Understanding Each Other at Work:
An Examination of the Effects of Perceived Empathetic Listening on Psychological Safety in the Supervisor-Subordinate Relationship

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Dedication

To John, who constantly brings me into a place, through listening, that is psychologically safe, and in memory of Martha and Aunt Mary, who listened and loved us both, unconditionally.

Acknowledgments

As the work on this dissertation has encompassed several years, there are multiple individuals who deserve thanks for their contribution and support throughout the journey. First and foremost, my thanks to Dr. Andrea Casey, my dissertation committee chair, for her unwavering guidance, input, and support. Her continuous encouragement kept me on track through many false starts. My committee members, Dr. David Szabla and Dr. Michael Marquardt, whose expertise, questions, and direction taught me a great deal throughout this process, also are deserving of much gratitude.

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Abstract of Dissertation

Understanding Each Other at Work:
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on Psychological Safety in the Supervisor-Subordinate Relationship

The purpose of this research was to identify the relationship between feelings of self and other psychological safety by subordinates and their perception of their supervisors' listening behaviors. This study employed a nonexperimental, correlational design using two different instruments. The first instrument was the Dyadic Psychological Safety Scales for self psychological safety and other psychological safety, as developed by Tynan (2005). The second instrument was the Active Empathetic Listening Scale, with its three subscales for sensing, processing, and responding, as developed by Drollinger, Comer, and Warrington (2006). Using a web-based survey, data were collected from 119 participants of a population of 145 employees of a leading Internet-based research company headquartered in the Northeastern United States. Eighty-five percent of the participants were between the ages of 20 and 40, and the majority of respondents self-identified as female, Caucasian, and having had less than 5 years of experience working with the company.

The results of the statistical analysis, using Pearson product moment correlations, determined three main findings: (a) there was a significant positive relationship between a subordinate's sense of self psychological safety and his or her perception of the perceived empathetic listening of his or her supervisor; (b) there was a significant positive relationship between a subordinate's sense of other psychological safety and his or her perception of the perceived empathetic listening of his or her supervisor; and (c)

analysis of the two instruments suggested the need for additional refinement to improve their effectiveness.

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CHAPTER 1:

INTRODUCTION

One of the primary responsibilities of supervisors in organizations is to create the perception of an organizational environment that is permeated by a feeling and sense of psychological safety (Edmondson, 2004). The relationship between supervisors and their reports has a significant positive impact on subordinates' feelings of psychological safety, and strong feelings of psychological safety have been demonstrated to have numerous positive effects in the workplace, including increasing the level of employee engagement (Kahn, 1990; May, Gilson, & Harter, 2004), affecting the employee's level of vitality and creativity (Kark & Carmeli, 2009), increasing the employee's ability to seek help and admit errors (Tynan, 2005), enabling the ability to learn from failures (Carmeli, 2007; Carmeli & Gittell, 2009), strengthening the level of employee voice (Detert & Burris, 2007), and further increasing productivity through greater job involvement and effort (Brown & Leigh, 1996). While it has been shown that supervisors who act in a supportive manner have a positive impact on feelings of psychological safety (Edmondson, 1999a; Tynan, 2005), the specific behaviors that may contribute to the creation of these feelings of psychological safety have yet to be empirically demonstrated.

Psychological safety is described as how emotionally safe an individual feels with another individual, whether he or she feels that the other is likely to embarrass him or her, as well as how much he or she feels trusted and respected by the other (Tynan, 2005). It consists of feelings of well-being, absent fear of negative consequences (Kahn, 1990). Some of the contributing factors that help create these feelings of psychological safety are actions by supervisors such as making themselves accessible to subordinates;

providing direct one-on-one coaching; and communicating in an honest, open, and inspiring way (Edmondson, 2004). These behaviors and actions are enacted by supervisors in organizations, can be seen by the people that work with and for them, and can be perceived as being supportive.

Along with the supportive behaviors, it has also been demonstrated that there is a correlation between supervisory "face-giving" behaviors and psychological safety (Tynan, 2005). Face-giving behaviors incorporate a relational strategy for communication and include behaviors that indicate support, empathy, inclusion, and valuing the other person (Willemyns, Gallois, & Callan, 2003). It has also been noted that a primary behavior that demonstrates this kind of emotional support is the act of empathetic listening (House, 1981).

Each of these psychological safety–creating behaviors involves some sort of communicative activity. It is within these communicative activities that the perception of psychological safety is created. In addition, it has been demonstrated that some of the most important aspects of supervisory communication (i.e., communication between supervisor and subordinate within the workplace) are the activities of how the supervisor listens to, and is perceived as listening to, the employee (van Vuuren, de Jong, & Seydel, 2007). The focus of the current study is how this perception of listening in the supervisor-subordinate relationship impacts the creation of feelings of psychological safety.

Statement of the Problem

The concept of psychological safety makes intuitive sense. While empirical evidence regarding the construct of psychological safety has been developed over the past 20 years, the majority of the research on this construct has focused on the *impact* and

outcomes of the feelings of being psychologically safe. Some of these impacts include contributing to and augmenting a sense of employee engagement (Kahn, 1990); influencing learning within teams, workgroups, and organizations (Edmondson, 2003b); as well as contributing to strengthening overall firm performance (Baer & Frese, 2003). Other positive impacts of psychological safety that have been demonstrated include fostering individual creativity (Schein, 1985) and creating organizational environments that foster innovation (West, 1990).

While there has been some research on the antecedent factors that contribute to feelings of psychological safety, it has yet to be empirically demonstrated what specific behaviors actually create feelings of psychological safety. Edmondson posited that the supervisory behaviors of "being available and approachable, explicitly inviting input and feedback, and modeling openness and fallibility" (2004, p. 249) would contribute to the perception of psychological safety. These supportive behaviors were affirmed by Tynan (2005), who found that positive face-giving behaviors, such as giving compliments, approval, and praise, were positively correlated with the subordinate's sense of psychological safety. Tynan focused on positive face giving as delineated by Lim (1991), which includes "all behaviors that support another's desire to feel that others perceive him or her as competent, liked, valued, and appreciated" (Tynan, 2005, p. 226).

One of the ways this empathetic focus is demonstrated is through a predominance of behaviors that exhibit effective and empathetic listening to the other person in a way delineated by Rogers (1961), who noted that there are three associated processes to the creation of psychological safety. The first is the acceptance of each individual unconditionally, which is accomplished when the listener assumes that each individual is

of value by his or her very nature. This acceptance allows each person to sense the existence of a potential climate of psychological safety. Second, psychological safety is created by providing a climate in which external evaluation is not present. Rogers also found that the act of evaluation in and of itself is always perceived as a threat and diminishes the perception of a feeling of being psychologically safe. When we stop using our own frame of reference to form judgments of other individuals, and we cease evaluating them, we create empathy by allowing ourselves to be in the proverbial "other's shoes." Rather than diminishing feelings of psychological safety, this fosters them. The third process is the act of understanding others empathically. Using empathy in trying to understand the other person provides the utmost in the creation of a feeling of having psychological safety, particularly when the other two elements are also present. One of the ways this empathy is demonstrated is by how effectively one listens to the other (Comer & Drollinger, 1999).

Drawing on this theoretical base, Tynan (2005) began to augment the empirical evidence in the research on psychological safety by looking at the antecedent factors (i.e., the supervisory behaviors) that give rise to feelings of psychological safety for the subordinate in the supervisor-subordinate relationship. The feelings of psychological safety that are created in the supervisor-subordinate relationship can be described by what Tynan (2005) has termed two "dyadic psychological safety constructs" (p. 224). Tynan examined these two distinct yet related psychological safety–related constructs, which she labeled *self* psychological safety and *other* psychological safety. *Self psychological safety* describes how one individual feels towards another person. *Other psychological*

safety is how psychologically safe one perceives the other to feel in relationship to the perceiver.

While Tynan's (2005) work showed the two psychological safety constructs to be significantly related and moderately correlated ($r = .57$, $p < .001$), they are distinct and different. Tynan demonstrated that a feeling of other psychological safety by subordinates has a mediating effect on the probability of those subordinates raising disagreements with their supervisors, giving straightforward feedback to them, and surfacing and discussing errors with them. A feeling of self psychological safety by subordinates was correlated with what they perceived as face-giving behaviors by their supervisors. This study explores the research further by examining the role of listening and its relationship to feelings of psychological safety.

Tynan demonstrated that supportive behaviors postulated by Edmondson and attention to subordinates' feelings are just a few of the supervisory actions that contribute to the creation of psychological safety. The relationship of how subordinates perceive they are being listened to, and consequently their sense of self and other psychological safety, is one research area that may enhance our understanding of factors that contribute to psychological safety. By focusing specifically on the supervisor-subordinate relationship, this research deepens the understanding of psychological safety in dyadic relationships.

Dyadic psychological safety plays an integral part in these supervisor-subordinate conversations. Tynan (2005) noted, "Understanding the threat sensitivity and face giving characteristics of a dyad is important to understand how upward communication is likely to proceed in that dyad, mediated by perceptions of self and other psychological safety"

(p. 244). It follows logically that it is not only how that upward communication is likely to proceed that is mediated by perceptions of self and other psychological safety. How the upward communication is perceived to be received (i.e., how the subordinate perceives how he or she is being listened to by the supervisor) is also impacted by self and other psychological safety, which has been noted in the literature. For example, Abraham (2004), in her review of the literature regarding emotional intelligence, postulated that listening is an underlying supervisory competence that leads to a perception of psychological safety. It is this perception of dyadic psychological safety and its relationship to the supervisory competence of listening that this study explores further.

The construct of psychological safety has been more explicitly researched in the literature relatively recently in the medical context (Edmondson, 2003a; Edmondson, Bohmer, & Pisano, 2001; Tucker, Nembhard, & Edmondson, 2007). It has, however, also been demonstrated to have a positive impact within the business environment by improving organizational performance (Baer & Frese, 2003), increasing team learning behavior (Edmondson, 1999a), and enhancing individual employee engagement at the workplace (May et al., 2004). This research continues the exploration of psychological safety for individuals in the work environment.

This research builds on the psychological safety and communication literatures to explore the relationship between psychological safety and listening, focusing on the supervisor-subordinate relationship. Currently, supervisors are left guessing about what they can do to create psychological safety. This research helps fill that gap.

Purpose and Research Questions

The purpose of this research is to identify the relationship between feelings of self and other psychological safety by subordinates and their perception of their supervisors' listening behaviors. Creating feelings of psychological safety is important because it has numerous positive benefits.

However, psychological safety is not a neutral concept. The absence of psychological safety, Schein (1993) noted, leads to an environment in which individuals are reluctant to propose new ideas, thus having a negative effect on innovation. In the absence of psychological safety, the learning process may be significantly slowed and organizational change significantly impeded. There is little innovation because a lack of psychological safety creates a barrier to learning and to performance, as it fosters an environment where it is practically impossible for an individual to see and select disconfirming data. These data can be embraced only if the individual within the work environment feels psychologically safe. It is the role of the supervisor to create and provide psychologically safe environments, thus enabling people to give up their fears and lower the psychological barriers that get in the way of their learning and innovating (Schein, 1985).

It has been postulated that supervisors' supportive behaviors foster a feeling of psychological safety (Edmondson, 1999a). It has also been postulated that effective listening, as a supportive behavior, is an element of emotional intelligence and is positively related to the creation of psychological safety in the workplace (Abraham, 2004). As Alvesson and Sveningsson (2003) concluded, for supervisors, "listening seems to be about conjuring feelings of belonging, of subordinates and peers getting along, of

confidence and assurance, of participation and visibility, of being respected and heard, and finally of being paid attention to in general" (p. 1451).

Mineyama, Tsutsumi, Takoa, Nishiuchi, and Kawakami (2007) empirically demonstrated that subordinates who reported to supervisors that demonstrated higher levels of listening skills, as well as higher levels of a person-centered attitude—that is, an attitude "based on empathy, congruence and unconditional positive regard" (p. 810)—demonstrated more favorable psychological stress reactions. Thus, there appears to be a relationship between supervisors' listening empathetically and psychological safety. To further understand how the listening of supervisors impacts self and other psychological safety for subordinates, this study drew on the psychological safety and communication literatures to ask the following research questions:

1. What is the relationship between a subordinate's sense of self psychological safety and perceived empathetic listening of his or her supervisor?
2. What is the relationship between a subordinate's sense of other psychological safety and perceived empathetic listening of his or her supervisor?

Hypotheses

Kahn (1990) defined psychological safety as a "sense of being able to show and employ self without fear of negative consequences to self-image, status, or career" (p. 705). Edmondson and Williams Woolley (1999) defined psychological safety as "the perception that one's work environment is safe for interpersonal risk-taking such that proximal others will not reject or embarrass those who make mistakes or speak up about difficult issues" (p. 127). Drawing on these studies, Tynan (2005) focused on psychological safety in one of the most important of those proximal relationships, that of

supervisor-subordinate, by looking at two related constructs: *self psychological safety*, defined as how emotionally safe an individual feels with another individual, whether he or she feels that the other is likely to embarrass him or her, as well as how much he or she feels trusted and respected by the other; and *other psychological safety,* defined as how psychologically safe one individual perceives another to feel.

These two constructs constitute what Tynan termed "dyadic psychological safety" (2005, p. 229), and the preliminary hypothesis in her study was that these two constructs were distinct and were worthy of exploration because they had different impacts on the subordinate. For example, if a superior is perceived to be low in other psychological safety, the subordinate might tread delicately when communicating with the superior, as he or she is perceived as not feeling safe in the relationship. So while the subordinate may have a high sense of self psychological safety and may not be concerned about being embarrassed in the interaction, his or her perception of the superior will change the way he or she acts. For this current study, self psychological safety was examined from the point of view of the subordinate and therefore referred to the subordinate's perception of himself or herself. Other psychological safety was also examined from the point of view of the subordinate and thus denotes the subordinate's perception of his or her supervisor's sense of psychological safety.

This study used an online survey focusing explicitly on the correlation of the elements of empathetic listening as denoted in the Active Empathetic Listening Scale (Drollinger et al., 2006) and perceptions of self and other psychological safety from the perspective of the subordinate using Tynan's (2005) Dyadic Psychological Safety Scales by exploring the following hypotheses:

H1a: The higher the degree to which a subordinate perceives his or her superior to be empathetically listening, the more likely the subordinate will feel a higher degree of self psychological safety.

H1b: The higher the degree to which a subordinate perceives his or her superior to be empathetically listening, the more likely the subordinate will feel a higher degree of other psychological safety.

Listening has been studied from numerous perspectives over the years. Early research on listening focused on the connection between retention and application (Nichols, 1948). Some have viewed listening as a cognitive process, with a specific focus on memory, retention, and recollection (Bostrom, 1990). Halone and Pecchioni (2001) took a relational approach to examining listening. Other researchers have advocated that listening is best understood when taking both a behavioral and cognitive approach simultaneously, with the view that listening includes mental processes, which are exhibited through multiple listening behaviors (Bostrom, 1990; Brownell, 1990; Steil, Barker, & Watson, 1983). Evolving research on listening sees it as a process in which the listener takes in information, makes meaning and sense of both aural and nonaural cues, and responds appropriately (Comer & Drollinger, 1999).

Comer and Drollinger (1999) expanded on the work of Brownell (1990) and Steil et al. (1983) by conceptually defining empathetic listening in three component parts: sensing, processing, and responding. These three elements are further defined in Table 1-1.

Table 1-1
Dimensions of Active Empathetic Listening

Dimension	**Conceptual definition**
Sensing	Receiving all cues emitted: • Verbal. Receiving all verbal cues including words, inflection, and paralanguage. Involves hearing, noting inflection, attending to the message, sensing the tone of the message. • Nonverbal. Receiving all nonverbal cues (body language, facial expressions). Receiving by all senses, not just hearing.
Processing	Mentally processing the material that has been received: • Understanding. Ascribing accurate meaning to the words and the meaning of messages underlying the words, including emotions, thoughts, feelings. • Interpreting. Assessing the implications of the messages. Comparing incoming messages to those in memory. Being alert to discrepancies. • Evaluating. Assessing appropriateness, placing value, and prioritizing the importance of messages. Determining key messages. • Remembering. Committing new material to memory. Updating knowledge structures.
Responding	Assuring the other that listening has occurred. Encouraging communication to continue. Monitoring responses carefully. • Verbal. Giving appropriate verbal responses (e.g., acknowledging, agreeing), short prompts, paraphrasing, questioning. Using appropriate tone of voice, inflection, and familiar terminology. • Nonverbal. Maintaining appropriate eye contact, facial expressions, head nods, and body language.

Note. Adapted from "Active Empathetic Listening and Selling Success: A Conceptual Framework," by L. Comer and T. Drollinger, 1999, *Journal of Personal Selling & Sales Management, 19*, pp. 15-29.

The understanding of listening as a behavior has evolved and expanded over time. At its basic level, listening is a process whereby aural stimuli are received and processed by the brain of the receiver (Barker, 1971; Hirsch, 1979; Hook, 1950; Petrie, 1966). According to Comer and Drollinger (1999), processing "refers to operations in the mind of the listener that assign meaning to incoming messages" (p. 16). For a supervisor to effectively listen to subordinates at a basic level, the supervisor needs to be able to

process what is heard. Given that, this study explored the following additional hypotheses regarding empathetic listening as process and psychological safety:

H2a: The higher the degree to which a subordinate perceives his or her superior to be effectively processing as a listener within their communication, the more likely the subordinate will feel a higher degree of self psychological safety.

H2b: The higher the degree to which a subordinate perceives his or her superior to be effectively processing as a listener within their communication, the more likely the subordinate will feel a higher degree of other psychological safety.

Processing within the act of listening, however, is not enough. For individuals to know that they have been heard, they need to perceive an appropriate response from the listener (Barbe & Meyers, 1954; Hampleman, 1958; Steil et al., 1983). Thus, the listener's act of responding appropriately is a contributing factor to the perception of whether or not he or she is listening. For Comer and Drollinger (1999), responding is in regards to information sent "back to speakers indicating that their messages have been received correctly" (p. 17). Given that, this study explored the following hypotheses regarding empathetic listening as responding and psychological safety:

H3a: The higher the degree to which a subordinate perceives his or her superior to be effectively responding as a listener within their communication, the more likely the subordinate will feel a higher degree of self psychological safety.

H3b: The higher the degree to which a subordinate perceives his or her superior to be effectively responding as a listener within their communication, the more likely the subordinate will feel a higher degree of other psychological safety.

As research on listening has evolved, researchers have noticed that processing and responding to actual aural stimuli is not enough. The listener needs to be able to look beyond the words, interpreting visual and other nonverbal cues in order to understand things from the other person's perspective (Montgomery, 1981). Thus, listening includes not only processing and responding, but sensing, understanding, and making meaning (Comer & Drollinger, 1999; Emmert, 1996; Sayre, 1987; Wolvin & Coakley, 1988). For Comer and Drollinger (1999), sensing "implies that both verbal and non-verbal cues are received accurately and also involves being sensitive to information [not sent]" (p. 16). Given that, this study explored the following hypotheses regarding empathetic listening as sensing and psychological safety:

> **H4a:** The higher the degree to which a subordinate perceives his or her superior to be effectively sensing as a listener within their communication, the more likely the subordinate will feel a higher degree of self psychological safety.
>
> **H4b:** The higher the degree to which a subordinate perceives his or her superior to be effectively sensing as a listener within their communication, the more likely the subordinate will feel a higher degree of other psychological safety.

Significance of the Study

This study primarily built on the intellectual inquiry of psychological safety. The secondary stream of research was inquiry regarding listening in supervisor-subordinate communication, a subfield of communication studies. The current study is significant in several ways, both theoretical and practical. On a theoretical level, it adds to the body of research and furthers the understanding of the theory of dyadic psychological safety. It extends the research on dyadic psychological safety by looking at actual subordinate

perceptions in the work environment. Tynan's (2005) research participants were students; by exploring dyadic psychological safety from the point of view of subordinates within the context of actual supervisor-subordinate relationships and within the workplace, this study adds to the foundational research already begun by taking it out of academia and into the actual work environment where it has not been explored to date.

On a practical level, this study provides direction for supervisors on how to focus their limited training dollars, as it sheds insight that increasing listening ability in the workplace may be a worthy investment. It demonstrates that increased empathetic listening increases a subordinate's perception of self and other psychological safety. On another theoretical level, this research extends the growing body of literature regarding listening in the workplace that began with Nichols and Stevens (1957) and continues to this day by looking at its impact within the supervisor-subordinate relationship. And while the importance of listening within the work environment has been well documented (Smeltzer & Watson, 1984), we have scant knowledge of listening by actual supervisors in the workplace (Smeltzer, 1993). It is still "difficult to assess the extent to which listening affects values, behaviors, or decisions" (Alvesson & Sveningsson, 2003, p. 1451). This study addresses this gap by contributing to the present knowledge about the relationship between perceived empathetic listening and its impact on the supervisor-subordinate relationship, focusing specifically on perceptions of self and other psychological safety for the subordinate.

This study also addresses the gap in research on perceived empathetic listening in the workplace by exploring it in the context of actual supervisor-subordinate relationships within the business environment. Similarly to how previous studies on dyadic

psychological safety were conducted with students, most existing studies exploring empathetic listening have been conducted with graduate or undergraduate students, primarily recalling relationships that existed in the past, rather than real-time work relationships. There is also a distinct lack of empirical research on listening in the business environment (Flynn, Valikoski, & Grau, 2008), which this study begins to address.

By exploring perceived empathetic listening and dyadic psychological safety in the context of actual supervisor-subordinate relationships, this research also furthers understanding of the "interactionist sphere" by focusing on the specific perceptions of self and other psychological safety, and therefore meaning and understanding (McKenzie & Clark, 1995) that listening helps create in supervisor-subordinate interactions.

