the $R^2$ by .02 to .07 for each of the five factors. This dissertation used self reports of personality. Future empathy studies, that seek to control for personality, should use both self-report and observer ratings of personality.

The final urge for future research is to continue to investigate empathy as a multilevel discipline. This requires significant effort on the part of the researcher to develop measures and methods that allow for empirically testing how attributes at one level may affect empathic
processes. This discussion of the complexity of empathy as a trait, ability, and a communication process demonstrates the difficulty of conducting research. There is still much to be learned about empathy as a management construct.

**Practical implications**

The results of this study show how important affect is in the workplace. Not only are emotions a part of the work environment, they are a major contributor to employee engagement and leader performance. This discussion of practical implications is built around the Five Level Model of Emotions (Ashkanasy & Humphrey, 2011) to show the practical implications of interactive empathy across all levels of emotion in organizations.

In Level 1 of the model affective events lead to emotional reactions and impulsive behaviors within that person. Leaders certainly incur emotional events throughout the day. These feelings will affect their personal mood and will cause both impulsive and considered emotional behaviors. Some of these emotions will be empathically generated by others around them. Instead of hiding these emotions, leaders should consider open displays of emotions as long as the follower remains the focal point of the emotion and if the emotion is close to the level that the follower would expect. More discussion on this topic will be offered in Level 3 interpersonal relationships.

In Level 2 between person elements are observed. At this level individual differences and attitudes lead to considered behavior. Senior leaders should consider the interactive empathy capabilities of their middle and front-line managers. One means of ensuring a higher level of empathic displays by all leaders could be from providing leaders training on how to detect the empathic needs of their followers, how to accurately display empathy, and why the display is
needed. Previous research has shown how empathy can be improved using this type of training. Companies could also consider the ability of potential leaders to engage in empathic exchanges with others as a criterion for hiring or promotion.

Level 3 focuses on the interpersonal effects of emotions. At this level the perception of emotions leads to interpersonal relationships that are grounded in trust. When a leader empathically engages a follower they share an emotional bond. The follower’s feelings are acknowledged. This increases the follower’s trust and their level of engagement. This study showed that leaders who displayed higher levels of interactive empathy had more engaged employees. A practical implication of increased engagement is increased individual productivity which leads to improved firm performance. This has potential financial implications. Caution should be used in how this message is delivered to leaders. Leaders must not manipulate the follower to falsely increase this trust. The focus of the empathy must be on maintaining the employee’s well-being. Followers are highly aware of conditions where they are being manipulated (Burch, et al., 2013). As mentioned in a previous section, the empathic display must be similar to what is expected by the follower or they may be suspicious of the emotional display. There may be a fine line between a leader’s empathy being viewed as considerate or obtrusive. Employees will judge what is appropriate. For this reason, leaders must know their followers well enough to maintain the appropriate level of emotional displays. There is still considerable research that needs to be conducted on how much empathy needs to be displayed.

One means of addressing the potential misinterpretation of empathic displays would center about communication training. Empathy has been discussed as a communication mechanism where the leader and follower must send and receive messages. Company culture, personal preferences, and situational variables will cause leaders and followers to change the
strength of the signal, the sensitivity to detecting the signal, and the response to the signal. Communication training could substantially aid in helping organization members understand their role as sender and receiver. This type of training could ensure that the correct signals are being sent and received which should increase the chance that the leader understands the follower’s emotions and that the leader responds in a manner that is expected by the follower. This emotional exchange will increase the interpersonal relationship between leader and follower.

The fourth level of the emotions addresses the emotional exchange in groups and teams. Leaders have direct influence on their followers through the use of interactive empathy. They also are responsible for setting the affective tone that allows for the exchange of empathy between other members. The combination of direct influence and group affect lead to group behaviors. An implication for practitioners is the importance that emotional displays, like empathy, have on the individual and the group. As the leader models interactive empathy with followers, they are developing the affective tone of the group that they lead. This can lead to higher team member exchange relationships and increased group performance.

At the final level of emotions, leaders develop emotional climates that affect organizational performance. Leaders that can develop an empathic emotional climate ensure the follower’s well-being is always considered. Senior leaders should promote the right emotional climate inside the organization by openly stating the company’s commitment to healthy emotional relationships across the organization. Leaders at all levels will then be required to demonstrate their commitment to this culture by their own interactive empathy displays. Developing this type of culture could allow organizations to address both attraction of potential employees and turnover of current employees. Discussion with corporate leaders has indicated
that people join organizations, but quit their bosses (Burch, et al., 2013). It is expected that potential employees will be attracted to this empathic emotional climate and more leaders will engage in interactive empathy which should increase interpersonal bonds and reduce employee turnover.

**Study limitations**

There are four limitations to this study that address the generalizability of the results, the causal effects of the relationships, the control for other predictor variables, and the control of variance associated with the study. I will address each of these issues separately.

This study was conducted by obtaining responses from only one company. Therefore, the results may be considered to be less generalizable to all companies, across varying industries. Highhouse and Gillespie (2009) stated that questioning the generalizability of a study resides in the ability to replicate the study in future research. There are other companies with similar attributes to the one that was studied in this analysis that could allow for testing these hypotheses in similar ways. The strength of testing these hypotheses outside of a laboratory setting is offered as a reason for allowing this limitation.

The design of this study did not address why interactive empathy is related to leader performance and employee engagement. Two major goals of this study were to evaluate the interactive empathy scale (Kellett et al., 2006) in a corporate setting and to further strengthen the support of interactive empathy as a leadership construct. The results of this study accomplished these goals. Future research should be conducted to further investigate why the relationship between interactive empathy is related to leader performance and employee engagement.
A strength of this study was to control for the effects of personality on the relationship between interactive empathy and leader performance/employee engagement. A subsequent limitation is that I was unable to control for the cognitive ability of the leader. Cognitive ability has been shown to be a major contribution to leader performance. However, the corporate environment of the company studied would not allow the evaluation of the leader’s cognitive ability. Future research should further evaluate the potential effects of cognitive ability on this relationship.

A final study limitation was the use of similar measurement instruments for the evaluation of the relationship between interactive empathy and employee engagement. In this analysis employees evaluated the predictor and outcome variables using surveys. This study design introduced common variance based on same source and same method biases (Podsakoff, et al., 2003). Mitigating reasons for the use of this approach are two-fold. The first is that the focus of the relationship caused the information to only be available from the employee. Second, the object being evaluated was different in the two surveys. The employee evaluated their level of engagement in one survey and the leader’s display of interactive empathy in the other.

**Conclusion**

Empathy is an under-researched leadership construct that has the potential to add explanatory power about the leader’s performance. This dissertation investigated this claim and offers six contributions to the study of empathy. These contributions are grouped by theoretical contributions, study design contributions, and empirical contributions.

Empirical research has shown widely variable results ($r$ values of .14 to .55) of the relationship between empathy and leadership performance. This is most likely due to the
disparate definitions of empathy and the reliance on scales that do not fully capture the explanatory relationship being evaluated. The results of this study show how important it is to properly define empathy in future studies.

This dissertation also contributes to the study of empathy by using a study design that removed as much common bias error as possible, using multiple performance measures (leader performance and employee engagement) and by evaluating the multilevel nature of empathy in organizations.

Finally this study adds to the empirical evaluation of empathy in six ways: (1) This study validated the use of the interactive empathy scale (Kellett, et al., 2006) in a corporate environment; (2) This study measured the relationship between interactive empathy and leadership performance in a corporate setting; (3) Using multiple regression, this study showed that interactive empathy adds incremental explanatory power above and beyond that which personality explains about leadership performance; (4) This analysis measured the relationship between interactive empathy and employee engagement; (5) This study showed that interactive empathy adds incremental explanatory power above and beyond that which personality explains about employee engagement; and (6) This is the first study that looked at empathy as a multilevel management construct.

The results of this study add further support to the importance of interactive empathy as a leadership construct. The freedom to express emotions in the workplace is growing. However, no rules have been set on how leaders should effectively manage their emotional displays or how to set the appropriate emotional climate. This study adds clear support that leaders that are willing to engage their followers with empathic displays are seen as better leaders from their
supervisors and have more engaged employees. The practical implications of these results and the supporting theoretical discussion on how to improve future empathy research are significant. However, the most important contribution of this study is the validation of interactive empathy as a leadership concept that merits inclusion into the fields of leadership and emotions.
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The five-level model of emotion in organizations (Ashkanasy & Humphrey, 2011).
Table 1 *Correlation between empathy and Personality Five Factor Model components*

<table>
<thead>
<tr>
<th>Scale and Item</th>
<th>Munro et al. (2005) Sample 1</th>
<th>Munro et al. (2005) Sample 2</th>
<th>Taylor et al. (2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agreeableness</td>
<td>.34**</td>
<td>.40**</td>
<td>.41**</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>.16*</td>
<td>.30**</td>
<td>.14*</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.21**</td>
<td>.36**</td>
<td>.30**</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>.03**</td>
<td>-.03</td>
<td>-.03</td>
</tr>
<tr>
<td>Openness</td>
<td>.34**</td>
<td>.33**</td>
<td>.24**</td>
</tr>
</tbody>
</table>

* p < .05 (two-tailed). ** p < .01 (two-tailed).
Table 2 Correlation between Personality Five Factor Model components and Leader Performance

<table>
<thead>
<tr>
<th>Trait</th>
<th>k</th>
<th>N</th>
<th>r</th>
<th>SD_rho</th>
<th>80% CV</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism</td>
<td>48</td>
<td>8,025</td>
<td>-.17</td>
<td>.18</td>
<td>-.47</td>
<td>-.30</td>
</tr>
<tr>
<td>Extraversion</td>
<td>60</td>
<td>11,705</td>
<td>.22</td>
<td>.31</td>
<td>.09</td>
<td>.26</td>
</tr>
<tr>
<td>Openness</td>
<td>37</td>
<td>7,221</td>
<td>.16</td>
<td>.24</td>
<td>.09</td>
<td>.19</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>42</td>
<td>9,801</td>
<td>.06</td>
<td>.17</td>
<td>-.14</td>
<td>.02</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>35</td>
<td>7,510</td>
<td>.20</td>
<td>.17</td>
<td>.06</td>
<td>.22</td>
</tr>
</tbody>
</table>

Note: k = Number of correlations, ρ = estimated corrected correlation, CV = credibility interval, CI = confidence interval.