Finally, from the perspective of practice, this study furthers our understanding of the construct of dyadic psychological safety and its enactment within organizations. By focusing explicitly on effective listening, this research may give supervisors insight into choices regarding their communicative behaviors. It may demonstrate how, through focusing and leveraging the supervisor's ability to listen, levels of self and other psychological safety within the workplace may be increased. This research gives greater understanding of the creation of psychological safety in employees, enabling supervisors to make better decisions in focusing their communicative behaviors and, in particular, their listening skills. Finally, it is important to gain a verifiable understanding of the actual antecedents to the creation of psychological safety in order to move the construct of psychological safety from a generally accepted idea to a usable construct that can be

explored and strengthened, with knowledge of specific levers that can be pushed to help supervisors foster its creation.

Theoretical Foundations and Conceptual Framework

The concept of psychological safety is not new. It occurs frequently in the humanistic psychology literature, particularly in the work of Maslow (1954) and Rogers (1961). Several management scholars who were contemporaries of many of the humanistic psychologists, scholars who comprise what Maslow (1998) deemed the "enlightened management school," appear to have been significantly influenced by Maslow and Rogers and have incorporated the psychological safety concept in their perspectives on workplace management (Drucker, 1954), performance (Likert, 1961), and within the experiences of the ongoing relationship between supervisors and subordinates (McGregor, 1960). Psychological safety is the primary construct in this study.

The concept of listening in the workplace is also not new. The importance of listening in work environments has been well documented and explored (Smeltzer & Watson, 1984). It has even been estimated that supervisors spend at least 63% of their workdays in the act of listening (Steil et al., 1983). Numerous texts have delineated the process of listening (Wolvin & Coakley, 1988; Bostrom, 1990) and its importance. Listening by supervisors is the secondary construct in this study.

Primary Construct: Psychological Safety

It has been demonstrated that the role of the supervisor is critical in creating an environment permeated by a sense of psychological safety (Edmondson, 2004). This

sense of psychological safety is a matter of perception that includes both self-perception and the perceptions of others (Tynan, 2005).

Both Edmondson and Tynan drew their theoretical underpinnings from the work of Abraham Maslow (1998). Maslow felt that safety needs, which are primarily psychological rather than physical in nature, consist of feelings of trust, stability, and security. According to Maslow (1998), the assurance of psychological safety and the existence of strong feelings of trust, stability, and security enable an individual to mature. This sense of psychological safety frees an individual to grow towards personal mastery. On the other hand, if the need for safety is not satisfied, an individual will be unable to express curiosity and exploration. If an individual is unable to express curiosity and exploration, he or she is unable to be creative. Therefore, little learning or innovation will occur without satisfying the psychological safety need (Schein, 1985).

Psychological safety has been shown to be not only necessary for learning and innovating, but a more fundamental condition related to whether or not individuals are engaged or disengaged from their work in the workplace (Kahn, 1990). There is a continuous need to adjust and create these feelings of psychological safety to not only maintain engagement, but produce high performance (Weick & Sutcliffe, 2001). Given what appear to be important outcomes of feelings of psychological safety in the workplace, Edmondson built on the work of Kahn (1990), Maslow (1998), and Schein and Bennis (1965) by exploring psychological safety and its impact on learning, innovation, and engagement within various types and models of work teams.

Tynan (2005) took this same theoretical base and extended the work further by specifically researching psychological safety in the context of hierarchical organizations

and in particular the supervisor-subordinate relationship. She viewed psychological safety as a dyadic concept and explored it in terms of two key constructs, self psychological safety and other psychological safety. By doing so, she gave additional focus to further defining psychological safety as an emerging construct.

Definitions of Psychological Safety

The definitions of psychological safety have varied over time and have often been somewhat ambiguous. Schein and Bennis (1965), for instance, never provided an explicit definition of what they considered psychological safety. An understanding of the construct was assumed.

There are, however, some specific definitions of psychological safety in the literature. Maslow (1954), for example, defined the characteristics of psychological safety as a list of feelings that include "security; stability; dependency; protection; freedom from fear, anxiety, and chaos; need for structure, order, law, and limits; strength in the protector and so on" (p. 18). Kahn (1990) also defined psychological safety as a freedom from an even more specific form of fear. He described the construct as a "sense of being able to show and employ self without fear of negative consequences to self-image, status, or career" (p. 705). Edmondson (1999a) built on Kahn by reinforcing an action orientation. She defined psychological safety as "a shared belief that the team is safe for interpersonal risk taking" (p. 354).

Tynan (2005), drawing on the same stream of literature cited above, gave an even more specific focus to the individual-level construct. She focused on psychological safety in the supervisor-subordinate relationship by looking at two related constructs: *self psychological safety*, defined as how emotionally safe an individual feels with another

individual, whether he or she feels that the other is likely to embarrass him or her, and how much he or she feels trusted and respected by the other; and *other psychological safety,* the perception of how psychologically safe one individual perceives another individual to be. It is important to explore both aspects, as their existence has potentially different impacts on subordinates' behaviors vis-à-vis their relationship with their supervisor. While subordinates may feel psychologically safe, if they perceive their supervisor as having low psychological safety, they may be impeded from acting in order to avoid damaging the supervisor's sense of well-being.

Psychological Safety in Dyadic Relationships in the Workplace

Within that ongoing supervisor-subordinate relationship, it has been noted that one of the key roles of supervisors is to create and provide environments that foster psychological safety for individuals, thus enabling people to give up "cognitive defenses that impede learning, innovation, and change" (Schein, 1985, p. 329). These defenses impede learning, as it is impossible for a subordinate to see and select disconfirming data when he or she feels unsafe. Not only is it impossible to select data that do not fit the current point of view, it may also be impossible for the subordinate to actually see, hear, understand, and listen to that disconfirming data. A lack of psychological safety creates an inability for the subordinate to engage with disconfirming data and discontinuities. The subordinate's performance is subsequently diminished. Creation and innovation are impeded (Prince, 1975). To avoid this, and to support greater learning, creation, and innovation, it is imperative that supervisors effectively foster this perception of psychological safety.

Using Tynan's (2005) construct of dyadic psychological safety, consisting of self psychological safety and other psychological safety, if there is evidence of a high level of other psychological safety from the subordinate's perception, the subordinate will feel less of a need to self-monitor his or her interactions and to "tiptoe" around the supervisor in their communications. This high level of other psychological safety has a mediating effect on the subordinate's behaviors, making the subordinate more likely to surface disagreements, give direct feedback to his or her supervisor, and point out errors in the workplace. Self psychological safety has a mediating effect on the subordinate's behavior, instilling a greater willingness to admit errors and to ask for help (Tynan, 2005). Perceptions of dyadic psychological safety thus have an impact on subordinate performance.

The Supervisor's Role in Creating Psychological Safety

If supervisors are responsible for creating and stimulating an environment that supports feelings of psychological safety, the question is how they go about doing this. Rogers (1961) delineated three essential activities for the creation of psychological safety: acting so that each individual feels unconditionally accepted, eliminating external evaluation by ceasing to use one's own frame of reference to form judgments, and using empathy to create understanding. This caring, suspension of judgment, and empathy all require a focus on the other person. This focus is demonstrated through a predominance of effectively and empathetically listening to the other person. It is to this construct of empathetic listening on the part of the supervisor that we now turn.

Secondary Construct: Listening in the Supervisor-Subordinate Relationship

The Listening Supervisor

The effective listening of supervisors to their subordinates may appear to be a relatively routine experience, but it is one of the most important elements of communication in the workplace (van Vuuren et al., 2007). It has been demonstrated that supervisors spend a significant amount of time in the workplace in the communicative act of listening, more than they do in the act of speaking (Steil et al., 1983). One of the numerous positive effects that these listening behaviors create in the work environment is making the subordinate feel more respected (Alvesson & Sveningsson, 2003).

In his initial findings, Roussin (2008) discovered that the process of "dyadic discovery" (i.e., the supervisor inquiring on a one-on-one basis to the subordinate and listening deeply to his or her responses) can increase psychological safety. He found that feelings of psychological safety are more effectively created for subordinates within the dyadic, one-on-one supervisor-subordinate relationship than in communicative events that take place between the supervisor and the team or workgroup as a whole. What makes these listening behaviors effective in these dyadic relationships continues to be explored.

Listening Effectiveness

What determines listening effectiveness is defined in a multiplicity of ways, and there is little agreement among scholars (Glenn, 1989; Brownell, 1994b). While it is unclear if those who are perceived as effective listeners truly are more effective than their colleagues (Brownell, 1994b), it may still be imperative for supervisors to listen well and

to behave in such ways as to strengthen employees' perceptions that they are being heard (Brownell, 1994a).

Brownell built her theory from the seminal work of Shiffrin and Schneider (1977), who determined that individuals draw out different things from their environments, selecting and hearing different data based on how they interact with the world. These interactions with the world are exhibited through behaviors that can be identified and seen by observers. As noted by Lewis and Reinsch (1988), people use "observable behaviors to form impressions of unobservable, internal mental processes" (p. 64). By selecting out data based on what the subordinate observes regarding listening, the subordinate draws conclusions about the effectiveness of the supervisor's listening.

In two previous studies, Johnson and Bechler (1998; Bechler & Johnson, 1995) identified an existing relationship between perceived listening effectiveness and perceived leadership emergence within a small-group organizational context. Through their examination of the behavioral listening literature, they determined nine listening behaviors that create a perception of listening effectiveness. These behaviors were examined using a 5-point Likert scale, with a 1 indicating the "most skilled listener" and a 5 indicating the "least skilled listener" (Johnson & Bechler, 1998, p. 461). These nine statements were as follows:

An effective listener:

1. Stays focused on discussions during meetings
2. Demonstrates interest in what others are saying
3. Tries to clarify by repeating or rephrasing what has been said
4. Does not interrupt others when they are speaking

5. Asks questions to get at what others mean
6. Does not offer judgments on what is said until the speaker is finished and the message is understood
7. Maintains eye contact with people who are speaking
8. Indicates interest in people who are speaking through "body language" (posture, not fidgeting, etc.)
9. Provides clear responses to questions

These behaviors are consistent with active empathetic listening as outlined by Drollinger et al. (2006), who found that effective listeners were experienced to be able to process what was heard effectively, sense underlying meanings beyond what was literally being said, and respond in a way that the person being listened to found appropriate.

The Creation of a Listening Environment

According to Brownell (1994a), the perceptions of supervisory listening create a listening environment. A listening environment is created through supervisors' listening behaviors, subordinates' perceptions and interpretations of those listening behaviors, and the listening environment as experienced by organizational members. This listening environment is therefore created in the interaction between the supervisor and subordinates and can be pictured as follows:

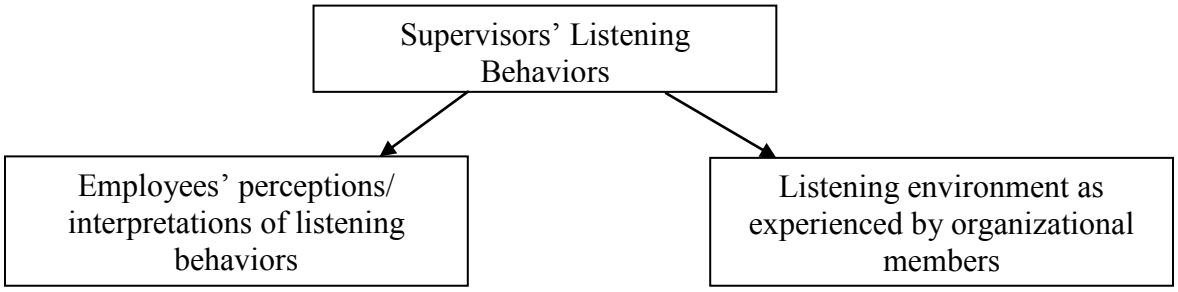

Figure 1-1. The creation of listening environments (Brownell, 1994a).

This perception of listening effectiveness that occurs within this listening environment is important in that, while the way we perceive others is through our multiple senses, and Western culture is biased towards the sense of sight, observable behaviors leading to a sense of being effectively listened to are key elements in how we develop trust and relationships with others (Jackson, 1992). In their review of the current state of listening research within the context of business, Flynn et al. (2008) found that contemporary business writing on listening is primarily descriptive and prescriptive. The majority of the work and research exploring listening has a scholarly foundation that is primarily anecdotal and intuitive (Flynn & Bodie, 2007). However, contemporary listening scholars have been attempting to determine a common definition of listening that will aid further listening research (Emmert, 1996). There appears to be a commonality in understanding that listening involves three common elements: processing, sensing, and responding (Drollinger et al., 2006).

As the above arguments are applied to this study, the theory holds that one would expect that the effectiveness in the ways a supervisor is viewed as processing, sensing, and responding to subordinates within the acts of listening, and the perception of whether

or not a subordinate perceives him- or herself to be listened to, would influence dyadic psychological safety because it is in interpersonal relationships that psychological safety is created. How effectively a supervisor is perceived to listen to what is presented to him or her by a subordinate impacts how the subordinate will respond to his or her supervisor. Therefore, it would appear that perceptions of supervisory listening effectiveness by the subordinate would contribute to whether feelings of psychological safety for the subordinate do, or do not, develop.

Research Design Framework

Given this rationale, the framework for this study assumes that there is a relationship between perceived listening and dyadic psychological safety (see Figure 1-2).

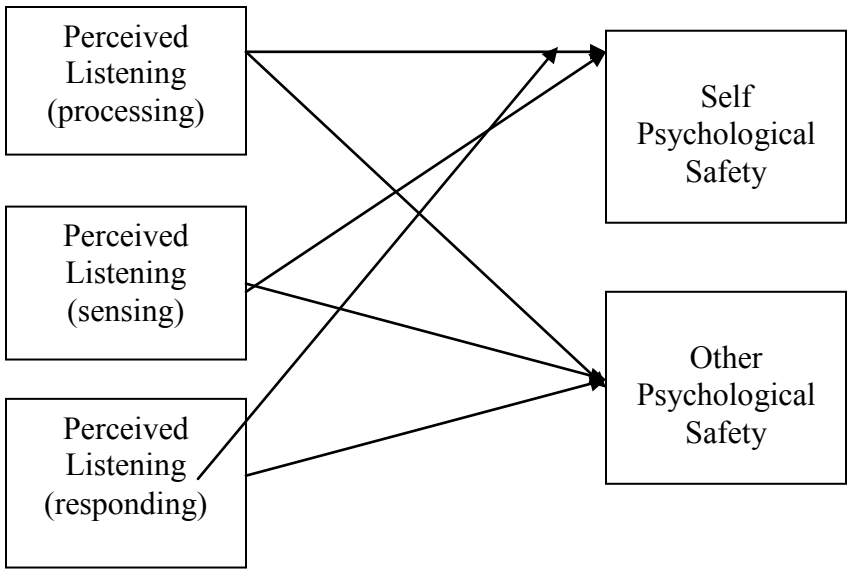

Figure 1-2. The relationship between listening and dyadic psychological safety.

How effectively supervisors listen and are perceived to listen within their interpersonal communications is intimately tied to the subordinates' perception of how effectively they are being listened to. This perception leads to the creation of an interpersonal climate and environment of psychological safety. Understanding how effectively supervisors are perceived to listen and developing and strengthening supervisors' behaviors of listening effectively could change the perception in creating psychologically safe environments and lead to a better understanding of what is needed in terms of listening behaviors to create a greater sense of psychological safety for subordinates. Attaining a greater awareness of listening effectiveness within a group may lead to deeper levels of conversation, the ability to "listen to the whole" (Isaacs, 1999). This ability to listen effectively enables one to suspend judgment long enough to listen for greater understanding instead of refuting and shooting down the argument. This type of conversation between supervisor and subordinate may point to even higher levels of psychological safety, which impacts learning, feedback, innovation, and performance.

Overview of the Methodology

This section provides an overview of the method to be used in this study. A more thorough explanation of the research methodology can be found in chapter 3.

Sample and Population

The total population (N = 145) of U.S. employees from a leading Internet-based research company—founded in 1999, headquartered in the Northeastern United States, and with expertise in measuring Internet advertising and marketing effectiveness—served as the participants for the study. All of the employees experienced a supervisor-

subordinate relationship and were surveyed regarding their immediate supervisory relationship.

Survey Process

Using a global email distribution list provided by the head of human resources, study participants were recruited via email and provided with a uniform resources locator (URL) linked to a secure web server where the questionnaire was obtained and the data stored. This service was provided through Onlineworksolutions.com, which creates and administers custom web-based software for data and work solutions. The introductory page of the survey provided information about the study and requested informed consent before proceeding to the survey. The final page requested demographic information and thanked respondents for their participation. Subsequent follow-up emails were sent to ensure adequate participation.

Statistical Approach

This study assumed a positive relationship between supervisor empathetic listening and perceived self and other psychological safety for the subordinate. Prior to seeking confirmation or disconfirmation of that assumption, it was necessary to test the underlying assumption that a relationship exists between the two constructs, which was done via a scatter plot analysis. Since this relationship was confirmed, an exploratory factor analysis was conducted to gain a better understanding of the underlying strength of the factors driving the variables. Subsequently, appropriate correlation coefficients were examined based on the nature of the discovered relationships.

Finally, analyses were conducted given the descriptive characteristics of the sample, based on the demographic data received, and included frequencies, means, and standard deviations, along with overall scale results for the Active Empathetic Listening Scale and Dyadic Psychological Safety Scales.

Instrumentation

A survey employing two scales was used for this investigation. As the study concerned perceptions of the role of the supervisor in creating dyadic psychological safety, Tynan's (2005) Dyadic Psychological Safety Scales were used to test the hypotheses generated by this study. As the study also employed a theoretical lens regarding empathetic listening that was established by Rogers (1961), the Active Empathetic Listening Scale (Drollinger et al., 2006) and its three subscales were used.

Dyadic Psychological Safety Scales

Tynan's (2005) *Self Psychological Safety Scale* and *Other Psychological Safety Scale* were chosen for this study because of their use in the initial study of dyadic psychological safety, their development based on the definition of psychological safety used for this study, and their psychometric properties. The scales were adopted by Tynan and developed by her based on the work of Edmondson (1999a). Edmondson's original instrument was based on qualitative interview data collected in the first phase of her study.

The *Self Psychological Safety Scale*, which was developed to reflect Edmondson's team scale for a one-on-one relationship level, contains seven items

measured on a 9-point Likert scale with responses that range from 1 (not at all true) to 9 (very true). A very high level of internal consistency was reported ($\alpha = .93$).

The *Other Psychological Safety Scale* was created "to measure how safe the subordinates felt their supervisor to be in their relationship and how much they worried about their supervisor's psychological safety" (Tynan, 2005, p. 239). This scale contains five items measured on a 9-point Likert scale, with responses that range from 1 (not at all true) to 9 (very true). A high level of internal consistency was reported ($\alpha = .82$).

Active Empathetic Listening Scale

The *Active Empathetic Listening Scale* (Drollinger et al., 2006) was chosen for this study because it embraces a listening model that has a theoretical background similar to that for psychological safety. It based its empathetic element on the therapeutic work of Rogers (1961) and his idea of unconditional positive regard. The scale was developed to better understand active empathetic listening and its impact on salespeople (Drollinger et al., 2006, p. 162)—strengthening earlier theoretical work that noted that the most effective kind of listening in sales encounters was active listening with a component of empathy (Comer & Drollinger, 1999). The survey encompasses three standard elements of the listening process—sensing, processing, and responding (Brownell, 1985)—that appear capable of distinguishing between effective and ineffective listeners from the point of view of customers describing salespeople. The scale's authors encouraged further research using the instrument outside of the sales profession to include supervisors of salespeople and other business professionals. This study continued this research.

Delimitations

The study investigated the relationship between perceived listening effectiveness and dyadic psychological safety. As the data were survey generated, they described only a point in time, rather than a longitudinal look at how perceived listening effectiveness and dyadic psychological safety may be related. The study also assumed that participants had an adequate amount of self-knowledge to complete the survey. The study was limited in that self-reports are a useful yet fallible source of data (Schwarz, 1999). Also, since this study focused on participants in one business of a small, professional services organization, the results may not be generalizable to other industries or organizations.

Limitations

The use of a correlational design was a limitation to this study, in that it explores the relationship between independent and dependent variables. The study was nonexperimental and did not employ a random sample or control groups. It should be cautioned that any relationship found between perceived listening effectiveness and dyadic psychological safety does not imply causality.

Definition of Terms

Listening. Listening is defined as having three essential dimensions: sensing, processing and responding (Comer & Drollinger, 1999).

Self psychological safety. How emotionally safe an individual feels with another, whether he or she feels the other is likely to embarrass him or her, and how much he or she feels trusted and respected by the other (Tynan, 2005).

Other psychological safety. How safe an individual perceives another to be in their relationship (Tynan, 2005).

Conclusion

Supervisors in organizational contexts need to ensure the effective performance of their subordinates. In addition, subordinates need to work in organizational atmospheres and relationships that enable them to meet their full potential and performance abilities. While much has been accepted as common wisdom regarding psychological safety and its importance, a compelling argument can be made for the need to continue to empirically explore the construct of dyadic psychological safety and how supervisors' behaviors can help foster or diminish a sense of it for their subordinates. This study elucidated this path forward by exploring the relationship of dyadic psychological safety and its relationship to perceived supervisor listening effectiveness.

CHAPTER 2:

REVIEW OF THE LITERATURE

This chapter explores the relevant literature related to the main constructs of this study: dyadic psychological safety and supervisory listening. The following computerized databases, in alphabetical order, were used over the course of this study to access and review the relevant literature: ABI/Inform Complete Plus, Academic Search Premier, Business Source Premier, Dissertation & Theses Online, Communication and Mass Media Complete, ERIC, Google Scholar, PsycInfo, Proquest Research Library Plus, and Web of Science. Search terms employed included psychological safety, dyadic psychological safety, superior and subordinate communication, listening effectiveness, listening and managers, listening and supervisors, listening and workplace, listening and business, listening and dyadic relationships. The foundational, and seminal, literature on listening in the workplace was developed in the late 1940s and 1950s (Nichols, 1948; Nichols & Stevens, 1957). The foundational work on the construct of psychological safety began in a similar timeframe (Maslow, 1954). This review thus covers literature from that period to the present day.