Reprint from Judge et al. (2002) Table 2
Table 3 Correlation between Lower Order Dimensions of Personality Five Factor Model components and Leader Performance

<table>
<thead>
<tr>
<th>Trait</th>
<th>k</th>
<th>N</th>
<th>r</th>
<th>P</th>
<th>SD&lt;sub&gt;ρ&lt;/sub&gt;</th>
<th>80% CV Lower</th>
<th>80% CV Upper</th>
<th>95% CI Lower</th>
<th>95% CI Upper</th>
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<tbody>
<tr>
<td>Locus of control (Neuroticism)</td>
<td>15</td>
<td>2,347</td>
<td>.08</td>
<td>.13</td>
<td>.14</td>
<td>-.04</td>
<td>.31</td>
<td>.05</td>
<td>.21</td>
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<td>Self-esteem (Neuroticism)</td>
<td>9</td>
<td>7,451</td>
<td>.14</td>
<td>.19</td>
<td>.12</td>
<td>.04</td>
<td>.35</td>
<td>.11</td>
<td>.28</td>
</tr>
<tr>
<td>Sociability (Extraversion)</td>
<td>19</td>
<td>5,827</td>
<td>.24</td>
<td>.37</td>
<td>.21</td>
<td>.10</td>
<td>.64</td>
<td>.22</td>
<td>.47</td>
</tr>
<tr>
<td>Dominance (Extraversion)</td>
<td>31</td>
<td>7,692</td>
<td>.24</td>
<td>.37</td>
<td>.20</td>
<td>.11</td>
<td>.63</td>
<td>.29</td>
<td>.44</td>
</tr>
<tr>
<td>Achievement (Conscientiousness)</td>
<td>16</td>
<td>4,625</td>
<td>.23</td>
<td>.35</td>
<td>.16</td>
<td>.14</td>
<td>.56</td>
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<td>.43</td>
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<tr>
<td>Dependability(Conscientiousness)</td>
<td>16</td>
<td>5,020</td>
<td>.18</td>
<td>.30</td>
<td>.20</td>
<td>.04</td>
<td>.56</td>
<td>.19</td>
<td>.40</td>
</tr>
</tbody>
</table>

*Note: k = Number of correlations, ρ = estimated corrected correlation, CV = credibility interval, CI = confidence interval.*

Reprint from Judge et al. (2002) Table 3
Table 4 *Correlation between Personality Five Factor Model components and Leader Performance by study type*

<table>
<thead>
<tr>
<th>Trait</th>
<th>Business</th>
<th></th>
<th>Government/military</th>
<th></th>
<th>Students</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$k$</td>
<td>$\rho$</td>
<td></td>
<td>$k$</td>
<td>$\rho$</td>
</tr>
<tr>
<td>Neuroticism</td>
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<td>-0.15$^{a,b}$</td>
<td></td>
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<td>Extraversion</td>
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<td></td>
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<td>37</td>
<td>0.40$^{a,b}$</td>
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<td>Openness</td>
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<td>0.23$^{a,b}$</td>
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<td>6</td>
<td>0.06</td>
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</tr>
<tr>
<td>Agreeableness</td>
<td>10</td>
<td>-0.04</td>
<td></td>
<td>11</td>
<td>-0.04</td>
<td></td>
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<tr>
<td>Conscientiousness</td>
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<td>0.05</td>
<td></td>
<td>6</td>
<td>0.17$^{b}$</td>
<td></td>
</tr>
</tbody>
</table>

|                |          |          |                     |          | 21       | 0.36$^{a,b}$ |

Note: $k$ = Number of correlations, $\rho$ = estimated corrected correlation. $^a$ 95% confidence interval excluding zero. $^b$ 80% credibility interval excluding zero.

Reprint from Judge et al. (2002) Table 5
Table 5 *Employee Engagement Antecedents*

<table>
<thead>
<tr>
<th>Christian et al., 2011</th>
<th>Gruman &amp; Saks, 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Job Characteristics</strong></td>
<td>Psychological Meaningfulness</td>
</tr>
<tr>
<td>Autonomy</td>
<td>Task characteristics</td>
</tr>
<tr>
<td>Task variety</td>
<td>Role characteristics</td>
</tr>
<tr>
<td>Task significance</td>
<td>Work interactions</td>
</tr>
<tr>
<td>Problem solving</td>
<td></td>
</tr>
<tr>
<td>Job complexity</td>
<td></td>
</tr>
<tr>
<td>Feedback</td>
<td></td>
</tr>
<tr>
<td>Social Support</td>
<td></td>
</tr>
<tr>
<td>Physical demands</td>
<td></td>
</tr>
<tr>
<td>Work conditions</td>
<td></td>
</tr>
<tr>
<td><strong>Leadership</strong></td>
<td>Psychological Safety</td>
</tr>
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<td>Transformational leadership</td>
<td>Interpersonal relationships</td>
</tr>
<tr>
<td>Leader-Member Exchange</td>
<td>Group and intergroup dynamics</td>
</tr>
<tr>
<td></td>
<td>Management style</td>
</tr>
<tr>
<td></td>
<td>Norms</td>
</tr>
<tr>
<td><strong>Dispositional Characteristics</strong></td>
<td>Psychological Availability</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>Depletion of physical energy</td>
</tr>
<tr>
<td>Positive affect</td>
<td>Depletion of emotional energy</td>
</tr>
<tr>
<td>Proactive personality</td>
<td>Insecurity</td>
</tr>
<tr>
<td></td>
<td>Outside lives</td>
</tr>
</tbody>
</table>
Table 6 *Means, Standard Deviations, and Correlations*