The first section of this chapter begins by exploring the current state of defining psychological safety and the evolution of the definitions of the construct. It then explores the relationship between psychological safety and learning, followed by its impact on performance. After examining the consequences of a lack of psychological safety in the workplace, the chapter reviews literature on how psychological safety is created. It is organized under the following headings: (1) Defining Psychological Safety; (2) Benefits

of Psychological Safety; (3) Consequences of a Lack of Psychological Safety; (4) Creating Psychological Safety; and (5) Implications.

The second section of this literature review addresses the role of listening in the context of organizations from a business-based behavioral communication perspective following a similar line of thought to the psychological safety literature review. It is organized under the following headings: (1) Defining Listening; (2) Listening and the Supervisor-Subordinate Relationship; and (3) The Impact of Supervisor Listening.

The third and final section of the literature review looks at support for exploring a possible relationship between effective listening by the supervisor and dyadic psychological safety. It ends with a reiteration of the research question that addresses this hypothesized relationship and a summary of the literature review.

Psychological Safety

Defining Psychological Safety

Psychological safety is an evolving construct that does not yet have a commonly accepted and employed definition. Historically, the construct of psychological safety came from Maslow's (1954) work on motivation theory and his postulated hierarchy of needs. The definition, however, has gained a great deal more clarity as researchers have tried to define psychological safety for the purposes of their research. There still exists, however, a lack of a commonly agreed to definition for the psychological safety construct.

Historical Evolution of Psychological Safety

Maslow (1954) defined psychological safety by outlining its characteristics. These characteristics include "security; stability; dependency; protection; freedom from fear, anxiety, and chaos; need for structure, order, law, and limits; strength in the protector and so on" (p. 18). For Maslow, the need for safety involved both physical and psychological aspects that could be broken down into five categories: (a) physical safety, (b) material safety, (c) inner safety, (d) feeling safe around others, and (e) feeling safe to others. Maslow (1998) viewed these last three safety elements, the psychological safety elements, as more other-oriented than self-oriented. Given that, psychological safety, then, is created through perceptions of others and exists in the world of interpersonal phenomena. It is created in relationship with others. It is at its core dyadic in nature, as it evolves from one-on-one encounters with other human beings.

In the seminal study of psychological safety by Kahn (1990), he also defined psychological safety as being created in relationship with other human beings. He defined psychological safety as having a "sense of being able to show and employ self without fear of negative consequences to self-image, status, or career" (p. 705). Both Maslow's and Kahn's definitions noted a freedom from fear as an element of psychological safety. Kahn, however, was more specific in terms of describing that fear as being concerned with the perceived potential consequences of actions taken.

Overview of the Evolving Definitions of Psychological Safety

Given the historical overview of the evolution of the psychological safety construct, the definitions of psychological safety can be summarized in Table 2-1.

Table 2-1
Definitions of Psychological Safety

Author	Definition of psychological safety
Maslow (1954)	Defines psychological safety by outlining its characteristics: "security; stability; dependency; protection; freedom from fear, anxiety, and chaos; need for structure, order, law, and limits; strength in the protector and so on." The need for safety has both physical and psychological aspects that can be broken down into five categories: (a) physical safety, (b) material safety, (c) inner safety, (d) feeling safe around others, and (e) feeling safe to others.
Kahn (1990)	Defines psychological safety as a sense of being able to show and employ self without fear of negative consequences to self-image, status, or career.
Edmondson (1999a)	Evolves the definition of psychological safety into a group-level construct where psychological safety is considered "a shared belief that the team is safe for interpersonal risk taking."
Edmondson and Williams Woolley (1999)	Expands the team psychological safety construct to the perception that one's work environment is safe for interpersonal risk-taking such that proximal others will not reject or embarrass those who make mistakes or speak up about difficult issues.
Edmondson, Bohmer, and Pisano (2001)	Sees psychological safety as a shared belief that well-intentioned interpersonal risks will not be punished.
Baer and Frese (2003)	Evolves psychological safety to an organizational-level construct where a climate for psychological safety describes a work environment where employees are safe to speak up without being rejected or punished.
Tynan (2005)	Builds on Edmondson's 1999 definitions and focuses the construct of psychological safety as it is created in a discrete relationship between two individuals—that of supervisor and subordinate and from the perspective of the subordinate. This "dyadic psychological safety" consists of two related constructs: self psychological safety, which describes how one individual feels towards another person, and other psychological safety, which is how psychologically safe one individual perceives the other to feel.

The definition of psychological safety continues to evolve. There is a consistent focus across definitions of psychological safety that it is a feeling that one can take risks without being afraid of repercussions. Its basic unit of analysis is at the individual level, as it relates to the person's perceptions of other individuals, regardless of whether or not

those perceptions are then aggregated to create a group understanding. A generally consistent and usable definition of the construct of psychological safety has yet to be determined and agreed upon by the scholar or practitioner communities. That being said, the core of the definition, being able to act without fear of harm or consequences, remains consistent as the construct of psychological safety continues to be defined and to evolve.

Psychological Safety as an Evolving Construct

Much of the understanding of psychological safety has been driven by recent research that builds on the psychological and supervisory practitioners discussed above. It has primarily been performed by Edmondson and her colleagues and students. At its core, the construct of psychological safety is at the individual level of analysis, exploring that individual's perception of relationships to others. Perceptions can be aggregated to the team or group level once agreement can be seen at the individual level (James, 1982). Subsequent to the seminal work of Maslow (1954), the definition of psychological safety always includes a freedom from fear of negative consequences from another party as a result of one's own actions.

Edmondson explored psychological safety, which at its center is the concept of people acting in the presence of others (Edmondson, 1999b, p. 357). Edmondson (1999a) on the one hand defined psychological safety as "a shared belief that the team is safe for interpersonal risk taking" (p. 354). On the other hand, during the same year, Edmondson and Williams Woolley (1999) defined psychological safety as "the perception that one's work environment is safe for interpersonal risk-taking such that proximal others will not reject or embarrass those who make mistakes or speak up about difficult issues" (p. 7). Psychological safety is then defined by Edmondson et al. (2001) as "a shared belief that

well-intentioned interpersonal risks will not be punished." While the commonality is apparent across these three definitions, there is a lack of consistency in the construct definition. At its root, however, it is an individual-level construct where an individual, in relationship to another individual, feels secure enough to act. The individual is not worried or fearful that the actions taken may create negative consequences for him or her. He or she is not concerned with being embarrassed or harmed in any way.

Psychological Safety as an Intuitive Construct

Several scholars—including Schein and Bennis (1965), Schein (1993), and Weick and Sutcliffe (2001)—explored the concept of psychological safety, but without specifically defining their terms or giving a concrete definition of the construct. Similarly, in the field of humanistic psychology, Rogers (1967), a contemporary of Maslow, incorporated the idea of psychological safety in his work but never specifically defined the construct. Rogers as well did not perform research on the nature of psychological safety or on its component parts. Rather, Rogers worked off of a general intuitive sense of the idea of psychological safety.

In the management literature, this lack of concrete definition continued when the construct was taken from the field of humanistic psychology. For example, Schein and Bennis (1965) as well as Schein himself (1993) discussed the concept and its implications but did not specifically define psychological safety. It was more of a generally accepted principle of something that everyone understood intuitively. It was assumed that when psychological safety was mentioned, the listener understood what was meant, even if it had not yet been empirically demonstrated.

Scholars such as Weick and Sutcliffe (2001) built on the work of Schein and Bennis (1965), given that the concept made intuitive sense to them. And while they referred to Edmondson's work and the need to reward rather than punish the speaking up and pointing out of errors in high-performing organizations (p. 58), they did not specifically define what psychological safety is. However, Weick and Sutcliffe (2001) reasoned that learning within organizations would be limited without the existence of psychological safely. They believed that psychological safety is necessary to produce a high-performing culture of mindfulness within organizations. The sense of psychological safety allows each individual to speak up and to hear the disconfirming data that might otherwise be too fearful to embrace. As noted earlier, this lack of clarity of definition, while building on the intuitive sense of the psychological safety construct, risks making the concept of psychological safety something that exists in the realm of supervisory myth and lore.

Dyadic Psychological Safety

Tynan (2005) restated Edmondson's definition of psychological safety as "a shared belief among team members, stemming from mutual respect and trust, that a team is safe for interpersonal risk taking, including a sense of confidence that the team will not reject, embarrass, or punish team members for speaking up" (p. 229). Edmondson also demonstrated that the team leader's behavior is important for the creation of psychological safety. Given that, Tynan took the relationship out of the team confines and focused on individual hierarchical relationships. She did this by focusing discretely on psychological safety in the supervisor-subordinate relationship, similar to the original research by Kahn (1990).

This "dyadic psychological safety" consists of two related constructs: self psychological safety, which describes how one individual feels towards another person, and other psychological safety, which is how psychologically safe one individual perceives the other to feel. If one views the construct of dyadic psychological safety from the perspective of the subordinate in the bilateral supervisor-subordinate relationship, self psychological safety delineates how the subordinate perceives his or her own individual sense of psychological safety, while other psychological safety describes the subordinate's perception of the supervisor's sense of psychological safety. While the opposing perspective, that of the supervisor's view of the subordinate, could also be taken, this study took the point of view of the subordinate because Tynan's original work took the same perspective. It is on this level of analysis, and through this lens, that this study was focused.

Dyadic Psychological Safety and Interpersonal Trust

Given the dyadic nature of Tynan's definitions for psychological safety and the evolving nature of the psychological safety construct, it seems natural to assume that scholars would question the difference between the construct of psychological safety and the construct of interpersonal trust. Edmondson (2004) did some work that helps to distill the conceptual differences that are beginning to emerge between the two constructs (see Table 2-2).

Table 2-2
A Comparison Between Psychological Safety and Trust

Psychological safety	Trust
Individual makes choices to minimize negative consequences	Individual makes choices to minimize negative consequences
Describes intrapsychic state involving perceptions of risk or vulnerability as more **narrowly** defined	Describes intrapsychic state involving perceptions of risk or vulnerability as more **broadly** defined
Individual considers interpersonal consequences of engaging in a specific action in a **short-term temporal range**	Individual considers anticipated consequences of engaging in a specific action across a **long-term** temporal range
Focus of impact is **internal**—questioning whether others give oneself the benefit of the doubt	Focus of impact is **external**—questioning whether to give others the benefit of the doubt

Adapted from "Psychological Safety, Trust, and Learning in Organizations: A Group-Level Lens" by A. C. Edmondson, in R. Kramer and K. Cook (Eds.), *Trust and Distrust in Organizations: Dilemmas and Approaches* (pp. 239-272). New York, NY: Russell Sage Foundation, 2004.

According to Edmondson, psychological safety and interpersonal trust are complementary but distinct interpersonal beliefs. Edmondson delineated them in general terms of their timeframes, object of focus, and levels of analysis. For psychological safety, the timeframe is immediate and very short-term. Trust has a wider temporal expanse going out into the future. The focus of psychological safety is the individual (i.e., what will happen to me?), while the focus of trust is the other (i.e., what will others do?).

For Edmondson, psychological safety is demonstrated between individual team members when they hold converging and similar points of view. Trust, according to Edmondson, pertains to dyads. Trust and respect become integral elements leading to group psychological safety. Tynan (2005) also saw psychological safety as pertaining to dyads, but differently from trust. Thus, while the constructs are distinct, there is overlap between them. According to Edmondson (1999b),

> Team psychological safety is centrally concerned with this kind of reluctance to ask for help, admit an error, or generally speak up—especially when rational considerations warrant speaking up. The construct includes but goes beyond interpersonal trust, which can be defined as the belief that relinquishing some degree of control over a situation to one or other will not lead to personal loss or harm. (p. 182)

Given these arguments, it appears that, while the constructs are similar, a clear distinction can be made between interpersonal trust and psychological safety. Though they may overlap, they are different. While exploring the distinctions between the two constructs further is outside the scope of this study, there is enough evidence to support the idea of psychological safety as distinct from interpersonal trust and to support the need for additional study of psychological safety (Tynan, 2005).

Benefits of Psychological Safety

There appear to be numerous benefits to work relationships that are permeated by a sense of psychological safety, which include strengthening abilities to learn, change, and innovate, be engaged, and perform.

Psychological Safety and Learning

The concept of psychological safety emerged from the work of the humanistic psychologists and is seen as a necessary element for learning. It is a necessary sense for an individual to hold if that person is to learn, grow, and develop. Rogers (1967, 1970) noted the need for safety as the first essential ingredient for group therapy to be successful and for its participants to learn. Rogers believed that the safety need must be filled before participating group members can open up and express themselves, thus becoming full participants in the group. Through this openness, group members can build trust, take risks, and give and receive feedback; it enables them to learn from each other.

These behaviors all develop in an atmosphere of safety and lead to success within the group therapy. Safety is the foundation for personal growth and change in the collective setting.

As seen in the group therapy setting, a sense of psychological safety is created not in a vacuum, but in relationship with other human beings (Rogers, 1961). For Rogers, the relationship between people is characterized as having a sense of psychological safety when it is demonstrated through behaviors of caring by and for each individual. It allows each person in the relationship to be less defensive and more open to new experiences. By having a sense of psychological safety, the people in the relationship are able to adopt data that allows them to change their individual frames of reference. A sense of psychological safety enables them to take in new information, rather than trying to fit new knowledge into their preexisting understanding and remaining rigid in their thinking (Rogers, 1961, p. 115). This sense of psychological safety helps create for the individual a far more realistic point of view. It enables him or her to be more capable of dealing with new issues, people, dilemmas, and situations.

Management scholars who were contemporaries of Rogers and other humanistic psychologists extrapolated the concept of psychological safety from the therapeutic domain to the workplace. Consequently, much of the research and writing on psychological safety is related to its effect on learning and performance and its impact on growth and change in the world of work.

In the workplace, the supervisor is now viewed as responsible for providing psychologically safe environments that will enable subordinates to give up the "cognitive defenses that impede learning, innovation, and change" (Schein, 1985, p. 329).

Confirming Rogers' point of view, it is impossible for individuals to let down these defenses and to see and select data that might disconfirm their current understanding of the world unless they feel psychologically safe. As Schein noted, "Only if I can feel that I will retain my identity or my integrity as I learn something new or make a change, will I be able to even contemplate it" (p. 300). Psychological safety is therefore necessary for employees to be able to question their underlying assumptions and see data that might disconfirm their current beliefs. It is a requirement to engage in learning.

To engage in learning and to begin the process of change, people have to first "unfreeze" from the current state. Psychological safety is noted as an essential component in the change process of the Lewin (1947) change model, in that it enables this unfreezing to happen. People have to feel psychologically safe for organizational change to take place (Schein, 1993). In the workplace, participants need to be able to see a somewhat manageable path forward that they can navigate toward. They can do this even if the future is uncertain. They need to have a sense that the journey will be worthwhile and that the results achieved will be more positive than negative. Thus, psychological safety not only opens up individuals to learning, it also speeds up the learning process itself so that the choices can be approached more quickly and be addressed more responsively (Schein, 1993). It enables individuals to proceed along the path more quickly and efficiently by being able to better learn.

Schein and Bennis (1965) postulated that psychological safety was also necessary for learning to occur at the collective level. An environment permeated with a sense of psychological safety reduces threats and removes the barriers to change. This environment keeps organizational members from becoming rigid and defensive. Those

who feel safe on an emotional level may then begin to seek new information that will allow them to redefine things cognitively. In other words, organizational members have to see a manageable path forward in a direction that will not lead them astray but rather lead the organization towards success. This psychologically safe environment must be created to speed up the learning process for individuals as well as within organizations.

Learning can be perceived as being risky and threatening, as it challenges the learner's current understanding of the world. A degree of psychological safety is necessary not only for learning to begin and for the process to be quicker, but for that learning to be successful. Garcia, Barker, and de Mayo (1999) found that due to an individual's need to maintain psychological safety, sustained concentration may be broken during the learning process. Academic anxieties (e.g., test anxiety, writer's block, stage fright) are interruptions in concentration that may be attributed to a low level of psychological safety. It stands to reason, then, that the higher the level of perceived psychological safety, the greater the probability for learning to be successful (Edmondson, 1999b).

Tynan (2005) elaborated on Edmondson's concept further by focusing discretely on psychological safety in the supervisor-subordinate relationship, including its impact on learning. In this relationship, self psychological safety delineates how the subordinate perceives his or her own individual sense of psychological safety, while other psychological safety describes the subordinate's perception of the supervisor's sense of psychological safety. Psychological safety opens the subordinate to learning from the supervisor. Tynan (2005) found that self psychological safety has a mediating effect on the subordinate's willingness to admit errors and to ask for help, which lead to learning.

She also observed that other psychological safety has a mediating effect on the subordinate's behaviors regarding surfacing disagreements, giving direct feedback to the supervisor, and pointing out errors being made—all behaviors that lead to increased learning.

It stands to reason, then, that learning within organizations will be limited without some level of psychological safety (Weick & Sutcliffe, 2001). Safety, according to Weick and Sutcliffe, is elusive, as it is a "dynamic nonevent." The perception of having psychological safety can be easily taken for granted, cannot be stored up for future usage, and needs to be continually fostered and developed. Thus, we see that psychological safety is necessary to begin learning, to develop and sustain the pace of the learning process, and to make that learning successful.

Psychological Safety and Employee Engagement

Douglas McGregor (1960) extrapolated Maslow's hierarchy of needs from the work of the humanistic psychologists to the work of their contemporary management theorists. Though the definitions of those needs are not clearly delineated, McGregor introduced the need for psychological safety into the emerging field of management theory in his groundbreaking discussion of Management Theories X and Y.

In Theory Y, the need for psychological safety has to be addressed for employees to perform and stay engaged while at the workplace. This need, once satisfied, is not, however, a motivator of behavior. This belief is contrary to the prevailing point of view in Theory X. Rather, it is when the need for psychological safety is deprived that individuals act out. Everyone in the workplace is in a partially dependent relationship with their other coworkers. The safety needs are thus important to maintain engagement.

Arbitrary actions by supervisors, behaviors that arouse uncertainty with respect to continued employment, or behaviors that reflect favoritism or discrimination—unpredictable administration of policy, for example—can be powerful motivators of the safety needs in the employment relationship at every level, from worker to vice president. Not addressing the need for psychological safety leads to workers acting out. Addressing the psychological safety need is essential to keep employees engaged.

This continued bonding of the employee to the organization—the creation of employee engagement—and its importance and relationship to psychological safety were confirmed in the first empirical studies to address psychological safety (Kahn, 1990). Because Kahn's study was the first to research psychological safety and set the groundwork for the studies that followed, it is important to look at it in depth.

Kahn's research was actually two qualitative studies focusing on two disparate groups. These subjects, counselors at a summer camp and members of a prestigious architectural firm, were chosen for their vast number of differences across several dimensions. It was Kahn's hope that by looking at these distinctly different groups, his findings and conclusions regarding individuals' motivations for engagement and disengagement could be widely generalized.

Kahn's research showed that psychological safety, along with meaningfulness and availability, is one of the three psychological conditions related to whether or not individuals are engaged or disengaged from their work in the workplace. He defined psychological safety as a "sense of being able to show and employ self without fear of negative consequences to self-image, status, or career" (p. 705). Psychological safety was

also elaborated on in terms of dimensions of psychological conditions, as shown in Table 2-3.

Table 2-3
An Overview of Psychological Safety

Dimensions	Safety
Experiential components	Feel situations are trustworthy, secure, predictable, and clear in terms of behavioral consequences
Types of influence	Elements of social systems that create situations that are more or less predictable, consistent, and nonthreatening
Influences	• Interpersonal relationships. Ongoing relationships that offer more or less support, trust, openness, flexibility, and lack of threat • Group and intergroup dynamics. Informal, often unconscious roles that leave more or less room to safely express various parts of self, shaped by dynamics within and between groups in organizations • Management style and process. Supervisor behaviors that show more or less support, resilience, consistency, trust, and competence • Organizational norms. Shared system expectations about member behaviors and emotions that leave more or less room for investment of self during role performances

Note. Adapted from "Psychological Conditions of Personal Engagement and Disengagement at Work," by W. A. Kahn, 1990, *Academy of Management Journal, 33*, pp. 692-724.

Kahn's (1990) research demonstrated that a strong interpersonal engagement is connected to a high level of psychological safety. His findings are consistent with the theoretical underpinnings of Maslow (1998), Rogers (1967), McGregor (1960), and Bennis and Schein (1965). With Kahn's work in 1990, there was now empirical evidence that contributed towards proving the impact of psychological safety. Additional scholars, as demonstrated below, continued to build on Kahn's research to create a greater understanding of psychological safety in the workplace and its various possible impacts.

For example, Brown and Leigh (1996) built on Kahn as a theoretical base and investigated the processes by which employee perceptions of the organizational

environment are related to job involvement, effort, and performance. The researchers developed an operational definition of psychological climate that was based on how employees perceive aspects of the organizational environment and interpret them in relation to their own well-being. According to the authors, interpersonal relationships promote psychological safety when they are supportive and trusting, with a flexibility that allows people to fail. The role affects how much people feel they can bring of themselves into their work and performance.

Brown and Leigh's summary of the dimensions of climate that are likely to be indicative of psychological safety include the extent to which "(a) management is perceived as flexible and supportive and employees feel they have control over their work and methods they use to accomplish it, (b) organizational roles and norms are perceived as clear, and (c) employees feel free to express their true feelings and core aspects of their self-concepts in their roles" (p. 360). Their results indicated that the perceptions of a motivating and involving psychological climate were related to job involvement. The statistics indicated that personal engagement was connected to a higher level of psychological safety than personal disengagement.

Psychological Safety and Performance

While psychological safety has been demonstrated to impact learning, management theorists have taken the study of psychological safety a step further by exploring its impact on employee performance.

Psychological safety has been demonstrated to be a valuable construct that emerges in the interactions of human beings. Edmondson (2003b) has shown it to affect organizational learning, successful implementation of change, innovation, and the

successful exploration and exploitation of new technologies. She has also demonstrated its tie to organizational effectiveness and performance. While it has been shown to do all these things, little is actually known about how to foster high levels of psychological safety among collective members.

Psychological safety has also been demonstrated to impact employee engagement and performance. Additional research has built on the foundation of Kahn to reinforce the linkage between psychological safety and performance. For example, Baer and Frese (2003), in their study of 47 midsize German companies, showed that psychological safety was positively related to two measures of firm performance: longitudinal change in return on assets (holding prior return on assets constant) and firm goal achievement. It also moderated the relation between process innovations and firm performance. The researchers used Edmondson's operational definition and seven-question psychological safety scale and concluded that an implication of their study was that before any enterprise change initiative is embarked upon, companies need to increase levels of psychological safety so that the initiative will have a greater chance of success.

Edmondson and Williams Woolley (1999) found that a preexisting climate of psychological safety at the work-unit level significantly impacted the quality of the dialogue and implementation of a change program. Edmondson et al. (2001) examined organizational failures to adopt new technological innovations and sought to address a paucity of literature on how supervisors alter the organizational routines that are thought to lead to resistance to adapting and creating change. Their purpose was to create a theoretical model regarding the collective learning processes in implementing and adapting a new technology. The sense of psychological safety emerged as an important

factor in the successful adaptation of the technology and the creation of new routines. This was demonstrated in that psychological safety enabled teams to diminish hierarchical barriers of status and aided the teamwork required for success. From learning to innovation, change to engagement, psychological safety is being demonstrated to affect numerous areas of performance for people in the workplace.

Consequences of a Lack of Psychological Safety

Several of the benefits of having a high level of psychological safety have been described above. However, psychological safety is not a neutral concept. The absence of a sense of psychological safety (i.e., not feeling psychologically safe) may have numerous detrimental effects, including minimizing personal growth, inhibiting innovation, and impeding learning and the ability to adapt to change.

A Lack of Psychological Safety and Personal Growth

Achieving a level of safety is the first requirement for obtaining a sense of security and personal well-being (Maslow, Hirsh, Stein, & Honigmann, 1945). Without a sense of psychological safety, an individual is incapable of expressing love and is impeded from maturing fully through self-actualization (Maslow, 1998).

Maslow felt that safety needs, which are primarily psychological in nature, consist of having feelings of trust, stability, and security. The first two levels of the hierarchy of needs are the deficit needs. The need for physiological safety and psychological safety are desires that must be filled in order to avoid illness (Maslow, 1998). These needs must be satisfied before one can move on to the higher-order self-actualizing needs. They are hygiene factors that must be maintained or performance will decrease.

According to Maslow (1998), the assurance of safety allows the higher needs and impulses to emerge so that the individual can grow towards individual mastery and maturity. Safety is, in Maslow's terms, prepotent; the need for safety is more powerful than the higher-order needs and must be satisfied before moving on to being curious and exploring the unknown. Given that, there can be no innovation without satisfying the need for psychological safety.

A Lack of Psychological Safety and Innovation

Lack of innovation based on the absence of psychological safety may lead to reluctance in proposing new ideas, thus reducing the number of creative possibilities. Psychological safety enables "group members to feel sufficiently informed, influential and interpersonally supported in order to offer new ideas" (West, 1990, p. 323).

Thus, for West, psychological safety equates to an environment that is perceived as interpersonally nonthreatening. He argued that the quantity of innovations is higher in groups characterized by high levels of psychological safety because people take more risks in proposing new ideas. The subsequent group interaction also leads to generating more ideas. It has a secondary effect on the quality of the innovation, but affects it nonetheless. The more safe people are, the more willing they will be to depart from the norm and suggest radical ideas. According to West, the start of the innovation cycle is the generation of ideas that are only made possible by the existence of a high level of psychological safety. Without it, innovation will be severely curtailed.

Additional Impacts of a Lack of Psychological Safety

The lack of psychological safety may also contribute to the failure of the integration process during a merger or acquisition, according to Bijlsma-Frankema (2001), as most often organizational culture and human factors determine whether or not a merger or acquisition is successful. Bijlsma-Frankema demonstrated psychological safety as the human factor where people "must feel secure to try out the new way of doing things without fear of punishment or loss of position" (p. 11) that leads to successful cultural integration. This psychological safety, established through the setting of clear expectations and the provision of ongoing feedback, enables participants to voice difficulties with adapting to the new organizational structure. Her research showed that a lack of psychology safety contributes to the high rate of failure of corporate mergers and acquisitions.

A lack of psychological safety has also been shown to have impact outside of the corporate and work setting. For example, Roberto (2002) saw a lack of psychological safety as a contributing factor to the 1996 tragedy on Mount Everest, where several trekkers perished. He concluded, in looking at the events using a multilevel analysis framework, that a lack of psychological safety made it more difficult for the trekkers to avoid individual cognitive biases. These biases included the sunk cost effect, a bias of overconfidence, and the recency effect, all of which contributed to a tragic outcome. A lack of psychological safety contributed to the breakdown of the complex system of the communication between team members. As the individuals were unable or unwilling to discuss their mistakes, it was more difficult for them to address the myriad issues that were going wrong.

Creating Psychological Safety

Little has been written—and even less empirically explored—that focuses on the creation of psychological safety. From the therapeutic realm, according to Rogers (1961), three processes are associated with the creation of psychological safety: the unconditional acceptance of others, assuming that they are of worth by their very nature; a climate in which external evaluation is not present; and the act of understanding others empathically. Rogers commented on this last element:

> But if I understand you empathically, see you and what you are feeling and doing from your point of view, enter your private world and see it as it appears to you—and still accept you—then this is safety indeed. In this climate you can permit your real self to emerge, and to express itself in varied and novel formings as it relates to the world. (p. 358)

Thus, for Rogers, the presence of psychological safety was intimately intertwined with fostering creativity.

While Rogers explored what has to exist between individuals in their relationship to each other in order to create a sense of psychological safety, Schein (1993) described organizational environments that manifest psychological safety as containing several essential elements:

> (1) opportunities for training and practice; (2) support and encouragement to overcome the fear and shame associated with making errors; (3) coaching and rewards for efforts in the right direction; (4) norms that legitimize the making of errors; and (5) norms that reward innovative thinking and experimentation. (p. 89)

Items 2 through 4 seem, in particular, similar to Rogers' (1961) freedom of evaluation and judgment.

Implications

As can be demonstrated, then, given its numerous impacts, the construct of psychological safety is not neutral. While psychological safety has a positive impact on learning, innovation, and engagement, a lack of psychological safety can impede experimentation, hinder employees from admitting mistakes, and keep colleagues from questioning current team practices (Edmondson, 1999a).

The consequences of a lack of psychological safety are multifold. As demonstrated above, it has impact from inhibiting the maturation process to impeding such things as idea generation, creativity, learning, innovation, and performance—both within and outside of the corporate setting. Given that, creating relationships at the workplace where greater levels of psychological safety are present would have numerous benefits and positive impacts.

Listening

Defining Listening

Listening has been studied from numerous perspectives over the years. Early research on listening focused on the connection between retention and application (Nichols, 1948). Some have viewed listening as a cognitive process, with a specific focus on memory, retention, and recollection (Bostrom, 1990). Halone and Picchioni (2001) took a relational approach to examining listening. Other researchers have advocated that listening is best understood when taking both a behavioral and cognitive approach simultaneously, with the view that listening includes mental processes that are exhibited through multiple listening behaviors (Bostrom, 1990; Brownell, 1990; Steil et al., 1983).

Regardless of the approach, there is little current agreement as to how to best define the construct of listening.

Historical Overview of the Evolving Definition of Listening

Multiple attempts have been made to define listening within the workplace environment for the purposes of enabling research on listening. Glenn (1989) found over 50 definitions and models in her review of the listening literature to that date. Unfortunately, in 2007, Janusik found that little has changed, and there is still a lack of consensus in the research community as to a common definition of listening. Table 2-4 provides an overview of several differing definitions of listening.

As can be seen in a scan of these definitions, listening is most often viewed as a process. Listening is a behavioral activity manifested by actions that can be perceived and interpreted by others. Over time, the definition has evolved beyond the process of hearing to also include attention to nonaural messages and the perceived meanings of the speaker, as well as the need for listener response to demonstrate that listening has truly occurred.

Glenn's (1989) content analysis of key words represented in 50 definitions of listening led to seven items that constitute the construct of listening:

1. Perception—reception, hearing, sensing, detecting
2. Attention—concentration, conscious effort, purposeful, selective, voluntary, active
3. Interpretation—understanding, comprehending, assigning meaning, identifying, recognizing, analyzing, assimilating, making sense
4. Remembering—retention, recall

Table 2-4
Definitions of Listening

Author	Definition of listening
Rankin (1929)	The ability to understand spoken language
Hook (1950)	The conscious, purposeful registration of sounds upon the mind (which) leads to further mental activity
Johnson (1951)	The ability to understand and respond effectively to oral communication
Barbe and Meyers (1954)	The process of reacting to, interpreting, and relating the spoken language in terms of past experience and further courses of action
Brown and Carlsen (1955)	The aural assimilation of spoken symbols in a face-to-face speaker audience situation, with both oral and visual cues present
Hampleman (1958)	The act of giving attention to the spoken work, not only on hearing symbols, but in reacting with understanding
Lewis (1958)	The process of hearing, identifying, understanding, and interpreting spoken language
Petrie (1966)	The composite process by which oral language communicated by some source is received, critically and purposefully attended to, recognized, and interpreted (or comprehended) in terms of past experiences and future experiences
Barker (1971)	The selective process of attending to, hearing, understanding, and remembering aural symbols
Kelly (1975)	A rather definite and deliberative ability to hear information, to analyze it, to recall it at a later time, and to draw conclusions from it
Hirsch (1979)	The process whereby the human ear receives sound stimuli from other people and through a series of steps interprets the sound stimuli in the brain and remembers it
Montgomery (1981)	Getting inside the other person and seeing things from his or her point of view
Steil, Barker, and Watson (1983)	Consists of four connected activities—sensing, interpreting, evaluating, and responding
Wolff, Marsnik, Tacey, and Nichols (1983)	A unitary-receptive communication process of hearing and selecting, assimilating and organizing, and retaining and covertly responding to aural and nonverbal stimuli
Wolvin and Coakley (1988)	The process of receiving, attending to, and assigning meaning to aural stimuli
Sayre (1987)	Receiving and attending to a message, interpreting the message (assigning meaning), evaluating the message, and responding to the message

Note. Adapted from "A Content Analysis of Fifty Definitions of Listening," by E. Glenn, 1989, *Journal of the International Listening Association, 3,* pp. 21-31.

5. Response—reacting, acting upon, evaluating, drawing conclusions, further activity or course of action
6. Spoken sounds—oral language
7. Visual cues—face-to-face, nonverbal (p. 25)

Emmert (1996), in his attempt to further the opportunities for a common basis for research, offered a definition of listening for the International Listening Association that is consistent with and synthesizes even further the findings of Glenn, with one exception. Emmert added an emotional component attributed to the listener, the idea of empathy. Comer and Drollinger (1999) have operationalized Emmert's definition in the development of their Active Empathetic Listening Scale. These two definitions can be seen in Table 2-5.

Table 2-5
Continued Development of Definitions of Listening

Author	**Definition of listening**
Emmert (1996)	Listening is the active process of receiving, constructing meaning from, and responding to spoken and/or nonverbal messages. It involves the ability to retain information, as well as to react empathically and/or appreciatively to spoken and/or nonverbal messages.
Comer and Drollinger (1999)	Active empathetic listening is the process whereby listeners receive verbal and nonverbal messages, process them cognitively, respond to them verbally and nonverbally, and attempt to assess their underlying meaning intuitively by putting themselves in the customers' place throughout.

Active Empathetic Listening

The work of Comer and Drollinger (1999) and Drollinger et al. (2006) continues to foster this stream of listening research by synthesizing listening, or particularly what they call active empathetic listening, into three dimensions:

1. Sensing—the physical receipt of the message
2. Processing—operations in the mind of the listener that assign meaning to incoming messages
3. Responding—the information that the listener sends back to speakers indicating that their messages have been received correctly (Comer & Drollinger, 1999)

These three elements are overlaid with the empathetic notion of Emmert, which Drollinger and her colleagues built on the work of Carl Rogers, in which empathy is defined as the ability "to perceive the internal frame of reference of another with accuracy, and with the emotional components and meanings . . . as if one were the other person, but without ever losing the 'as if' condition" (Rogers, 1959, p. 210). Listening reduces the threat of being criticized, making the speaker feel as if his or her ideas are worthwhile and of value (Rogers & Farson, 1987). These acts of listening in the supervisor-subordinate relationship would appear to diminish the fear that is created when concern about being judged is present and should therefore support the creation of greater feelings of psychological safety.

Listening and the Supervisor-Subordinate Relationship

The relationship between supervisor and subordinate is a core link to how an organization is structured and functions and has been a key focus of organizational study since the 1950s. Jablin (1979) provided an overview of almost 30 years of literature beginning at that time regarding the interpersonal dyadic interactions between supervisors and subordinates; he specifically defined their communication as "limited to those exchanges of information and influence between organizational members, at least one of

whom has formal (as defined by official organizational sources) authority to direct and evaluate the activities of other organizational members" (p. 1202).

It is interesting to note that of the nine communication elements Jablin focused on, each is primarily transactional in nature and is about transmitting information. These elements rarely consider how one receives that information or perceives how the other may be receiving it. The singular exception to this occurs in the discussion regarding openness (p. 1203) and effectiveness (p. 1208), where Jablin referenced the prior literature review by Redding (1972).

The Supervisor's Role in Listening to Subordinates

Listening is a primary skill and activity for supervisors (Brownell, 1994a; Waner, 1995). According to Brownell (1994a), a listening environment is created by a supervisor actively listening to subordinates, by those subordinates actively perceiving and interpreting those listening behaviors, and by other organizational members perceiving the dyadic interactions. This listening environment is created in the interaction between the supervisor and his or her subordinates.

Brownell built her theory from the seminal work of Shiffrin and Schneider (1977), who determined that individuals draw out different things from their environments, selecting out and hearing different data based on how they interact with the world. These interactions with the world are exhibited through behaviors that can be identified and seen by observers. As noted by Lewis and Reinsch (1988), people use "observable behaviors to form impressions of unobservable, internal mental processes" (p. 64). By selecting out data based on what the subordinate observes regarding listening, the subordinate then draws conclusions on the effectiveness of the supervisor's listening.

This perception of how effectively the supervisor listens has been shown to be related to the supervisor's success. For example, Sypher, Bostrom, and Seibert's (1989) survey of employees at a large insurance company headquarters in the United States found that how one perceives another's listening ability is the window through which all of his or her other communication abilities are evaluated. They also found that better listeners held more senior positions within the organization and were promoted more frequently than those that were perceived to not listen as well.

While Sypher et al.'s (1989) sample size was small (N = 36), their findings are consistent with other findings related to listening at work. For instance, Waner's (1995) study found that business professionals viewed listening as one of the most important communication competencies required for success. This is also congruent with the findings of DiSalvo and Larsen (1987), whose stratified random sampling survey of 470 recent college graduates found that the perception of these entrants to the workforce was that, regardless of the occupation or profession, listening ability was one of the top three most important communication skills required for professional success. The other two skills were speaking and persuasion abilities.

Listening Effectiveness

What determines listening effectiveness is defined in a multiplicity of ways, and there is little agreement among scholars (Brownell, 1994b; Glenn, 1989). While it is unclear if those who are perceived as effective listeners are truly more effective than their colleagues (Brownell, 1994b), it may still be imperative for supervisors to listen well and to behave in such ways as to strengthen employees' perceptions that they are being heard (Brownell, 1994a).

Further drawing on Shiffrin and Schneider's (1977) work, Watson, Barker, and Weaver (1995) noted that the way an individual chooses to listen reflects the various attitudes, beliefs, and predispositions about what he or she selects to hear. Alternatively, being locked into a singular way of listening limits the input the receiver can take in. This listening habit limits the effectiveness of a supervisor's listening by narrowing the range of listening behaviors (Brownell, 2002) that can be employed to increase the listener's ability to listen well and to be perceived as a better listener.

In two earlier studies, Johnson and Bechler (1998) and Bechler and Johnson (1995) identified a relationship between perceived listening effectiveness and perceived leadership emergence within a small group organizational context. Through their examination of the behavioral listening literature, they determined nine listening behaviors that create a perception of listening effectiveness:

1. Staying focused on discussions during meetings
2. Demonstrating interest in what others are saying
3. Trying to clarify by repeating or rephrasing what has been said
4. Not interrupting others when they are speaking
5. Asking questions to get at what others mean
6. Not offering judgments on what is said until the speaker is finished and the message is understood
7. Maintaining eye contact with people who are speaking
8. Indicating interest in people who are speaking through "body language" (posture, not fidgeting, etc.)
9. Providing clear responses to questions

These behaviors were examined using a 5 point-Likert scale, with a 1 indicating the "most skilled listener" and a 5 indicating the "least skilled listener" (Johnson & Bechler, 1998, p. 461). Thus, there is a growing knowledge as to what specific behaviors constitute effective listening within supervisory relationships. Supervisors can decide whether or not to implement these behaviors, but the perceptions of a supervisor's listening effectiveness create a variety of potential impacts on subordinates and others.

The Impact of Supervisor Listening

The impact of supervisor listening on subordinates is multifold. For instance, Lobdell, Sonoda, and Arnold (1993) surveyed 278 employees of a technical unit at a large utility company in the Southwestern United States using a 69-question assessment with a 5-point Likert-type scale. They determined that the better the supervisor was perceived as listening, the more responsive subordinates perceived them to be. They also found a positive association between a perception of good supervisor listening behaviors and how the subordinate perceived the openness of the organization as a whole. There appeared to be a positive association between a supervisor's good listening behaviors and the subordinate's individual sense of control and empowerment. Lastly, there was a moderately positive association between perceived supervisor listening and the employee's sense of commitment.

Lobdell et al. (1993) also found that supervisory listening was not a neutral concept and that less effective listening also had negative impacts. They determined that the worse the supervisor was perceived as listening, the less responsive subordinates perceived them to be, and the less openness there was. They found that poorer listening diminished the subordinate's individual sense of control and empowerment. Lastly, a lack

of perceived supervisor listening was also related to a lower level of the employee's sense of commitment.

These findings were affirmed in the field study and follow-up survey by Stine, Thompson, and Cusella (1995), who found that supervisors perceived as being good listeners were also perceived as being supportive of the subordinate. They also found strong support for the hypothesis that perceptions of supervisor listening of the subordinate were correlated with subordinate perceptions of how trustworthy the supervisor was.

This in turn impacts the employee's performance. Ellinger, Ellinger, and Keller (2003) found that how a supervisor listens in his or her dyadic relationships with subordinates directly equated to employee satisfaction. Perceived support from the supervisor was equated with organizational support, which, in their perspective, led to more committed and motivated employees interested in improving the effectiveness of the organization. Through listening, the supervisor was perceived as being committed to the subordinate's success. Given that, due to the norm of reciprocity (Gouldner, 1960), the subordinate would be inclined to be committed to the supervisor's success and the success of the organization as a whole.

Listening continues to be seen as a highly desirable workplace skill (Cooper, 1997; Nichols & Stevens, 1957), given that it can help promote open communication and may result in stronger perceptions of supportiveness, trustworthiness, motivation, and productivity (Stine et al., 1995). As a matter of fact, it is assumed, even though it has not been conclusively demonstrated by the research, that supervisors' listening to their

subordinates has numerous positive impacts including people feeling more respected and included (Alvesson & Sveningsson, 2003).

Support to Explore a Relationship Between Listening and Psychological Safety

Rogers (1961) delineated three activities as essential for the creation of psychological safety: acting so that each individual feels unconditionally accepted, eliminating external evaluation by ceasing to use our own frame of reference to form judgments, and using empathy to create understanding. This caring, suspension of judgment, and empathy all require a focus on the other person. This focus is demonstrated through a predominance of effectively and empathetically listening to the other person.

Incorporating the three elements that Rogers denoted is necessary to create psychological safety. Comer and Drollinger (1999) and Drollinger et al. (2006) developed the Active Empathetic Listening Scale, which combines traditional active listening models of sensing, processing, and responding with the quality of empathy. It has yet to be demonstrated, however, that effective active empathetic listening actually leads to the creation of a sense of psychological safety. However, the two concepts build off similar foundations. They can be explicitly seen to be linked in their theoretical underpinnings in the client-focused therapy work of Carl Rogers.

Conclusion

Dyadic psychological safety plays an integral part in supervisor-subordinate conversations. Tynan noted that "understanding the threat sensitivity and face giving characteristics of a dyad is important to understand how upward communication is likely

to proceed in that dyad, mediated by perceptions of self and other psychological safety" (Tynan, 2005, p. 244). It follows logically that how that upward communication is likely to proceed is mediated by perceptions of self and other psychological safety; in addition, how the upward communication is perceived to be received (i.e., how the subordinate perceives how he or she is being listening to by the supervisor) is also impacted by self and other psychological safety. This has been noted in the literature. For example, Abraham (2004), in her review of the literature regarding emotional intelligence, postulated that listening is an underlying supervisory competence that leads to the creation of a perception of psychological safety. It is this perception of dyadic psychological safety and its relationship to the supervisory competence of listening that this study explored further.