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Interactive empathy</td>
<td>4.44</td>
<td>.40</td>
<td></td>
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</tr>
<tr>
<td>2. 360 Review</td>
<td>81.50</td>
<td>11.17</td>
<td>.37**</td>
<td>-</td>
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<td></td>
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</tr>
<tr>
<td>3. Employee Engagement</td>
<td>85.93</td>
<td>9.93</td>
<td>.42**</td>
<td>.15</td>
<td>-</td>
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<td></td>
</tr>
<tr>
<td>4. Supervisor Rating</td>
<td>2.38</td>
<td>.53</td>
<td>.34**</td>
<td>.22*</td>
<td>.59**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>5. Total Performance</td>
<td>75.62</td>
<td>8.50</td>
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<td>.61**</td>
<td>.76**</td>
<td>.89**</td>
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</tr>
<tr>
<td>6. Tenure</td>
<td>47.03</td>
<td>8.67</td>
<td>.22*</td>
<td>.15</td>
<td>.16</td>
<td>-.15</td>
<td>.20*</td>
<td>-</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>8. Conscientiousness</td>
<td>5.44</td>
<td>.92</td>
<td>-.01</td>
<td>.11</td>
<td>-.09</td>
<td>.00</td>
<td>.01</td>
<td>.23*</td>
<td>.12</td>
<td>-</td>
<td></td>
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</tr>
<tr>
<td>9. Agreeableness</td>
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<td>.70</td>
<td>-.01</td>
<td>-.05</td>
<td>.04</td>
<td>.08</td>
<td>-.07</td>
<td>-.03</td>
<td>.19</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>10. Neuroticism</td>
<td>5.34</td>
<td>1.11</td>
<td>.12</td>
<td>.10</td>
<td>.03</td>
<td>.10</td>
<td>.14</td>
<td>.19</td>
<td>.15</td>
<td>.16</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Openness</td>
<td>5.23</td>
<td>1.09</td>
<td>-.02</td>
<td>-.08</td>
<td>.00</td>
<td>-.08</td>
<td>-.07</td>
<td>-.16</td>
<td>-.04</td>
<td>-.21*</td>
<td>.22*</td>
<td>-.01</td>
<td>-</td>
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<tr>
<td>12. Extraversion</td>
<td>4.59</td>
<td>1.28</td>
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<td>-.03</td>
<td>-.03</td>
<td>.05</td>
<td>.01</td>
<td>-.15</td>
<td>-.18</td>
<td>.02</td>
<td>.22*</td>
<td>-.11</td>
<td>.36**</td>
<td>-</td>
</tr>
</tbody>
</table>

*Note: N = 102*

* p < .05 (two-tailed).  ** p < .01 (two-tailed).
Table 7 *Interactive Empathy and Leader Personality*

<table>
<thead>
<tr>
<th>Personality Trait</th>
<th>Regression</th>
<th>Dominance Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>$SE_B$</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>-.02</td>
<td>.05</td>
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<tr>
<td>Agreeableness</td>
<td>.05</td>
<td>.07</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>.04</td>
<td>.04</td>
</tr>
<tr>
<td>Openness</td>
<td>-.02</td>
<td>.04</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.00</td>
<td>.04</td>
</tr>
</tbody>
</table>

*Note: $N = 102$*

* $p < .05$  ** $p < .01$.  


### Table 8 Interactive Empathy and Leader's Performance

<table>
<thead>
<tr>
<th>Step 1: Control Variables</th>
<th>Leader Annual Performance Review</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$R^2$</td>
</tr>
<tr>
<td>Tenure</td>
<td>.05</td>
</tr>
<tr>
<td>Age</td>
<td>.00</td>
</tr>
<tr>
<td>Gender</td>
<td>-.17</td>
</tr>
<tr>
<td>Number of Subordinates</td>
<td>.00</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>-.03</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>.02</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>.00</td>
</tr>
<tr>
<td>Openness</td>
<td>-.06</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.04</td>
</tr>
<tr>
<td>Step 2: Independent Variable</td>
<td>.15*</td>
</tr>
</tbody>
</table>

**Note:** $N = 102$

* $p < .05$  ** $p < .01$
Table 9 *Interactive Empathy, Leader Personality, and Leader Performance Dominance Analysis*

<table>
<thead>
<tr>
<th></th>
<th>Dominance Analysis</th>
<th>Relative Weights as Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Raw Relative Weights</td>
<td></td>
</tr>
<tr>
<td>Interactive Empathy</td>
<td>.11</td>
<td>76.3%</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>.00</td>
<td>0.6%</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>.02</td>
<td>12.5%</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>.00</td>
<td>0.3%</td>
</tr>
<tr>
<td>Openness</td>
<td>.01</td>
<td>7.7%</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.00</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