CHAPTER 3:

RESEARCH METHODOLOGY

Research on communication in the supervisor-subordinate relationship has been taking place for more than 50 years (Jablin, 1979). This research includes examining the concept of listening as one of the communication processes. Listening as a theoretical construct suitable for research continues to evolve (Emmert, 1996) and appears to have an important impact on the supervisor-subordinate relationship (Alvesson & Sveningsson, 2003; van Vuuren et al., 2007). There is emerging empirical evidence regarding listening as a construct as conceived by Comer and her colleagues (Comer & Drollinger, 1999; Drollinger et al., 2006) in what they term active empathetic listening.

The communication between supervisor and subordinate was one of the key elements of focus for Tynan (2005) and her work on the construct of dyadic psychological safety. Tynan investigated how the subordinate's interaction with his or her supervisor informed the view of his or her own sense of psychological safety (i.e., self psychological safety) and view of the supervisor's (i.e., other) psychological safety. It is the behaviors that constitute the interaction within the relationship of the supervisor and subordinate that contribute to this sense of self and other psychological safety that await exploration.

Some managerial behaviors and activities have been shown to have an effect on the sense of dyadic psychological safety that exists among subordinates. However, it is unclear how this perception of dyadic psychological safety is actually formed within the supervisor-subordinate relationship and the role, if any, that listening may play in the creation of it. The problem this research addressed is the lack of empirical data on the

contributing factors that create a sense of psychological safety, in particular the relationship between psychological safety and perceived listening effectiveness. This study addressed this gap by specifically looking at active empathetic listening, one of the elements of supervisor-subordinate communication, and its potential relationship to self psychological safety and to other psychological safety.

This chapter begins with a restatement of the research questions and hypotheses explored in this study. The second part of the chapter provides an overview of the research process, which includes the rationale for using a survey methodology for this study. The third part of the chapter describes the research procedures: the sample and population, instrumentation, and procedures for collecting, handling, and analyzing the data. The chapter concludes with an overall summary of the methodology employed in this study.

Research Questions and Hypotheses

In order to gain an understanding of how a perception of empathetic listening may or may not impact dyadic psychological safety from the point of view of the subordinate, this study explored the following research questions:

1. What is the relationship between a subordinate's sense of self psychological safety and perceived empathetic listening of his or her supervisor?
2. What is the relationship between a subordinate's sense of other psychological safety and perceived empathetic listening of his or her supervisor?

Assuming that listening has a positive impact on psychological safety, the following initial hypotheses were generated:

H1a: The higher the degree to which a subordinate perceives his or her superior to be empathetically listening, the more likely the subordinate will feel a higher degree of self psychological safety.

H1b: The higher the degree to which a subordinate perceives his or her superior to be empathetically listening, the more likely the subordinate will feel a higher degree of other psychological safety.

The understanding of listening as a behavior has evolved and expanded over time to include the elements of listening as process, listening as responding, and listening as sensing. All three elements were hypothesized to affect psychological safety:

H2a: The higher the degree to which a subordinate perceives his or her superior to be effectively processing as a listener within their communication, the more likely the subordinate will feel a higher degree of self psychological safety.

H2b: The higher the degree to which a subordinate perceives his or her superior to be effectively processing as a listener within their communication, the more likely the subordinate will feel a higher degree of other psychological safety.

H3a: The higher the degree to which a subordinate perceives his or her superior to be effectively responding as a listener within their communication, the more likely the subordinate will feel a higher degree of self psychological safety.

H3b: The higher the degree to which a subordinate perceives his or her superior to be effectively responding as a listener within their communication, the more likely the subordinate will feel a higher degree of other psychological safety.

H4a: The higher the degree to which a subordinate perceives his or her superior to be effectively sensing as a listener within their communication, the more likely the subordinate will feel a higher degree of self psychological safety.

H4b: The higher the degree to which a subordinate perceives his or her superior to be effectively sensing as a listener within their communication, the more likely the subordinate will feel a higher degree of other psychological safety.

Rationale for Using a Survey Methodology

This study employed a nonexperimental quantitative research approach. It did not explore causality; rather, it took a preliminary look at whether or not an observable relationship existed between the two constructs of psychological safety and perceived empathetic listening in the supervisor-subordinate relationship. Surveys are helpful tools when a researcher is trying to describe the characteristics of a population. That is, surveys are used for looking at *what* some observed distribution of characteristics is within a population, rather than *why* it exists (Fraenkel & Wallen, 2000, p. 432). Surveys have been demonstrated to be a reasonable approach to exploring the relationship between constructs (Alreck & Settle, 1995). Given this rationale, a survey was determined to be an appropriate method for undertaking this course of study.

Research Procedures

Research Site and Participants

The total population (N = 145) of U.S. employees from a leading Internet-based research company, founded in 1999 and headquartered in the Northeastern United States, served as the participants for the study. Employees in the organization are dispersed

across five geographic locations within the United States and Puerto Rico. Four of the locations within the organization perform the same activities and are predominantly client facing (i.e., they work with external customers). The fifth location provides research and back-up support for the other four offices' work with clients. In a hierarchical organization such as this, all employees have a supervisor to whom they are held accountable (Jaques, 1989). Therefore, all of the employees experience a supervisor-subordinate relationship and were surveyed regarding their immediate supervisory relationship. No employees were excluded from the opportunity to participate in the study.

Sample Design

This study employed a comprehensive sampling approach in that every employee was surveyed given the small population and the desire to ensure an adequate sample size representative of the population. Given the population of 145, the sample size required for this study, with a confidence interval of 5 and a confidence level of 95%, was 105 respondents.

The initial survey invitation email was sent to the entire site population of 145 potential study participants. A total of 126 responses were received. Seven surveys were eliminated from the final sample, as they were incomplete. The final sample size for this study was therefore 119 participants, which exceeded the minimum threshold of 105. Valid responses were thus received from 82% of the potential study participants who were sent the email invitation to participate.

Participant Demographics

Of the 119 respondents, a slight majority (56.3%) were women, and more than half (52.1%) were in their 20s (see Table 3-1).

Table 3-1
Participant Age

Group	%	N
20 less than 30	52.1	62
30 less than 40	35.3	42
40 and older	10.9	13
Missing data	1.7	2

Almost two thirds (64.7%) of the respondents identified themselves as white, 14.3% identified themselves as Asian, and 6.7% identified themselves as Hispanic or Latino. All other ethnic identifications constituted less than 3% per category (Table 3-2).

Table 3-2
Participant Ethnicity

Group	%	N
White	64.7	77
Hispanic or Latino	6.7	8
Asian	14.3	17
White and Hispanic or Latino	1.7	2
Some Other Race	3.4	4
Black or African America	2.5	3
White and American Indian	.8	1
White and Asian	1.7	2
American Indian, White, and Asian	.8	1
Native Hawaiian	.8	1
Missing data	1.7	3

Further, approximately three fifths (57.1%) of the study sample had been with the organization less than 3 years. Approximately one fifth each had been with the organization less than 1 year, from 1 to 2 years, and from 2 to 3 years (see Table 3-3).

Table 3-3
Participant Tenure

Group	**%**	**N**
Less than 1 year	19.3	23
>1 and less than 2 years	18.5	22
>2 and less than 3 years	19.3	23
>3 and less than 4 years	13.4	16
>4 and less than 5 years	10.9	13
>5 and less than 6 years	5.0	6
>6 and less than 7 years	4.2	5
>8 and less than 9 years	5.9	7
>9 and less than 10 years	1.7	2
> 10 years	1.7	2
Missing data	0	0

Instrumentation

Data were gathered using an online survey tool incorporating five subscales. These consisted of Tynan's (2005) Dyadic Psychological Safety Scales (i.e., self psychological safety and other psychological safety) and Drollinger et al.'s (2006) three subscales from the Active Empathetic Listening Scale (i.e., sensing, processing, and responding), which constitute a sense of listening effectiveness when combined. While the two preexisting instruments have not been used widely, they have been shown to demonstrate acceptable validity and reliability. This study correlated scores pertaining to perceived listening effectiveness with levels of self and other psychological safety. All analyses were performed at the individual level. Appendix A presents the online survey, and the following sections provide additional details about the instruments.

Dyadic Psychological Safety Scales

Tynan's (2005) Self Psychological Safety Scale and Other Psychological Safety Scale were chosen for this study because of their use in the initial study of dyadic

psychological safety, their development based on the definition of psychological safety used for this study, and their psychometric properties. Tynan's original study surveyed 49 business school students who were asked to "think about their last boss or supervisor" (Tynan, 2005, p. 237). It was Tynan who developed the idea of psychological safety as a dyadic construct consisting of a person's view of himself or herself (self psychological safety) and an individual's view of his or her perception of the sense of psychological safety held by another (other psychological safety).

The Self Psychological Safety Scale was developed by Tynan based on the work of Edmondson (1999a). Edmondson's original instrument was based on qualitative interview data collected in the first phase of her study. This scale was developed to measure "how emotionally safe an individual feels with another, whether he or she feels the other is likely to embarrass him or her, and how much he or she feels trusted and respected by the other" (p. 229). It was derived from the examples and definition of psychological safety developed by Edmondson (1999a). The scale contains seven items, measured on a 9-point Likert scale with responses that range from 1 (not at all true) to 9 (very true). The items were originally framed in the past tense, given the student population being surveyed. As this study looked at real-time work relationships, and given Tynan's instructions in her study to consider boss and supervisor interchangeably (Tynan, 2005, p. 237), the items were slightly modified (see Table 3-4).

Table 3-4
Self Psychological Safety Items

Original	**Modified**
My boss had the best of intention toward me.	My supervisor has the best of intentions toward me.
The boss really cared about me.	My supervisor really cares about me.
The boss respected my abilities.	My supervisor respects my abilities.
The boss was interested in me as a person.	My supervisor is interested in me as a person.
I trusted the boss.	I trust my supervisor.
The boss would go to bat for me.	My supervisor would go to bat for me.
I felt the boss would work for my best interest.	I feel my supervisor works for my best interest.

The Other Psychological Safety Scale was created "to measure how safe the subordinates felt their supervisor to be in their relationship and how much they worried about their supervisor's psychological safety" (Tynan, 2005, p. 239). Tynan's scale contains five items, all reverse scored, measured on a 9-point Likert scale from 1 (not at all true) to 9 (very true). As this study considered real-time work relationships, and given Tynan's instructions to consider boss and supervisor interchangeably (Tynan, 2005, p. 237), the items were slightly modified (see Table 3-5).

Table 3-5
Other Psychological Safety Items

Original	**Modified**
The boss wanted others to support his/her ideas. (R)	My supervisor wants others to support his/her ideas. (R)
At some level I felt I had to tiptoe around the boss's feelings. (R)	At some level, I feel I have to tiptoe around my supervisor's feelings. (R)
The boss would get hurt feelings if criticized. (R)	My supervisor gets hurt feelings if criticized. (R)
The boss would get annoyed at some level if challenged. (R)	My supervisor gets annoyed at some level if challenged. (R)
At some level I felt the boss would be unhappy if I disagreed with him/her. (R)	At some level, I feel my supervisor will be unhappy if I disagree with him/her. (R)

Tynan's (2005) initial study hypothesized that the two psychological safety constructs would be distinct yet related and that they would both be useful in describing perceptions within dyadic relationships. Her initial hypothesis that the two constructs would be moderately correlated was strongly supported ($r = .57$, $p < .001$). They were distinct enough in her perspective to warrant further study (Tynan, 2005, p. 239).

Validity of the Dyadic Psychological Safety Scales

In Tynan's original study, both subscales had a high level of internal consistency ($\alpha = .93$ for the Self Psychological Safety Scale; $\alpha = .82$ for the Other Psychological Safety Scale). In the present study, Cronbach's alphas were slightly higher ($\alpha = .96$ for the Self Psychological Safety Scale; $\alpha = .85$ for the Other Psychological Safety Scale) and exceeded the recommended threshold of .70 (Nunnaly, 1978).

Active Empathetic Listening Scale

The Active Empathetic Listening Scale (Drollinger et al., 2006) was chosen for this study because it embraces a listening model that has a theoretical background similar to that of psychological safety. It bases its empathetic element on the therapeutic work of Rogers (1961) and his idea of unconditional positive regard. This is combined with three basic dimensions of listening: sensing, processing, and responding (Brownell, 1985). The scale was developed to better understand active empathetic listening and its impact on salespeople (Drollinger et al., 2006, p. 162), following up on earlier theoretical work that noted that active listening with a component of empathy was most effective in sales encounters (Comer & Drollinger, 1999).

Drollinger et al. (2006) originally generated 98 items from their review of the literature to measure three dimensions of active empathetic listening: sensing, processing, and responding. Following a q sort technique, the list of items was reduced to 13 measuring sensing, 18 measuring processing, and 16 measuring responding. The scale thus had 47 items that seemed to best capture the three dimensions of active empathetic listening they were seeking to measure.

In their second study, Drollinger et al. (2006) assessed the dimensionality of the newly generated scale items via an exploratory factor analysis. They also explored convergent validity using Pearson product moment correlations with two theoretically related variables. This study resulted in the elimination of items that overlapped or had loadings of less than .50. The remaining items comprise the scale that is currently in use, with items that seem to be appropriate for measuring empathetic listening.

Validity of the Active Empathetic Listening Scale

In their third and final scale development study, Drollinger et al. (2006) performed another exploratory factor analysis of the scale items, followed by a confirmatory factor analysis and second-order factor analysis. The second-order factor analysis showed that the three underlying subscales had strong support as representing the construct of active empathetic listening (p. 175). All items were measured on a 7-point Likert scale with responses ranging from 1 (never or almost never true) to 7 (always or almost always true). The confirmatory factor analysis demonstrated a high level of internal consistency for each scale: sensing (4 items), $\alpha = .76$; processing (3 items), $\alpha = .74$; and responding (4 items), $\alpha = .77$. The scale items and the results of the confirmatory factor analysis are displayed in Table 3-6.

Table 3-6
Confirmatory Factor Analysis for the Active Empathetic Listening Scale

Factor	Loadings[a]	Cronbach's alpha	Construct reliability	Variance extracted
Sensing		.76	.81	.52
I am sensitive to what my customers are not saying.	.75			
I am aware of what my customers imply but do not say.	.75			
I understand how my customer feels.	.70			
I listen for more than just the spoken words.	.67			
Processing		.74	.81	.59
I assure my customers that I will remember what they say by taking notes when appropriate.	.66			
I summarize points of agreement and disagreement when appropriate.	.88			
I keep track of points my customers make.	.75			
Responding		.77	.85	.59
I assure my customers that I am listening by using verbal acknowledgments.	.67			
I assure my customers that I am receptive to their ideas.	.70			
I ask questions that show my understanding of my customers' positions.	.85			
I show my customers that I am listening by my body language (e.g., head nods).	.84			
Fit statistics				
X^2	95.11			
Degrees of freedom	41			
Goodness of fit index	.91			
Adjusted goodness of fit index	.85			
Comparative fits index	.95			
Normed fit index	.92			
Root mean square error or approximation	.09			
Root mean square residual	.06			

Note. Adopted from "Development and Validation of the Active Empathetic Listening Scale," by T. Drollinger, L. Comer, and P. Warrington, 2006, *Psychology & Marketing, 23,* p. 174.
[a] All standardized factor loadings are significant at $p < .01$.

The current study confirmed these subscales and generated higher levels of internal consistency (sensing = .87, processing = .88, responding = .87) than were generated in the original study.

Given that this study took place in a nonsales environment and looked at a subordinate's perception of the supervisor's listening behaviors, the scales were slightly modified (see Table 3-7):

Table 3-7
Active Empathetic Listening Scale (Current)

Subscale	**Items**
Sensing	My supervisor is sensitive to what I am not saying. My supervisor is aware of what I imply but do not say. My supervisor understands how I feel. My supervisor listens for more than just the spoken words.
Processing	My supervisor assures me that he or she will remember what I say by taking notes when appropriate. My supervisor summarizes points of agreement and disagreement when appropriate. My supervisor keeps track of points I make.
Responding	My supervisor assures me that he or she is listening by using verbal acknowledgments. My supervisor assures me that he or she is receptive to my ideas. My supervisor asks questions that show his or her understanding of my positions. My supervisor shows me he or she listening by his or her body language (e.g., head nods).

Survey Data Collection

The online survey went live on June 10, 2009, and closed on June 22, 2009. Using a global email distribution list, study participants were recruited via email with an introduction to the study written by the president of the company (see Appendix B) that was sent on June 8, 2009. In a subsequent email generated on June 10, 2009, the subjects on the same email distribution list (provided by the director of human resources) were

sent individual notes requesting participation and providing each subject with a uniform resources locator (URL) linked to a secure web server where the questionnaire could be obtained and the data stored. Each subject was also provided with a unique access code and password in order to access the survey (see Appendix C).

This survey was hosted on the servers of Onlineworksolutions.com, which creates and administers custom web-based software for data and work solutions. The introductory page of the survey provided information about the study and requested informed consent before proceeding to the survey (see Appendix A). After clicking agreement to the information sheet's request for the subject's participation, the participant was taken to the survey. The final section of the survey requested demographic information and thanked respondents for their participation.

Upon completion of the survey, participants were asked to click a link labeled "submit." When the survey was completed and submitted, all identifying marks that could link the participant to the individual's data—name, email address, survey identification number, and password—were deleted. Once the password was deleted from the password list, it could not be reused. This ensured that duplicate records could not be created.

Since sending several notes to potential respondents of web surveys is the most effectual way to raise response rates (Cook, Heath, & Thompson, 2000), and to ensure that the minimum number of responses were received, two follow-up emails were sent to the entire population thanking those who had participated and requesting those who had not to complete the questionnaire. While the optimal timing for the sequence of web survey emails is unknown, a quick tempo tends to be preferable (Dillman, Smyth, &

Christian, 2009). Thus, these emails were sent 3 and 7 days after the initial email. A global email of thanks for completing the survey and encouragement for those who had not done so was also sent by the company president on June 19, 2009, 3 days prior to the closing of the survey. (Copies of all follow-up emails are found in Appendix D.)

As this survey was administered through the Internet, separate data entry was not required. Data were stored on a secure server, which was password protected and backed up nightly. It was not possible for data to be linked to individual participant responses or back to specific IP addresses or individuals. The data collected therefore remained anonymous and confidential.

Data Analysis

Data Cleaning

Data cleaning is the process whereby data are prepared to be used for a specific task. Data from the participant survey were uploaded from the web survey database and into a Microsoft Excel spreadsheet. The file was then emailed to the researcher from the web administrator and stored on two external storage drives. The spreadsheet was reviewed to optimize transfer into a Statistical Package for the Social Sciences (SPSS) v. 17 database. First, the top row, which contains the variable names, was reviewed in light of SPSS naming rules. Any names that did not conform were revised to meet SPSS conventions. The data were then reviewed by individual record to ensure completeness and consistency prior to conversion to SPSS. The Excel spreadsheet (*.xls) was imported via SPSS into an SPSS data file (*.sav), which was then employed to perform the desired analyses.

Exploratory Factor Analysis

One of the purposes most often addressed through an exploratory factor analysis is to "support the validity of newly developed tests or scales" (Worthington & Whittaker, 2006, p. 807). Since it appears that Tynan (2005) did not perform a factor analysis on the Dyadic Psychological Safety Scales she developed, and since the Active Empathetic Listening Scale employed in this study is relatively recent and has been minimally explored outside of its initial development, an exploratory factor analysis was performed on the psychological safety scales to see if additional evidence for the strength and validity of the scales could be provided and to gain a better understanding of the relationship between the variables.

For the Active Empathetic Listening Scale, a two-step approach as advocated by Worthington and Whittaker (2006) was performed. First, a factor analysis was completed, as the instrument was slightly revised. While it was proposed that a confirmatory factor analysis be performed, the data set was too small to perform the desired analysis (Anderson & Gerbing, 1988).

Statistical Analysis

For the initial data analyses, descriptive characteristics of the sample were identified, including frequencies, means, and standard deviations, along with overall scale results for the Active Empathetic Listening Scale and Dyadic Psychological Safety Scales.

Second, this study assumed that there was a positive relationship between supervisor empathetic listening and perceived self and other psychological safety for the

subordinate. Scatter plots depicting the relationships between the variables were created and analyzed.

Finally, after determining the correlation between the variables through the scatter plot analysis and examining the underlying factors that might be driving that correlation, the four hypotheses of the study were tested by calculating bivariate Pearson product moment correlations—the Pearson *r*—between the Dyadic Psychological Safety Scales and the three subscales of the Active Empathetic Listening Scale. Analyses of variance were also conducted to understand the impact of the demographic characteristics on participant responses.

Summary

This chapter reviewed the methods used through the course of this investigation. In summary, this institutional review board–approved quantitative study gathered data through a web-based survey from 119 of 145 employees in a single company, a response rate of 82%. Numerous efforts were made to ensure the validity of the results, which included both exploratory factor analysis and statistical analysis. These results are presented in the next chapter.

CHAPTER 4:

RESULTS

This study employed a nonexperimental correlational design using survey research. Survey research is a reasonable approach when exploring "what is" or "what might be" an observable relationship between constructs without any attempt to influence them (Frankel & Wallen, 2000). This chapter presents the quantitative research findings of this explanatory study investigating the relationship between self psychological safety, other psychological safety, and the perceived empathetic listening of supervisors in the workplace. It considered these initial research questions:

1. What is the relationship between a subordinate's sense of self psychological safety and perceived empathetic listening of his or her supervisor?
2. What is the relationship between a subordinate's sense of other psychological safety and perceived empathetic listening of his or her supervisor?

To address these questions, four hypotheses were developed. Hypothesis 1 stated that there would be a significant positive relationship between the subordinate's perception of his or her superior's empathetic listening and the subordinate's degree of self psychological safety as well as the subordinate's degree of other psychological safety. Hypotheses 2, 3, and 4 similarly hypothesized a significant positive relationship between the subordinate's sense of self and other psychological safety and the three individual constructs that constitute empathetic listening (i.e., processing, responding, and sensing).

This chapter presents the study findings in six sections. The first section addresses the verification of the instruments used in the study, which comprise the Dyadic

Psychological Safety Scales and Active Empathetic Listening Scale. The second section tests the assumptions regarding relationships between the proposed constructs. In the third section, the research hypotheses are tested. The fourth section addresses the validity of the findings, and the fifth section delineates the impact of various demographic factors on the results. Finally, a summary concludes this chapter.

Verification of the Instruments in the Study Population

Dyadic Psychological Safety Scales

The dyadic psychological safety items were derived by Tynan (2005) and comprise two scales. The Self Psychological Safety Scale was developed to measure "how emotionally safe an individual feels with another, whether he or she feels the other is likely to embarrass him or her, and how much he or she feels trusted and respected by the other" (Tynan, 2005, p. 229). The Self Psychological Safety Scale contains seven items, measured on a 9-point Likert-type scale with responses that range from 1 (not at all true) to 9 (very true). The Other Psychological Safety Scale was created "to measure how safe the subordinates felt their supervisor to be in their relationship and how much they worried about their supervisor's psychological safety" (Tynan, 2005, p. 239). This scale contained five items, measured on a 9-point Likert-type scale with responses that range from 1 (not at all true) to 9 (very true) and was reverse scored.

The means, standard deviations, and sample sizes for the Dyadic Psychological Safety Scales can be found in Table 4-1.

Table 4-1
Means, Standard Deviations, and Sample Sizes for the Dyadic Psychological Safety Scales

Item	Mean	SD	N
Self Psychological Safety Scale			
My supervisor has the best of intentions toward me.	7.18	1.73	119
My supervisor really cares about me.	6.90	1.82	119
My supervisor respects my abilities.	7.13	1.52	119
My supervisor is interested in me as a person.	6.66	1.86	119
I trust my supervisor.	6.84	1.85	119
My supervisor would go to bat for me.	6.82	2.00	119
I feel my supervisor works for my best interest.	6.55	1.95	119
*Other Psychological Safety Scale**			
My supervisor wants others to support his/her ideas.	7.25	1.52	119
At some level, I feel I have to tiptoe around my supervisor's feelings.	4.02	2.30	119
My supervisor gets hurt feelings if criticized.	3.28	2.03	119
My supervisor gets annoyed at some level if challenged.	3.68	2.19	119
At some level, I feel my supervisor will be unhappy if I disagree with him/her.	3.61	2.20	119

*Reverse-scored scale.

As shown, the scores for self psychological safety were relatively high and consistent across the scale questions, ranging from the lowest-rated survey item, "I feel my supervisor works for my best interest" ($M = 6.55$, $SD = 1.95$), to the highest-rated item, "My supervisor has the best of intentions toward me" ($M = 7.18$, $SD = 1.73$). The survey participants appeared to have a strong sense of self psychological safety. Regarding other psychological safety, given the reverse-scoring nature of the scale, the high score on the item "My supervisor wants others to support his/her ideas" ($M = 7.25$, $SD = 1.52$) denotes that this item was inconsistent with the other items in the scale, a finding also demonstrated in the principal components analysis. With this item discarded, the remaining scale item scores were relatively high and consistent, with the least favorable item being "At some level, I feel I have to tiptoe around my supervisor's

feelings" ($M = 4.02$, $SD = 2.30$), and the most favorable being "My supervisor gets hurt feelings if criticized" ($M = 3.28$, $SD = 2.03$). Thus, participants seemed to have a similarly high level of other psychological safety, although the standard deviation range for these responses was slightly wider than that for the self psychological safety responses.

Multiple methods can be used for factor extraction, and the debate about whether principal component analysis or factor analysis is preferred remains unresolved (Worthington & Whittaker, 2006). Results of both methods typically generate similar results, with discrepancies of practically no importance for generating subsequent understanding (Velicer & Jackson, 1990). The goal of performing principal components analysis is "to reduce the number of items while retaining as much of the original item variance as possible" (Worthington & Whittaker, 2006, p. 818). At the time of this study, an in-depth examination had not been performed on the scales as developed by Tynan (2005). This may be due to the fact that the Self Psychological Safety Scale is "nearly identical" (Tynan, 2005, p. 229) to the team psychological safety construct as developed and used extensively by Edmondson (1999a). Factor analysis is primarily associated with theory development and testing, whereas principal component analysis does not necessarily reflect the thought underpinning the construct (Tabachnick & Fidell, 2007).

As this study aimed to gain greater understanding and to validate the elements of the Dyadic Psychological Safety Scales as developed by Tynan, a principal components analysis was performed. Principal components analysis is used to uncover which variables in the group form cohesive subsets that are relatively independent of one another (Tabachnick & Fidell, 2007). The principal component analysis for the Dyadic

Psychological Safety Scales for the 119 subject responses converged in six iterations, using Varimax rotation and Kaiser normalization. Varimax rotation as developed by Kaiser (1958) was employed, as it is viewed as "the best orthogonal rotation and is overwhelmingly the most widely used orthogonal rotation in psychological research" (Fabrigar, MacCallum, Wegener, & Strahan, 1999, p. 281). An orthogonal rotation was chosen to maximize the variance and to see if the scales emerged consistently as developed by their originator.

The Kaiser-Meyer-Olkin measure of sampling adequacy, which "indicates the extent to which a correlation matrix actually contains factors or simply change correlations between a small subset of variables" (Worthington & Whittaker, 2006, p. 818), returned a value of .88. This surpasses the minimum threshold of .60 as suggested by Tabachnick and Fidell (2007) to perform a good factor analysis. The communalities were acceptable (>.75). Unrotated factors with Eigenvalues greater than 1.0 resulted in a possible two-component solution that accounted for 74.6% of the variance. Unrotated factors with Eigenvalues >.7 per Jolliffe (1972) resulted in a possible three-component solution, which accounted for 82.0% of the variance. Initial Eigenvalues can be found in Table 4-2.

Table 4-2
Initial Eigenvalues for the Dyadic Psychological Safety Items

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	6.967	58.062	58.062
2	1.980	16.497	74.559
3	.892	7.437	81.996
4	.508	4.232	86.228
5	.424	3.536	89.764
6	.381	3.178	92.942
7	.236	1.965	94.907
8	.199	1.659	96.565
9	.150	1.250	97.816
10	.122	1.018	98.834
11	.080	.671	99.505
12	.059	.495	100.000

The scree plot also suggested a possible two- or three-component solution to the principal components analysis (Figure 4-1).

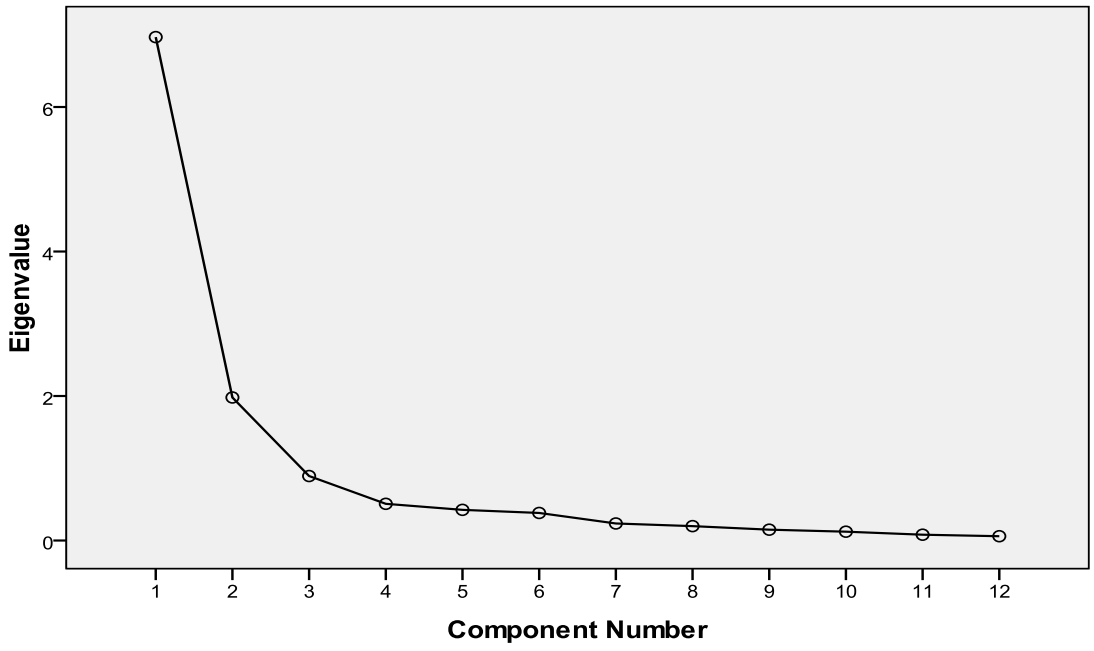

Figure 4-1. Principal components analysis scree plot for the Dyadic Psychological Safety Scale items.

Analysis of the components revealed that the first component consisted of the seven self psychological safety items as denoted by Tynan (2005) and had a Cronbach's alpha coefficient of .96. The second consisted of the remaining four items denoted by Tynan in her Other Psychological Safety Scale and had a Cronbach's alpha of .85. The component loadings can be found in Table 4-3.

Table 4-3
Principal Components Analysis for Varimax-Rotated Factor Matrix for Self and Other Psychological Safety (N = 119)

Item	Component Loading			Commun-ality
	1	2	3	
Component 1: Self Psychological Safety				
My supervisor has the best of intentions toward me.	**.90**	–.22	.04	.86
My supervisor really cares about me.	**.92**	–.19	–.01	.91
My supervisor respects my abilities.	**.81**	–.29	–.09	.79
My supervisor is interested in me as a person.	**.83**	–.22	–.07	.87
I trust my supervisor.	**.85**	–.31	.04	.88
My supervisor would go to bat for me.	**.87**	–.18	.18	.89
I feel my supervisor works for my best interest.	**.89**	–.25	.06	.91
Component 2: Other Psychological Safety				
At some level, I feel I have to tiptoe around my supervisor's feelings.	–.12	**.84**	.10	.80
My supervisor gets hurt feelings if criticized.	–.24	**.83**	.02	.75
My supervisor gets annoyed at some level if challenged.	–.31	**.87**	.07	.86
At some level, I feel my supervisor will be unhappy if I disagree with him/her.	–.35	**.83**	.04	.84
Unknown Component				
My supervisor wants others to support his/her ideas.	.06	.15	**.98**	.99

Seven of the variables loaded strongly on to Component 1, with values ranging from .81 to .92; these variables equate with the items in the Self Psychological Safety Scale as originally determined by Tynan. Thus, these seven questions reflect the self psychological safety construct as previously defined. Four of the variables loaded

strongly on to Component 2, with values ranging from .83 to .87, which reflects the Other Psychological Safety Scale as denoted by Tynan. There was one exception from the original Other Psychological Safety Scale, "My supervisor wants others to support his/her ideas," which may have loaded to an unknown component because it was open to interpretation as to whether the support of the supervisor's ideas should be viewed negatively or positively. Given the potential ambiguity, the responses to this item in the Other Psychological Safety Scale were removed before data analysis. Except for this item, all the items loaded to the self and other scales as expected based on Tynan's original instrument, thus giving credence to the scales as developed and their reflection of the underlying concepts of self and other psychological safety.

Active Empathetic Listening Scale

The Active Empathetic Listening Scale as derived by Drollinger et al. (2006) comprises three subscales that make up the construct of active empathetic listening: a four-item scale denoting sensing, a three-item scale denoting processing, and a four-item scale denoting responding. Drollinger et al. (2006) defined these subscales as follows. Sensing includes hearing the words of the speaker as well as perceiving the implied messages of the speaker that come through nonverbal signaling (p. 163). Processing refers to the "cognitive operations of the listener" and includes understanding, interpreting, evaluating, and remembering (p. 164). Lastly, responding "refers to the signals listeners send back to the speaker that indicate that they have been heard" (p. 164). All items were measured on a 7-point Likert-type scale with responses ranging from 1 (never or almost never true) to 7 (always or almost always true).

The means, standard deviations, and sample sizes for these three scales can be found in Table 4-4.

Table 4-4
Means, Standard Deviations, and Sample Sizes for the Active Empathetic Listening Scale

Item	Mean	SD	N
Component 1: Sensing			
My supervisor is sensitive to what I am not saying.	3.97	1.54	119
My supervisor is aware of what I imply but do not say.	4.08	1.54	119
My supervisor understands how I feel.	4.44	1.49	119
My supervisor listens for more than just the spoken words.	4.67	1.61	119
Component 2: Processing			
My supervisor assures me that he or she will remember what I say by taking notes when appropriate.	4.69	1.87	119
My supervisor summarizes points of agreement and disagreement when appropriate.	4.87	1.71	119
My supervisor keeps track of points I make.	4.88	1.66	119
Component 3: Responding			
My supervisor assures me that he or she is listening by using verbal acknowledgments.	5.31	1.51	119
My supervisor assures me that he or she is receptive to my ideas.	5.38	1.48	119
My supervisor asks questions that show his or her understanding of my positions.	5.34	1.56	119
My supervisor shows me he or she is listening by his or her body language (e.g., head nods).	5.45	1.44	119

Scores ranged from the lowest-rated survey item, “My supervisor is sensitive to what I am not saying” ($M = 3.97$, $SD = 1.54$), to the highest-rated item, “My supervisor shows me he or she is listening by his or her body language (e.g., head nods)” ($M = 5.45$, $SD = 1.44$), with standard deviations for the various items being relatively consistent. The means for the responding listening scale were higher across the board.

While Drollinger et al. (2006) performed an exploratory factor analysis in the creation of their instrument, this study also performed a principal components analysis, as all of the survey items had been slightly modified to adapt the instrument to a non–sales-

oriented environment. The principal component analysis converged in five iterations, using Varimax rotation and Kaiser normalization. The Kaiser-Meyer-Olkin measure of sampling adequacy returned a value of .89, surpassing the minimal threshold of .60. The communalities were acceptable (>.65). Unrotated factors with Eigenvalues greater than 1.0 resulted in a possible two-component solution that accounted for 73.1% of the variance. Unrotated factors with Eigenvalues greater than .7 resulted in a possible three-component solution that accounted for 79.5% of the variance. Initial Eigenvalues can be found in Table 4-5.

Table 4-5
Initial Eigenvalues for the Active Empathetic Listening Scale Items

Component	Initial Eigenvalues		
	Total	**% of Variance**	**Cumulative %**
1	6.903	62.756	62.756
2	1.135	10.315	73.071
3	.709	6.448	79.519
4	.495	4.496	84.015
5	.415	3.777	87.792
6	.321	2.920	90.712
7	.291	2.644	93.356
8	.259	2.352	95.708
9	.239	2.168	97.877
10	.119	1.080	98.956
11	.115	1.044	100.000

The scree plot also suggested a possible two- or three-component solution to the principal components analysis, as depicted in Figure 4-2.

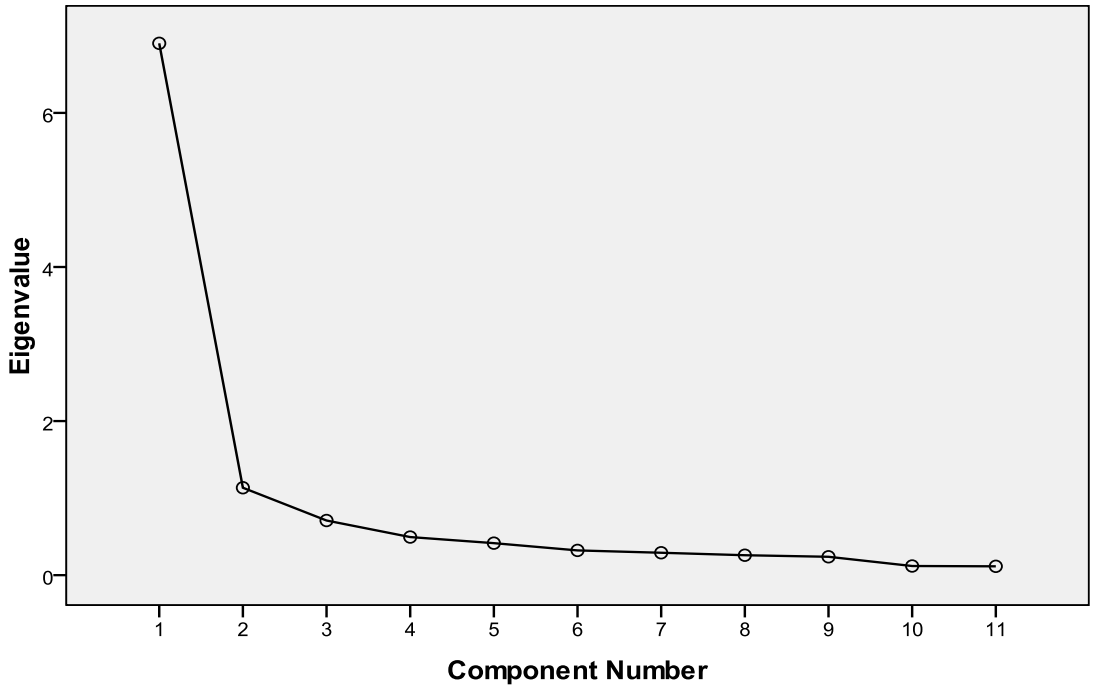

Figure 4-2. Principal components analysis scree plot for the Active Empathetic Listening Scale items.

The first component consisted of the four listening-–-responding subscale items as denoted by Drollinger et al. (2006) and had a Cronbach's alpha coefficient of .87. The second consisted of the remaining four items denoted by Drollinger et al. (2006) in their listening-–-sensing subscale and had a Cronbach's alpha of .87. The third consisted of the remaining three items denoted by Drollinger et al. (2006) in their listening-–-processing subscale and had a Cronbach's alpha of .88. The factor loadings for the current study can be found in Table 4-6.

Table 4-6
Factor Loadings for Active Empathetic Listening Scale Items (N = 119)

Item	Component			Commun-ality
	1	2	3	
Component 1: Sensing				
My supervisor is sensitive to what I am not saying.	**.86**	.16	.19	.80
My supervisor is aware of what I imply but do not say.	**.86**	.28	.15	.85
My supervisor understands how I feel.	**.60**	.19	.53	.67
My supervisor listens for more than just the spoken words.	**.58**	.22	.57	.72
Component 2: Processing				
My supervisor assures me that he or she will remember what I say by taking notes when appropriate.	.20	**.86**	.23	.84
My supervisor summarizes points of agreement and disagreement when appropriate.	.34	**.70**	.46	.81
My supervisor keeps track of points I make.	.29	**.68**	.53	.83
Component 3: Responding				
My supervisor assures me that he or she is listening by using verbal acknowledgments.	.15	.50	**.67**	.72
My supervisor assures me that he or she is receptive to my ideas.	.32	.26	**.80**	.81
My supervisor asks questions that show his or her understanding of my positions.	.26	.39	**.81**	.87
My supervisor shows me he or she is listening by his or her body language (e.g., head nods).	.18	.27	**.85**	.83

Note. Boldface indicates highest factor loadings.

The individual variables loaded consistently with the original subscales. Four of the items loaded on to Component 1 (.86, .86, .60, .58, respectively), which equates to the sensing subscale as denoted by Drollinger et al. (2006). Three of the items loaded on to Component 2 (.86, .70, .68, respectively), which equates to the processing subscale. The final four items loaded on to Component 3 (.67, .80, .81, .86, respectively), which equates to the responding subscale. For comparison, the original item loadings and Cronbach's alphas are shown in Table 4-7.

Table 4-7
Original Factor Loadings and Cronbach's Alphas for the Active Empathetic Listening Scale

Factor	**Loadings[a]**	**Cronbach's alpha**
Sensing		.76
I am sensitive to what my customers are not saying.	.75	
I am aware of what my customer imply but do not say.	.75	
I understand how my customer feels.	.70	
I listen for more than just the spoken words.	.67	
Processing		.74
I assure my customers that I will remember what they say by taking notes when appropriate.	.66	
I summarize points of agreement and disagreement when appropriate.	.88	
I keep track of points my customers make.	.75	
Responding		.77
I assure my customers that I am listening by using verbal acknowledgments.	.67	
I assure my customers that I am receptive to their ideas.	.70	
I ask questions that show my understandings of my customers' positions.	.85	
I show my customers that I am listening by my body language (e.g., head nods)	.84	

Note. Adopted from "Development and Validation of the Active Empathetic Listening Scale," by T. Drollinger, L. Comer, and P. Warrington, 2006, *Psychology & Marketing, 23,* p. 174.
[a] All standardized factor loadings are significant at $p < .01$.

Compared with the original results, the study results revealed few consistent patterns across individual items. However, Cronbach's alphas for the study population were consistently higher (see Table 4-8).

Table 4-8
Comparison of Cronbach's Alphas for the Active Empathetic Listening Subscales

Subscale	**Current study**	**Original study**
Sensing	.87	.76
Processing	.88	.74
Responding	.87	.77

Given the small number of questions in each subscale, these reliability measures indicate that the scales are highly consistent in reflecting the underlying subconstructs that are being measured (sensing, processing, and responding). Thus, these data give further credence to the reliability of these subscales.

If the factor loadings were rank ordered for both studies, the order was consistent from high to low in the variance explained between the study items and the original survey items. However, the current study loadings were often substantially higher or lower than the original loadings. Using the criteria of Comrey and Lee (1992), six of the study item loadings were greater than .71 and would be considered excellent (i.e., 50% overlapping variance); three of the study item loadings were greater than .63 and would be considered very good (i.e., 40% overlapping variance); and two of the study item loadings were greater than .55 and would be considered good (i.e., 30% overlapping variance). These final two study items from the sensing subscale ("My supervisor understands how I feel" and "My supervisor listens for more than just the spoken words") loaded substantially lower (.60 versus .70, .58 versus .67), which may be because they also loaded heavily (.53 and .57, respectively) on the responding subscale.