*Note: N = 102*
Table 10 *Interactive Empathy and Employee Engagement*

<table>
<thead>
<tr>
<th>Step 1: Control Variables</th>
<th>Leader Annual Performance Review</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$R^2$</td>
</tr>
<tr>
<td>Tenure</td>
<td>.06</td>
</tr>
<tr>
<td>Age</td>
<td>.03</td>
</tr>
<tr>
<td>Gender</td>
<td>.08</td>
</tr>
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<td>Number of Subordinates</td>
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<tr>
<td>Agreeableness</td>
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<tr>
<td>Neuroticism</td>
<td>.59</td>
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<tr>
<td>Openness</td>
<td>.23</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.15</td>
</tr>
<tr>
<td>Step 2: Independent Variable</td>
<td></td>
</tr>
<tr>
<td>Interactive Empathy</td>
<td>.17*</td>
</tr>
<tr>
<td></td>
<td>9.00</td>
</tr>
</tbody>
</table>

*Note: N = 754

* $p < .05$  ** $p < .01$
Table 11 *Interactive Empathy, Leader Personality, and Employee Engagement Dominance Analysis*

<table>
<thead>
<tr>
<th></th>
<th>Dominance Analysis</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Raw</td>
<td>Relative</td>
<td>Weights</td>
</tr>
<tr>
<td>Interactive</td>
<td>Empathy</td>
<td>.18</td>
<td>90.1%</td>
</tr>
<tr>
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<td>Conscientiousness</td>
<td>.01</td>
<td>3.7%</td>
</tr>
<tr>
<td></td>
<td>Agreeableness</td>
<td>.01</td>
<td>2.4%</td>
</tr>
<tr>
<td></td>
<td>Neuroticism</td>
<td>.01</td>
<td>3.4%</td>
</tr>
<tr>
<td></td>
<td>Openness</td>
<td>.00</td>
<td>0.1%</td>
</tr>
<tr>
<td></td>
<td>Extraversion</td>
<td>.00</td>
<td>0.2%</td>
</tr>
</tbody>
</table>

*Note: N = 754*
### Table 12 Results from random-coefficient modeling analyses: Interactive empathy, leader conscientiousness, and employee engagement

<table>
<thead>
<tr>
<th>Model</th>
<th>Parameter Estimates</th>
<th>( \gamma_{00} )</th>
<th>( \gamma_{01} )</th>
<th>( \gamma_{10} )</th>
<th>( \gamma_{11} )</th>
<th>( \sigma^2 )</th>
<th>( \tau_{00} )</th>
<th>( \tau_{11} )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>One-way ANOVA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L1: Engagement, ( \gamma_{ij} = \beta_0 j + r_{ij} )</td>
<td></td>
<td>85.39**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>24.48**</td>
<td>97.16**</td>
<td>-</td>
</tr>
<tr>
<td>L2: ( \beta_0 j = \gamma_{00} + U_{0j} )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Random-coefficient regression</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>L1: Engagement, ( \gamma_{ij} = \beta_0 j + \beta_1 j(Conscientiousness) + r_{ij} )</td>
<td></td>
<td>85.49**</td>
<td>-</td>
<td>-1.05</td>
<td>-</td>
<td>24.48**</td>
<td>89.97**</td>
<td>8.98</td>
</tr>
<tr>
<td>L2: ( \beta_0 j = \gamma_{00} + U_{0j} )</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L2: ( \beta_1 j = \gamma_{10} + U_{1j} )</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Intercept-as-outcomes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L1: Engagement, ( \gamma_{ij} = \beta_0 j + \beta_1 j(Conscientiousness) + r_{ij} )</td>
<td></td>
<td>73.66**</td>
<td>2.67**</td>
<td>-1.03</td>
<td>-</td>
<td>23.45**</td>
<td>86.53**</td>
<td>5.14</td>
</tr>
<tr>
<td>L2: ( \beta_0 j = \gamma_{00} + \gamma_{01}(Interactive Empathy) + U_{0j} )</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L2: ( \beta_1 j = \gamma_{10} + U_{1j} )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Slopes-as-outcomes</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>L1: Engagement, ( \gamma_{ij} = \beta_0 j + \beta_1 j(Conscientiousness) + r_{ij} )</td>
<td></td>
<td>73.70**</td>
<td>2.66**</td>
<td>-1.82</td>
<td>.18</td>
<td>23.49**</td>
<td>86.37**</td>
<td>5.29</td>
</tr>
<tr>
<td>L2: ( \beta_0 j = \gamma_{00} + \gamma_{01}(Interactive Empathy) + U_{0j} )</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>L2: ( \beta_1 j = \gamma_{10} + \gamma_{11}(Interactive Empathy) + U_{1j} )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: \( N = 653 \). Parameters defined as follows:*

- \( \beta_0 j \) = Level-1 intercepts
- \( \gamma_{00} \) = Intercept of Level-2 regression predicting \( \beta_0 j \)
- \( \gamma_{01} \) = Slope of Level-2 regression predicting \( \beta_0 j \)
- \( \beta_1 j \) = Level-1 slopes
- \( \gamma_{10} \) = Intercept of Level-2 regression predicting \( \beta_1 j \)
- \( \gamma_{11} \) = Slope of Level-2 regression predicting \( \beta_1 j \)
- \( \sigma^2 \) = Variance in Level-1 residual (i.e., variance in \( r_{ij} \))
- \( \tau_{00} \) = Variance in Level-2 residual for models predicting \( \beta_0 j \) (i.e., variance in \( U_{0j} \))
- \( \tau_{11} \) = Variance in Level-2 residual for models predicting \( \beta_1 j \) (i.e., variance in \( U_{1j} \))