A similar finding can be found in the other two subscales. In the processing subscale, the item considered very good—"I summarize points of agreement and disagreement when appropriate"—had a loading of .88 in the original study. In the current study, it exhibited a loading value of .70 in the processing component and .46 in the responding component. As these examples demonstrate, the analysis noted overlaps in several of the subscale components. This is consistent with the findings of Drollinger et al. (2006), who found that the interfactor correlations between the pairs of dimensions

were .32 (sensing and processing), .50 (sensing and responding), and .63 (processing and responding).

Although part of the proposed study, the researcher was unable to perform a confirmatory factor analysis in hopes of providing greater clarity regarding these subscale overlaps due to an insufficient sample size: the minimum participation threshold to perform such analysis (N = 150), as determined by Anderson and Gerbing (1988), was not achieved. The possible implications of this overlap on the strength of the instrument and its implications for the current study are discussed in chapter 5. However, the principal components analysis validated that, even as modified to reflect the study context, the components as devised in the original subscales and in the slightly modified scales reflected the three individual listening processes as conceived. Such findings give credence to the use of the instrument in testing the study hypotheses.

Testing of Assumptions

In correlational studies, researchers seek to determine if a relationship exists among variables. While many different correlation coefficients are used to illustrate various relationships, the Pearson product moment correlation is most appropriate when the data for both variables are quantitatively expressed, both variables are interval or ratio data, and the scatter plot illustrates a straight line (Fraenkel & Wallen, 2000; Hinkle, Wiersma, & Jurs, 1998). Two primary assumptions, one of measurement and the other of distribution, underlie the use of Pearson product moment correlation (Hinkel et al., 1998): (a) both variables are measured on at least an interval scale (interval or ratio) and (b) the underlying distributions of both variables are normal, linear, and homoscedastic.

Regarding the first assumption, the Dyadic Psychological Safety Scales and Active Empathetic Listening Scale ensured the collection of interval data. While variables employing a Likert-type scale can be viewed as somewhat ambiguous, the variables can be treated as continuous (Tabachnick & Fidell, 2007). To explore assumptions of normality, linearity, and homoscedasticity, the researcher used histograms, scatter plots, and regression lines, which were generated to test for underlying distributions and relationships. The researcher confirmed that histograms portrayed normal distributions. For example, the histogram in Figure 4-3 illustrates a normal distribution for the Other Psychological Safety Scale. Histograms for the other study scales were similar, each portraying a normal distribution.

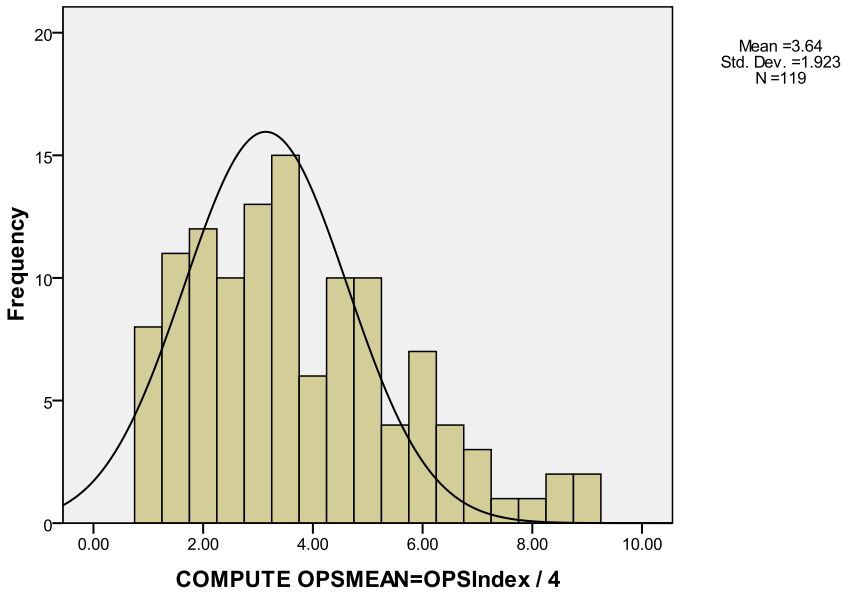

Figure 4-3. Histogram of Other Psychological Safety Scale means.

To test for homoscedasticity, the histograms and P-P plots in Figures 4-4 and 4-5 illustrate a normal distribution of the residuals. Histograms for the other study scale residuals were similar, each portraying a normal distribution and ensuring that assumptions of homoscedasticity were met.

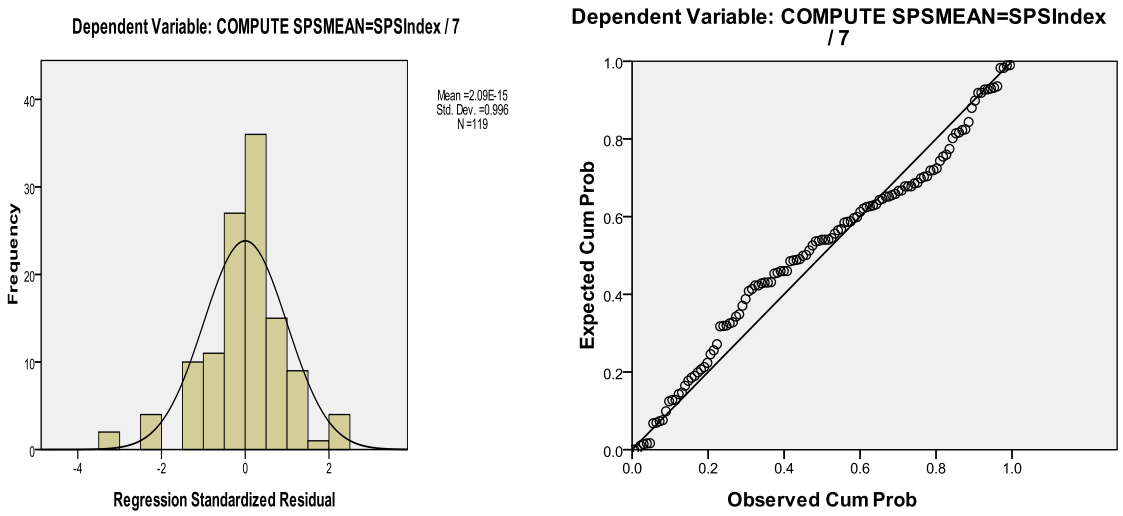

Figure 4-4. Histogram and P-P plot of standardized residuals for self psychological safety.

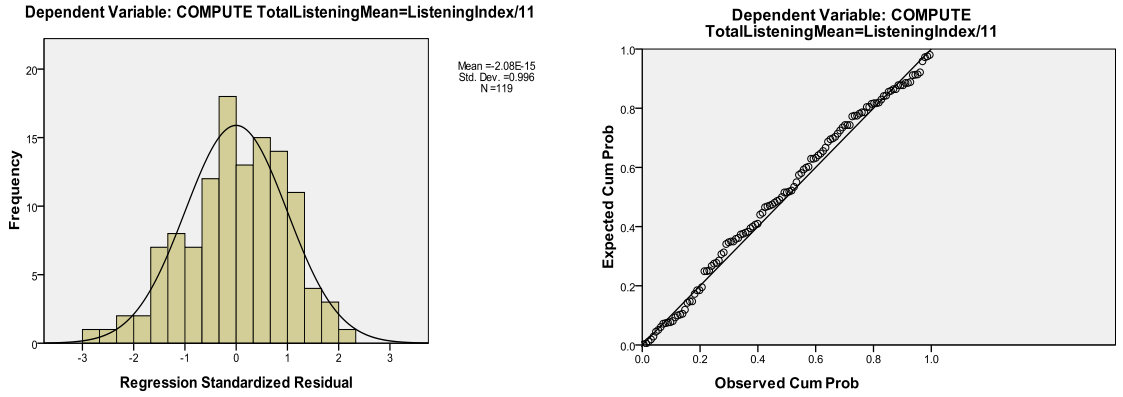

Figure 4-5. Histogram and P-P plot of standardized residuals for listening.

For the final assumption, a linear relationship was shown between active empathetic listening and self and other psychological safety (see Figures 4-6 and 4-7). The tests also demonstrated that the distributions exhibited satisfactory normality, linearity, and homoscedasticity.

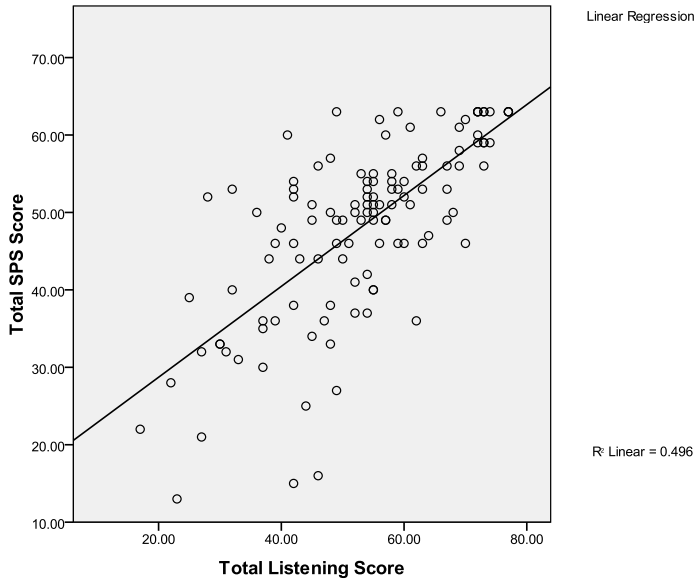

Figure 4-6. Relationship between self psychological safety and active empathetic listening.

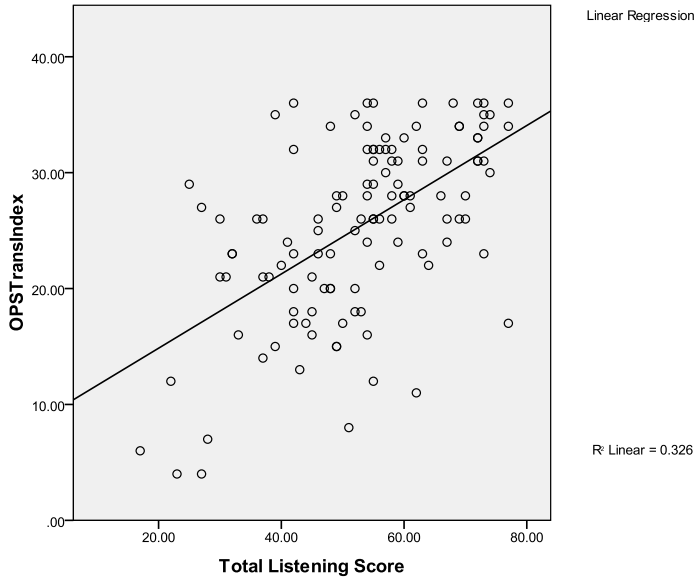

Figure 4-7. Relationship between other psychological safety and active empathetic listening.

As the testable hypotheses also concerned the relation between the Dyadic Psychological Safety Scales and the subscales of the Active Empathetic Listening Scale, scatter plots for the relationship between the Dyadic Psychological Safety Scales and the subscales of the Active Empathetic Listening Scale were also run and demonstrated linear relationships between the subscale constructs. Prior to running the tests, given that the Other Psychological Safety Scale was reverse-scored, the data were transformed to demonstrate the same direction of relationship as portrayed by the other scales. These scatter plots are shown in Figures 4-8 through 4-13.

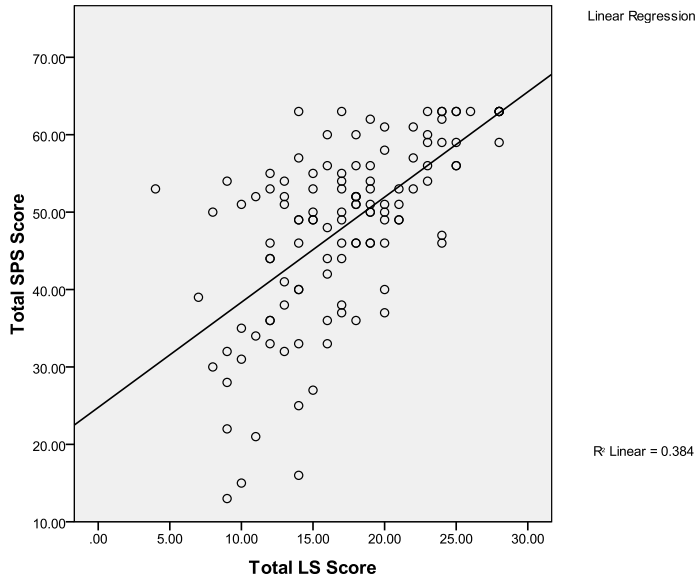

Figure 4-8. Relationship between self psychological safety and listening–sensing.

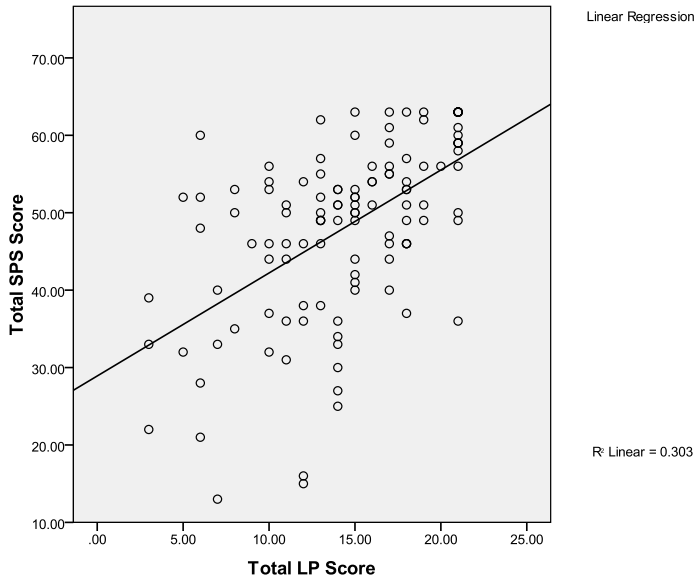

Figure 4-9. Relationship between self psychological safety and listening–processing.

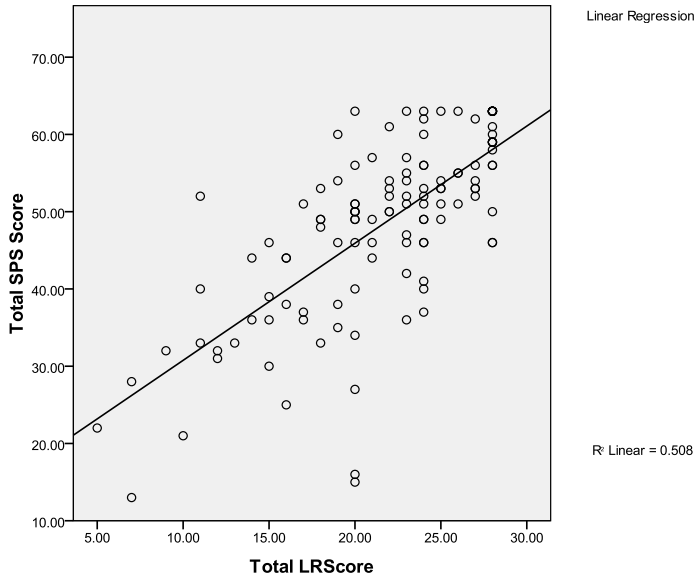

Figure 4-10. Relationship between self psychological safety and listening–responding.

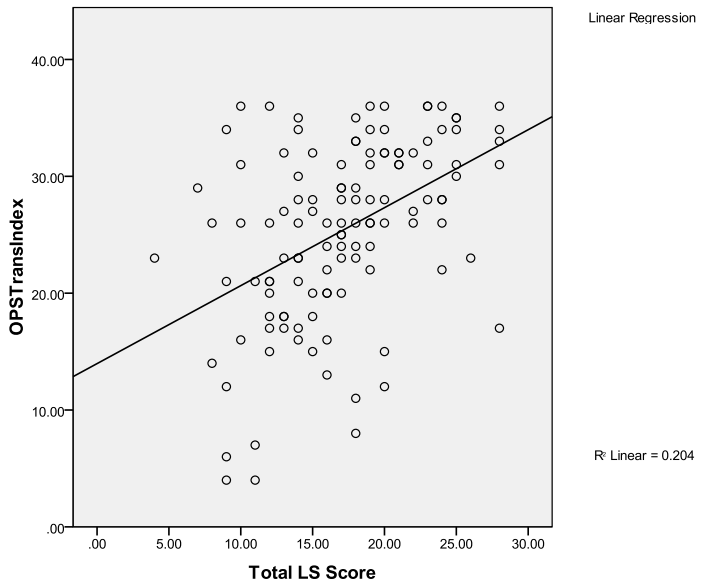

Figure 4-11. Relationship between other psychological safety and listening–sensing.

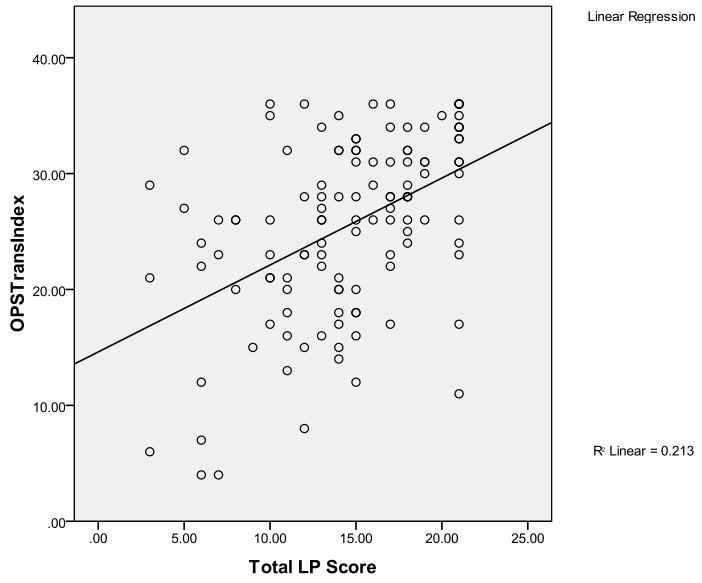

Figure 4-12. Relationship between other psychological safety and listening–processing.

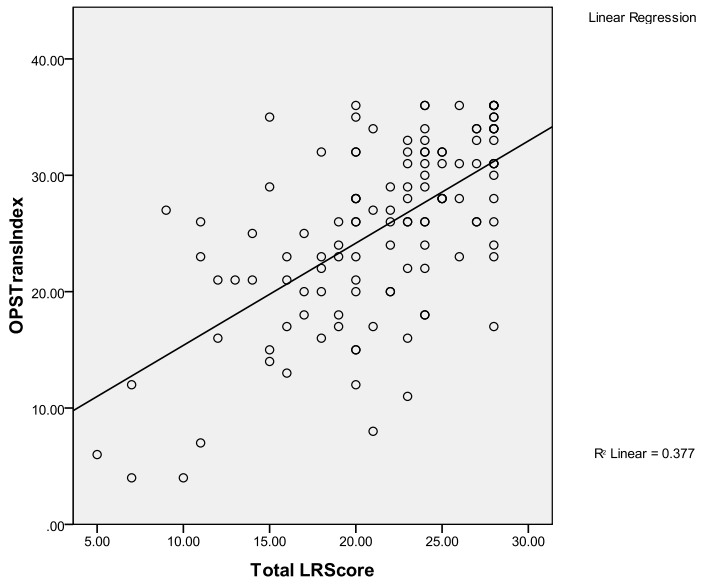

Figure 4-13. Relationship between other psychological safety and listening–responding.

In sum, all of the primary assumptions regarding the variables and their relationships were met. Multiple tests were conducted to confirm that assumptions of normality, linearity, and homoscedasticity were satisfied. It was also determined that there was indeed a correlation and linear relationship between the variables. Given this, the data and scales were shown to be acceptable to move forward with the testing of the study hypotheses.

Testing of Hypotheses

The hypotheses were formulated to determine what type of relationship exists between self psychological safety and empathetic listening, and between other psychological safety and empathetic listening, as viewed from the perspective of the subordinate in relationship to his or her superior. Four hypotheses were formulated. The first addressed listening as a whole in relationship to the dyadic psychological safety

constructs. The remaining three looked at the dyadic psychological safety constructs in relationship to the empathetic listening subscales (i.e., sensing, processing, and responding). The four hypotheses were as follows:

H1a: The higher the degree to which a subordinate perceives his or her superior to be empathetically listening, the more likely the subordinate will feel a higher degree of self psychological safety.

H1b: The higher the degree to which a subordinate perceives his or her superior to be empathetically listening, the more likely the subordinate will feel a higher degree of other psychological safety.

H2a: The higher the degree to which a subordinate perceives his or her superior to be effectively processing as a listener within their communication, the more likely the subordinate will feel a higher degree of self psychological safety.

H2b: The higher the degree to which a subordinate perceives his or her superior to be effectively processing as a listener within their communication, the more likely the subordinate will feel a higher degree of other psychological safety.

H3a: The higher the degree to which a subordinate perceives his or her superior to be effectively responding as a listener within their communication, the more likely the subordinate will feel a higher degree of self psychological safety.

H3b: The higher the degree to which a subordinate perceives his or her superior to be effectively responding as a listener within their communication, the more likely the subordinate will feel a higher degree of other psychological safety.

H4a: The higher the degree to which a subordinate perceives his or her superior to be effectively sensing as a listener within their communication, the more likely the subordinate will feel a higher degree of self psychological safety.