*\( *p < 0.05; **p < 0.01 \)
Table 13 Results from random-coefficient modeling analyses: Interactive empathy, leader agreeableness, and employee engagement

<table>
<thead>
<tr>
<th>Model</th>
<th>Parameter Estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>One-way ANOVA</strong></td>
<td>γ₀₀  γ₀₁  γ₁₀  γ₁₁  σ²  τ₀₀  τ₁₁</td>
</tr>
<tr>
<td>L1: ( \text{Engagement}<em>{ij} = \beta</em>{0j} + r_{ij} )</td>
<td>85.39**  -  -  -  24.48**  97.16**  -</td>
</tr>
<tr>
<td>L2: ( \beta_{0j} = \gamma_{00} + U_{0j} )</td>
<td></td>
</tr>
<tr>
<td><strong>Random-coefficient regression</strong></td>
<td></td>
</tr>
<tr>
<td>L1: ( \text{Engagement}<em>{ij} = \beta</em>{0j} + \beta_{1j}(\text{Agreeableness}) + r_{ij} )</td>
<td>85.40**  -  -.48  -  24.22**  95.63**  .96</td>
</tr>
<tr>
<td>L2: ( \beta_{0j} = \gamma_{00} + U_{0j} )</td>
<td></td>
</tr>
<tr>
<td>L2: ( \beta_{1j} = \gamma_{10} + U_{1j} )</td>
<td></td>
</tr>
<tr>
<td><strong>Intercept-as-outcomes</strong></td>
<td></td>
</tr>
<tr>
<td>L1: ( \text{Engagement}<em>{ij} = \beta</em>{0j} + \beta_{1j}(\text{Agreeableness}) + r_{ij} )</td>
<td>73.55**  2.68**  -.58  -  22.63**  88.80**  .97</td>
</tr>
<tr>
<td>L2: ( \beta_{0j} = \gamma_{00} + \gamma_{01}(\text{Interactive Empathy}) + U_{0j} )</td>
<td></td>
</tr>
<tr>
<td>L2: ( \beta_{1j} = \gamma_{10} + U_{1j} )</td>
<td></td>
</tr>
<tr>
<td><strong>Slopes-as-outcomes</strong></td>
<td></td>
</tr>
<tr>
<td>L1: ( \text{Engagement}<em>{ij} = \beta</em>{0j} + \beta_{1j}(\text{Agreeableness}) + r_{ij} )</td>
<td>73.67**  2.66**  2.72  -.74  21.33**  85.65**  1.07</td>
</tr>
<tr>
<td>L2: ( \beta_{0j} = \gamma_{00} + \gamma_{01}(\text{Interactive Empathy}) + U_{0j} )</td>
<td></td>
</tr>
<tr>
<td>L2: ( \beta_{1j} = \gamma_{10} + \gamma_{11}(\text{Interactive Empathy}) + U_{1j} )</td>
<td></td>
</tr>
</tbody>
</table>

*Note: \( N = 653 \). Parameters defined as follows:
- \( \beta_{0j} \): Level-1 intercepts
- \( \gamma_{00} \): Intercept of Level-2 regression predicting \( \beta_{0j} \)
- \( \gamma_{01} \): Slope of Level-2 regression predicting \( \beta_{0j} \)
- \( \beta_{1i} \): Level-1 slopes
- \( \gamma_{10} \): Intercept of Level-2 regression predicting \( \beta_{1i} \)
- \( \gamma_{11} \): Slope of Level-2 regression predicting \( \beta_{1i} \)
- \( \sigma^2 \): Variance in Level-1 residual (i.e., variance in \( r_{ij} \))
- \( \tau_{00} \): Variance in Level-2 residual for models predicting \( \beta_{0j} \) (i.e., variance in \( U_{0j} \))
- \( \tau_{11} \): Variance in Level-2 residual for models predicting \( \beta_{1i} \) (i.e., variance in \( U_{1j} \))

\* \( p<0.05 \); ** \( p<0.01 \)
Table 14 Results from random-coefficient modeling analyses: Interactive empathy, leader neuroticism, and employee engagement

<table>
<thead>
<tr>
<th>Model</th>
<th>Parameter Estimates</th>
<th>( \gamma_{00} )</th>
<th>( \gamma_{01} )</th>
<th>( \gamma_{10} )</th>
<th>( \gamma_{11} )</th>
<th>( \sigma^2 )</th>
<th>( \tau_{00} )</th>
<th>( \tau_{11} )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>One-way ANOVA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L1: Engagement_{ij} = \beta_{0j} + r_{ij}</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>85.39**</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>L2: ( \beta_{0j} = \gamma_{00} + U_{0j} )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>24.48**</td>
<td>97.16**</td>
<td>-</td>
</tr>
<tr>
<td><strong>Random-coefficient regression</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>85.33**</td>
<td>1.35</td>
<td>25.07**</td>
</tr>
<tr>
<td>L1: Engagement_{ij} = \beta_{0j} + \beta_{1j}(Neuroticism) + r_{ij}</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>84.97**</td>
<td>3.45**</td>
<td>-</td>
</tr>
<tr>
<td>L2: ( \beta_{0j} = \gamma_{00} + U_{0j} )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>73.37**</td>
<td>2.70**</td>
<td>1.20</td>
</tr>
<tr>
<td>L2: ( \beta_{1j} = \gamma_{10} + U_{1j} )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>23.87**</td>
<td>77.18**</td>
<td>3.16**</td>
</tr>
<tr>
<td><strong>Intercept-as-outcomes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>73.62**</td>
<td>2.66**</td>
<td>5.07*</td>
</tr>
<tr>
<td>L1: Engagement_{ij} = \beta_{0j} + \beta_{1j}(Neuroticism) + r_{ij}</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- .87*</td>
<td>23.70**</td>
<td>77.63**</td>
</tr>
<tr>
<td>L2: ( \beta_{0j} = \gamma_{00} + \gamma_{01}(Interactive Empathy) + U_{0j} )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>73.62**</td>
<td>2.66**</td>
<td>5.07*</td>
</tr>
<tr>
<td>L2: ( \beta_{1j} = \gamma_{10} + \gamma_{11}(Interactive Empathy) + U_{1j} )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- .87*</td>
<td>23.70**</td>
<td>77.63**</td>
</tr>
</tbody>
</table>

Note: \( N = 653 \). Parameters defined as follows:

\( \beta_{0j} \) = Level-1 intercepts
\( \gamma_{00} \) = Intercept of Level-2 regression predicting \( \beta_{0j} \)
\( \gamma_{01} \) = Slope of Level-2 regression predicting \( \beta_{0j} \)
\( \beta_{1j} \) = Level-1 slopes
\( \gamma_{10} \) = Intercept of Level-2 regression predicting \( \beta_{1j} \)
\( \gamma_{11} \) = Slope of Level-2 regression predicting \( \beta_{1j} \)
\( \sigma^2 \) = Variance in Level-1 residual (i.e., variance in \( r_{ij} \))
\( \tau_{00} \) = Variance in Level-2 residual for models predicting \( \beta_{0j} \) (i.e., variance in \( U_{0j} \))
\( \tau_{11} \) = Variance in Level-2 residual for models predicting \( \beta_{1j} \) (i.e., variance in \( U_{1j} \))

* \( p<0.05 \); ** \( p<0.01 \)
### Table 15 Results from random-coefficient modeling analyses: Interactive empathy, leader openness, and employee engagement

<table>
<thead>
<tr>
<th>Model</th>
<th>Parameter Estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>One-way ANOVA</strong></td>
<td></td>
</tr>
<tr>
<td>L1: Engagement(ij = \beta_0j + r_{ij})</td>
<td>85.39** - - - 24.48** 97.16** -</td>
</tr>
<tr>
<td>L2: (\beta_0j = \gamma_{00} + U_{0j})</td>
<td></td>
</tr>
<tr>
<td><strong>Random-coefficient regression</strong></td>
<td></td>
</tr>
<tr>
<td>L1: Engagement(ij = \beta_0j + \beta_1j(\text{Openness}) + r_{ij})</td>
<td>85.40** - -.14 - 24.48** 93.41** 3.37</td>
</tr>
<tr>
<td>L2: (\beta_0j = \gamma_{00} + U_{0j})</td>
<td></td>
</tr>
<tr>
<td>L2: (\beta_1j = \gamma_{10} + U_{1j})</td>
<td></td>
</tr>
<tr>
<td>** Intercept-as-outcomes**</td>
<td></td>
</tr>
<tr>
<td>L1: Engagement(ij = \beta_0j + \beta_1j(\text{Openness}) + r_{ij})</td>
<td>73.51** 2.70** -.18 - 23.45** 83.63** 5.82</td>
</tr>
<tr>
<td>L2: (\beta_0j = \gamma_{00} + \gamma_{01}(\text{Interactive Empathy}) + U_{0j})</td>
<td></td>
</tr>
<tr>
<td>L2: (\beta_1j = \gamma_{10} + \gamma_{11}(\text{Interactive Empathy}) + U_{1j})</td>
<td></td>
</tr>
<tr>
<td><strong>Slopes-as-outcomes</strong></td>
<td></td>
</tr>
<tr>
<td>L1: Engagement(ij = \beta_0j + \beta_1j(\text{Openness}) + r_{ij})</td>
<td>73.16** 2.78** -1.85 .37 23.46** 83.83** 5.60</td>
</tr>
<tr>
<td>L2: (\beta_0j = \gamma_{00} + \gamma_{01}(\text{Interactive Empathy}) + U_{0j})</td>
<td></td>
</tr>
<tr>
<td>L2: (\beta_1j = \gamma_{10} + \gamma_{11}(\text{Interactive Empathy}) + U_{1j})</td>
<td></td>
</tr>
</tbody>
</table>

*Note: \(N = 653\). Parameters defined as follows:

- \(\beta_0j\) = Level-1 intercepts
- \(\gamma_{00}\) = Intercept of Level-2 regression predicting \(\beta_0j\)
- \(\gamma_{01}\) = Slope of Level-2 regression predicting \(\beta_0j\)
- \(\beta_1j\) = Level-1 slopes
- \(\gamma_{10}\) = Intercept of Level-2 regression predicting \(\beta_1j\)
- \(\gamma_{11}\) = Slope of Level-2 regression predicting \(\beta_1j\)
- \(\sigma^2\) = Variance in Level-1 residual (i.e., variance in \(r_{ij}\))
- \(\tau_{00}\) = Variance in Level-2 residual for models predicting \(\beta_0j\) (i.e., variance in \(U_{0j}\))
- \(\tau_{11}\) = Variance in Level-2 residual for models predicting \(\beta_1j\) (i.e., variance in \(U_{1j}\))

* *p<0.05; **p<0.01
Table 16 Results from random-coefficient modeling analyses: Interactive empathy, leader extraversion, and employee engagement

<table>
<thead>
<tr>
<th>Model</th>
<th>Parameter Estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>One-way ANOVA</strong></td>
<td>γ̂₀₀  γ̂₀₁ γ̂₁₀ γ̂₁₁ σ² τ₀₀ τ₁₁</td>
</tr>
<tr>
<td>L1: Engagementᵢᵣ = β₀ᵢ + rᵢ</td>
<td>85.39** - - - 24.48** 97.16** -</td>
</tr>
<tr>
<td>L2: β₀ᵢ = γ₀₀ + U₀ᵢ</td>
<td></td>
</tr>
<tr>
<td><strong>Random-coefficient regression</strong></td>
<td></td>
</tr>
<tr>
<td>L1: Engagementᵢᵣ = β₀ᵢ + β₁ᵢ(Extraversion) + rᵢ</td>
<td>85.36** - -.45 - 24.48** 85.19** 7.19</td>
</tr>
<tr>
<td>L2: β₀ᵢ = γ₀₀ + γ₁₀(Interactive Empathy) + U₀ᵢ</td>
<td></td>
</tr>
<tr>
<td>L2: β₁ᵢ = γ₁₀ + U₁ᵢ</td>
<td></td>
</tr>
<tr>
<td><strong>Intercept-as-outcomes</strong></td>
<td></td>
</tr>
<tr>
<td>L1: Engagementᵢᵣ = β₀ᵢ + β₁ᵢ(Extraversion) + rᵢ</td>
<td>73.30** 2.73** -.49 - 23.45** 75.65** 8.67</td>
</tr>
<tr>
<td>L2: β₀ᵢ = γ₀₀ + γ₁₀(Interactive Empathy) + U₀ᵢ</td>
<td></td>
</tr>
<tr>
<td>L2: β₁ᵢ = γ₁₀ + γ₁₁(Interactive Empathy) + U₁ᵢ</td>
<td></td>
</tr>
<tr>
<td><strong>Slopes-as-outcomes</strong></td>
<td></td>
</tr>
<tr>
<td>L1: Engagementᵢᵣ = β₀ᵢ + β₁ᵢ(Extraversion) + rᵢ</td>
<td>73.30** 2.73** -.33 -.04 23.49** 75.62** 8.70</td>
</tr>
<tr>
<td>L2: β₀ᵢ = γ₀₀ + γ₁₀(Interactive Empathy) + U₀ᵢ</td>
<td></td>
</tr>
<tr>
<td>L2: β₁ᵢ = γ₁₀ + γ₁₁(Interactive Empathy) + U₁ᵢ</td>
<td></td>
</tr>
</tbody>
</table>

Note: N = 653. Parameters defined as follows:
- β₀ᵢ = Level-1 intercepts
- γ₀₀ = Intercept of Level-2 regression predicting β₀ᵢ
- γ₀₁ = Slope of Level-2 regression predicting β₀ᵢ
- β₁ᵢ = Level-1 slopes
- γ₁₀ = Intercept of Level-2 regression predicting β₁ᵢ
- γ₁₁ = Slope of Level-2 regression predicting β₁ᵢ
- σ² = Variance in Level-1 residual (i.e., variance in rᵢ)
- τ₀₀ = Variance in Level-2 residual for models predicting β₀ᵢ (i.e., variance in U₀ᵢ)
- τ₁₁ = Variance in Level-2 residual for models predicting β₁ᵢ (i.e., variance in U₁ᵢ)

* p<0.05; ** p<0.01
Appendix A: Subordinate Survey

Please indicate your level of agreement with the following statements about your immediate supervisor.

1. Values others as individuals.

   1  2  3  4  5  6  7
   Slightly  Characteristic
   Very  Characteristic

2. Feels emotions that other people experience.

   1  2  3  4  5  6  7
   Slightly  Characteristic
   Very  Characteristic

3. Makes others feel understood.

   1  2  3  4  5  6  7
   Slightly  Characteristic
   Very  Characteristic

4. Shares others’ feelings of happiness.

   1  2  3  4  5  6  7
   Slightly  Characteristic
   Very  Characteristic
5. Encourages others to talk about how they feel.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Slightly Characteristic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Very Characteristic</td>
</tr>
</tbody>
</table>
Appendix B: Leader Survey

Please indicate your level of agreement with the following statements about yourself.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Neutral</th>
<th>Slightly Agree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am the life of the party</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I sympathize with others’ feelings</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>I get chores done right away</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>I have frequent mood swings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have a vivid imagination</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I don’t talk a lot</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am not interested in other people’s problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I often forget to put things back in their proper place</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am relaxed most of the time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am not interested in abstract ideas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I talk to a lot of different people at parties</td>
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<td></td>
</tr>
<tr>
<td>I feel others’ emotions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I like order</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>I get upset easily</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have difficulty understanding abstract ideas</td>
<td></td>
<td></td>
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<tr>
<td>I keep in the background</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am not really interested in others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I make a mess of things</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>I seldom feel blue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I do not have a good imagination</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>