H4b: The higher the degree to which a subordinate perceives his or her superior to be effectively sensing as a listener within their communication, the more likely the subordinate will feel a higher degree of other psychological safety.

As these hypotheses were created to explore any significant relationships between dyadic psychological safety and active empathetic listening, Pearson product moment correlations were performed for the study population to identify the significance, strength, and direction of these relationships (see Table 4-9).

Table 4-9
Pearson Correlations of Dyadic Psychological Safety Scales and Active Empathetic Listening Scale

Scale	**1**	**2**	**3**	**4**	**5**	**6**
1. Self Psychological Safety	1.000					
2. Other Psychological Safety (reverse scored)	.529*	1.000				
3. Total listening score	.704*	.571*	1.000			
4. Listening–sensing	.620*	.452*	.873*	1.000		
5. Listening–processing	.551*	.461*	.900*	.665*	1.000	
6. Listening–responding	.713*	.614*	.914*	.673*	.773*	1.000

*Correlation is significant at the 0.01 level (two-tailed).

Table 4-9 shows statistical support for each of the hypotheses. In all cases, the null hypothesis was rejected. In support of Hypothesis 1, there was a significant positive relationship between perceived empathetic listening of the supervisor and the subordinate's sense of self psychological safety ($r = .704$, $p < .01$) as well as a significant positive relationship between perceived empathetic listening of the supervisor and the subordinate's sense of other psychological safety ($r = .571$, $p < .01$). These results

suggest that participants who have stronger perceptions of being listened to by their supervisors have greater levels of both self psychological safety and other psychological safety.

In support of Hypothesis 2, there was a significant positive correlation between perceived effective processing as an empathetic listener by the supervisor and the subordinate's sense of both self psychological safety ($r = .551$, $p < .01$) and other psychological safety ($r = .461$, $p < .01$). These results suggest that participants who have stronger perceptions of how their supervisors are processing as listeners have greater levels of both self psychological safety and other psychological safety.

In support of Hypothesis 3, there was a significant positive correlation between perceived effective responding as an empathetic listener and the subordinate's sense of both self psychological safety ($r = .713$, $p < .01$) and other psychological safety ($r = .614$, $p < .01$). These results suggest that participants who have stronger perceptions of how their supervisors are responding as listeners have greater levels of both self psychological safety and other psychological safety.

In support of Hypothesis 4, there was a significant positive relationship between perceived effective sensing as an empathetic listener by the supervisor and the subordinate's sense of both self psychological safety ($r = .620$, $p < .01$) and other psychological safety ($r = .452$, $p < .01$). These results suggest that participants who have stronger perceptions of how their supervisors are sensing as listeners have greater levels of both self psychological safety and other psychological safety.

Ensuring Validity of the Findings

Validity "refers to the degree to which evidence supports any inference a researcher makes based on the data he or she collects" (Fraenkel & Wallen, 2000, p. 169). As the current study was noncausal, the concerns of validity arise regarding the conclusion drawn, that is, that there truly is a relationship between the variables as the study demonstrates. The threat to conclusion validity can lead to two essential errors related to the nature of the studied relationship: the conclusion that there is no relationship when there is one or the conclusion that there is a relationship when there is, in fact, not one. A primary problem that can lead to a conclusion error is the violation of assumptions of statistical tests (Trochim, 2006). To address this concern, multiple tests were conducted to confirm that assumptions of normality, linearity, and homoscedasticity —the key assumptions underlying the usage of Pearson product moment correlations— were satisfied prior to running the correlations.

There are also three primary ways of improving estimations of conclusion validity. These are assuring good statistical power, good reliability, and good implementation (Trochim, 2006) through the study. For the current research, statistical power was strengthened by using a 0.01 significance level as opposed to the standard 0.05. Thus, there was only a 1 in 100 chance of finding a relationship when there was none, as opposed to a 5 in 100 chance. This power could have been further strengthened if the sample size were larger. However, the current study census did not enable a larger population to be surveyed.

Reliability of the findings was strengthened through the factor analysis performed on the scales, which enabled the researcher to eliminate excess noise in the findings. For

example, the elimination of the ambiguous statement, "My supervisor wants others to support his/her ideas" from the Other Psychological Safety Scale helped to strengthen the reliability of the instrument and improve the conclusion validity. Further development of all the scales would strengthen the validity of its conclusions even further.

Lastly, in terms of ensuring good implementation, the study administration protocols were standardized, easy to follow, and administered over a very short period of time with multiple follow ups. Participants were able to have questions answered at any time regarding taking the survey, and their confidential and anonymous participation was ensured. It is questionable if anything else could have been done to increase the effectiveness of the administration of the survey.

Given this, it is reasonable to state that apparent threats to conclusion validity were adequately addressed. One can be quite confident that, for the study population, there were indeed relationships as hypothesized and demonstrated statistically.

Addressing Threats to Internal Validity

While some may argue that threats to internal validity are irrelevant when considering correlational studies (Trochim, 2006), it can prove useful to examine possible threats to internal validity when there is a high level of correlation between variables and thus the potential for explanations regarding the relationship. According to Fraenkel and Wallen (2000), threats to internal validity such as implementation, history, maturation, attitude of subjects, and regression threats do not apply to correlational studies (p. 371). However, threats such as subject characteristics, location, instrumentation issues, and testing could be considered helpful to address.

Regarding subject characteristics, other variables may affect the correlations determined between psychological safety and listening that could impact the magnitude of the determined correlation. The amount of experience of the supervisor in managing others, the length of time the subordinate has been reporting to the supervisor, and whether or not the subordinate is co-located with the supervisors are just three examples of subject characteristics that could be controlled for through the use of partial correlations. Partial correlation could also be used to address location threat, that is, how different testing conditions/sites impact the data collection. Separate correlations for each site can be performed if the number of testing subjects is sufficiently large (N = 30), which was not the case in the current study.

Decay, data collector characteristics, and data collector bias are three instrumentation threats to internal validity. In this study, decay was not an issue as the instruments were used only once, not several times. Given there was one central administration and data collection point, with one data collector, threats of data collector characteristics and bias were also minimized.

The final threat to be considered regards testing bias, that respondents may respond to the second series of scale questions in a manner similar to their responses to the first scale. While the likelihood of this having a significant impact is minimal given the shortness of the scales and the operationalizing of them on separate, sequential data input screens, this threat may have been further minimized if the survey were done in two different iterations, separating the questions of the Dyadic Psychological Safety Scales from those of the Active Empathetic Listening Scale. However, this was not practical given the real-time business environment in which this study took place.

Impact of Demographics

As all of the hypotheses were supported by the results, the researcher tested for significant differences in scale ratings of the various constructs by performing one-way analyses of variance (ANOVA) employing the demographic categories of tenure, gender, age, and ethnicity as the grouping variables. ANOVA identifies whether or not there are statistically significant differences between the grouping variables and comparison constructs. The alpha was set at .05, which is the standard significance level for social science research.

Tenure

Regarding the criterion of tenure, there were no statistically significant differences in the views between those whose time with the company was 4 to 10 years (30% of those surveyed), 2 to 4 years (33% of those surveyed), and less than 2 years (38% of those surveyed). As indicated in Table 4-10, there were no significant differences on the importance given to self psychological safety ($F[2,118] = .87$, $p = .42$), other psychological safety ($F[2,118] = 2.08$, $p = .13$), listening–total ($F[2,118] = .92$, $p = .40$), listening–sensing ($F[2,118] = .41$, $p = .67$), listening–processing ($F[2,118] = .87$, $p = .42$), or listening–responding ($F[2,118] = 1.55$, $p = .22$).

Table 4-10
Analysis of Variance of the Importance of Psychological Safety and Listening by Tenure

	SS	df	MS	F	Sig
Self psychological safety					
Between groups	227.85	2	113.93	.87	.42
Within groups	15195.31	116	130.99		
Total	15423.16	118			
Other psychological safety					
Between groups	242.119	2	121.06	2.08	.13
Within groups	6740.87	116	58.11		
Total	6982.99	118			
Listening (total)					
Between groups	2.856	2	1.43	.92	.40
Within groups	180.82	116	1.56		
Total	183.67	118			
Listening–sensing					
Between groups	1.40	2	.70	.41	.67
Within groups	198.97	116	1.715		
Total	200.37	118			
Listening–processing					
Between groups	4.34	2	2.17	.87	.42
Within groups	298.31293	116	2.494		
Total	293.65	118			
Listening–responding					
Between groups	5.54	2	2.77	1.55	.22
Within groups	207.66	116	1.79		
Total	213.196	118			

Note. S = sums of squares; df = degrees of freedom; MS = mean square.

Age

Regarding the criterion of age, there was no significant difference between those less than 30 years of age (52%) and those 30 years of age and over (46%). As Table 4-11 indicates, there were no significant differences on the importance given to self psychological safety (F[1,116] = .03, p = .87), other psychological safety (F[1,116] = 2.48, p = .12), listening–total (F[1,116] = .69, p = .41), listening–sensing (F[1,116] = .39, p = .54), listening-–-processing (F[1,116] = 4.04, p = .05), or listening–responding (F[1,116] = .99, p = .32).

Table 4-11
Analysis of Variance of the Importance of Psychological Safety and Listening by Age

	SS	df	MS	F	Sig
Self psychological safety					
Between groups	3.72	1	3.72	.03	.87
Within groups	15371.21	115	133.63		
Total	15374.92	116			
Other psychological safety					
Between groups	147.22	1	147.22	2.48	.12
Within groups	6817.41	115	59.28		
Total	6964.63	116			
Listening (total)					
Between groups	1.082	1	1.08	.69	.41
Within groups	180.98	115	1.57		
Total	182.06	116			
Listening–sensing					
Between groups	.67	1	.67	.39	.54
Within groups	199.32	115	1.73		
Total	199.99	116			
Listening–processing					
Between groups	9.678	1	9.68	4.04	.05
Within groups	275.33	115	2.39		
Total	285.01	116			
Listening–responding					
Between groups	1.81	1	1.81	.99	.32
Within groups	209.35	115	1.82		
Total	211.16	116			

Note. S = sums of squares; df = degrees of freedom; MS = mean square.

Gender

Regarding the criterion of gender, the distribution of the sample was predominantly female (56.3%), and no significant difference was found in their views regarding listening of supervisors and self and other psychological safety. Table 4-12 indicates that there was no significant difference in the importance given to self psychological safety ($F[1,118] = .23$, $p = .63$), other psychological safety ($F[1,118] = .46$, $p = .50$), listening–total ($F[1,118] = .52$, $p = .82$), listening–sensing ($F[1,118] = .83$, $p = .36$), listening–processing ($F[1,118] = .36$, $p = .55$), or listening–responding ($F[1,118] = .05$, $p = .82$.

Table 4-12
Analysis of Variance of the Importance of Psychological Safety and Listening by Gender

	SS	df	MS	F	Sig
Self psychological safety					
Between groups	29.99	1	29.99	.23	.63
Within groups	15393.17	117	131.57		
Total	15423.16	118			
Other psychological safety					
Between groups	27.07	1	27.07	.46	.50
Within groups	6955.92	117	59.45		
Total	6982.99	118			
Listening (total)					
Between groups	.08	9	.08	.52	.82
Within groups	183.59	109	1.57		
Total	183.67	118			
Listening–sensing					
Between groups	1.410	1	1.41	.83	.36
Within groups	198.96	117	1.7		
Total	200.37	118			
Listening–processing					
Between groups	.901	1	.90	.36	.55
Within groups	292.75	117	2.50		
Total	293.65	118			
Listening–responding					
Between groups	.10	1	.10	.05	.82
Within groups	213.10	117	1.82		
Total	213.20	118			

Note. S = sums of squares; df = degrees of freedom; MS = mean square.

Ethnicity

Regarding the criterion of ethnicity, the survey population predominantly self-identified as white (65%) and demonstrated no statistically significant difference when compared with other ethnic groups as a whole. As Table 4-13 indicates, there were no significant differences in the importance given to self psychological safety (F[1,115] = .63, p = .80), other psychological safety (F[1,115] = 2.36, p = .13), listening–total (F[1,115] = .46, p = .50), listening–sensing (F[1,115] = .11, p = .74), listening–processing (F[1,115] = 1.56, p = .21), or listening–responding (F[1,115] = .94, p = .33).

Table 4-13
Analysis of Variance of the Importance of Psychological Safety and Listening by Ethnicity

	SS	df	MS	F	Sig
Self psychological safety					
Between groups	8.36	1	8.36	.63	.80
Within groups	15143.96	114	132.84		
Total	15152.31	115			
Other psychological safety					
Between groups	140.10	1	140.10	2.36	.13
Within groups	6765.45	114	59.35		
Total	6905.55	115			
Listening (total)					
Between groups	.72	1	.72	.46	.50
Within groups	178.53	114	1.57		
Total	179.25	115			
Listening–sensing					
Between groups	.20	1	.20	.11	.74
Within groups	198.87	114	1.74		
Total	199.07	115			
Listening–processing					
Between groups	3.84	1	3.84	1.56	.21
Within groups	279.81	114	2.45		
Total	283.65	115			
Listening–responding					
Between groups	1.70	1	1.70	.94	.33
Within groups	206.00	114	1.81		
Total	207.70	115			

Note. S = sums of squares; df = degrees of freedom; MS = mean square.

Chapter Summary

The results of this study were based on email surveys collected from 119 respondents employing the Dyadic Psychological Safety Scales as developed by Tynan (2005) and the Active Empathetic Listening Scale developed by Drollinger et al. (2006). The respondents were employees at an Internet research company based in the United States. The three subscales (processing, responding, sensing) of the empathetic listening

scale were all significantly correlated with the Self Psychological Safety Scale and Other Psychological Safety Scale, in support of Hypotheses 1 through 4.

CHAPTER 5:

CONCLUSIONS AND RECOMMENDATIONS

The chapter explores the results of this research study, which aimed to identify the relationship between feelings of self and other psychological safety by subordinates and the subordinate's perception of listening by his or her supervisor. As such, this chapter is divided into five sections. The first section provides an overview of the research study. In the second section, the findings of this study are discussed in light of current theory and literature regarding psychological safety and listening. The third section of this chapter explores the study implications in terms of theory, research, and practice. The fourth section lays out the limitations of this study prior to the fifth section, which concludes the chapter with final comments.

Summary of the Research Study

The existence of feelings of psychological safety by subordinates in the workplace has been demonstrated to have a number of positive impacts within multiple organizational environments. These various impacts include increasing the level of employee engagement (Kahn, 1990; May et al., 2004), affecting the employee's level of vitality and creativity (Kark & Carmeli, 2009), furthering the seeking of help and the admitting of errors (Tynan, 2005), enabling the ability to learn from failures (Carmeli, 2007; Carmeli & Gittell, 2009), strengthening the level of employee voice (Detert & Burris, 2007), and promoting increased productivity through greater job involvement and effort (Brown & Leigh, 1996). A lack of psychological safety has also been postulated to have numerous detrimental effects within the workplace. It has been theorized that a lack

of psychological safety would minimize personal growth (Maslow, 1968) and impede learning (Schein, 1993). Is has been shown that a lack of psychological safety inhibits innovation (West, 1990) and diminishes the ability to adapt to change (Bijlsma-Frankema, 2001).

While the numerous impacts of having a sense of psychological safety have been documented, there has been little research that empirically demonstrates the antecedent factors that contribute to its creation within the supervisor-subordinate relationship. Antecedent factors that have been addressed and determined to be related include actions by supervisors such as making oneself accessible to subordinates; providing direct one-on-one coaching; and communicating in an honest, open, and inspiring way (Edmondson, 2004). Edmondson also posited that the supervisory behaviors of "being available and approachable, explicitly inviting input and feedback, and modeling openness and fallibility" (Edmondson, 2004, p. 249) would contribute to the creation of psychological safety. These supportive behaviors were affirmed by Tynan (2005), who found that positive face-giving behaviors, such as giving compliments, approval, and praise, were positively correlated with the subordinate's sense of psychological safety.

From the therapeutic realm, according to Rogers (1961), three processes are associated with the creation of psychological safety. The first is the unconditional acceptance of each individual by assuming that he or she is of worth and of value by his or her very nature. This acceptance allows every person to sense the existence of a potential climate of psychological safety. The second is providing a climate in which external evaluation is not present. When we stop using our own frame of reference to form judgments of other individuals, and we cease evaluating them, we foster a sense of

psychological safety. Rogers found that the act of evaluation itself is always perceived as a threat and diminishes the perception of a feeling of being psychologically safe. The third is the act of understanding others empathically. Using empathy in trying to understand the other person provides the utmost in the creation of a feeling of having psychological safety, particularly when the other two elements are also present.

All of these processes as delineated by Rogers (1961) involve a deep listening by the supervisor to the subordinate. However, prior to this study, it had not been demonstrated empirically how listening may have an impact on the creation of psychological safety in the supervisor-subordinate relationship. This study aimed to address this problem by exploring two primary research questions: (1) What is the relationship between a subordinate's sense of self psychological safety and perceived empathetic listening of his or her supervisor? and (2) What is the relationship between a subordinate's sense of other psychological safety and perceived empathetic listening of his or her supervisor?

This study employed a nonexperimental, correlational design approach using two different instruments. The first instrument consisted of the Dyadic Psychological Safety Scales, measuring self psychological safety and other psychological safety, as developed by Tynan (2005). The second instrument consisted of three listening subscales—sensing, processing, and responding—as developed by Drollinger et al. (2006) in their Active Empathetic Listening Scale. Using a web-based survey, data were collected from 119 participants of a population of 145 employees of a leading Internet-based research company headquartered in the Northeastern United States. Of the participants, 85% were

between the ages of 20 and 40, and the majority self-identified as female, Caucasian, and having had less than 5 years of experience working with the company.

The study had three main findings:

1. The results of the statistical analysis determined that there was a significant positive relationship between a subordinate's sense of self psychological safety and his or her perception of the perceived empathetic listening of his or her supervisor. Based on the value of $r = .704$, $p < .01$, the strength of the positive correlation was high, based on the 'rule of thumb' interpretations for the size of the correlation coefficient as recommended by Hinkle et al. (1998). Calculating the coefficient of determination resulted in an $r^2 = .495$. Thus, in this particular case, 49.5% of the variance in the subordinate's sense of self psychological safety was associated with the variance in perceived empathetic listening of his or her supervisor.
2. There was a significant positive relationship between a subordinate's sense of other psychological safety and his or her perception of the perceived empathetic listening of his or her supervisor. Based on the value of $r = .571$, $p < .01$, the strength of the positive correlation was moderate (Hinkle et al., 1998). Calculating the coefficient of determination resulted in an $r^2 = .326$. Thus, in this particular case, 32.6% of the variance in the subordinate's sense of other psychological safety was associated with the variance in perceived empathetic listening of his or her supervisor.
3. Analysis of the two instruments, the Dyadic Psychological Safety Scales of Tynan (2005) and the Active Empathetic Listening Scale of Drollinger et al. (2006),

suggest that both instruments may need additional refinement to improve their effectiveness.

This study demonstrated that how a supervisor appears to listen to his or her subordinates has a high correlation with the subordinate's sense of self psychological safety and a moderate correlation with the subordinate's perception of how psychologically safe his or her supervisor feels, that is, other psychological safety. While not implying causality, and given that caution must be taken as to the magnitude of the correlations given the relatively small sample size, this study demonstrated that there is a significant relationship between a perception of listening by the supervisor and the perception of self and other psychological safety from the perspective of the subordinate. This relationship is explored further in the section that follows.

Discussion and Interpretation of Findings

This section discusses the evidence in support of the hypotheses generated by the study. It then follows with possible interpretations of these results in the light of previous research and the current literature. It concludes by exploring the findings regarding the instruments used for the research prior to moving on to the study implications.

The first two main findings discussed above support Hypothesis 1: there was a significant positive correlation between perceived empathetic listening of the supervisor and the subordinate's sense of both self ($r = .704$, $r^2 = .495$; $p < .01$) and other ($r = .571$, $r^2 = .326$; $p < .01$) psychological safety.

Carl Rogers (1961) hypothesized that the act of empathetically listening is essential for the creation of psychological safety. This is the type of listening that strives to put the listener into the frame of reference of the person being listened to, trying to

understand the way the other sees the world, trying to "step into the other's shoes." At the core of this kind of listening is a suspension of evaluation and judgment. This is because the primary function of listening in such a manner is to create and affirm understanding. It is through this suspension of judgment that the person being listened to is encouraged to speak up, is empowered to be bold, and is given the freedom to take risks. That is, it is through being listened to in this manner that the subordinate feels psychologically safe. This self psychological safety means that the subordinate has a "sense of being able to show and employ self without fear of negative consequences to self-image, status, or career" (Kahn, 1990, p. 705). But this sense of safety does not exist in isolation. Psychological safety is a short-term, temporal phenomenon (Edmondson, 2004) that describes how emotionally safe an individual feels with another individual, whether he or she feels that the other is likely to embarrass him or her, as well as how much he or she feels trusted and respected by the other (Tynan, 2005).

Tynan examined psychological safety and parsed it into two related constructs, which she labeled self psychological safety and other psychological safety. Self psychological safety describes how one individual feels towards another person and is similar to the construct as developed and explored by others (Abraham, 2004; Edmondson, 1999a; Kahn, 1990; Schein, 1993). Other psychological safety is a newly defined construct as explored by Tynan and illuminates how psychologically safe one perceives the other to feel in relationship to the perceiver. In this study, it is how psychologically safe the subordinate perceives his or her supervisor to be. Tynan demonstrated that a feeling of other psychological safety by subordinates has a mediating effect on the probability of those subordinates raising disagreements with their

supervisors, giving straightforward feedback to them, and surfacing and discussing errors with them.

It is important to explore both aspects of this "dyadic psychological safety," as self psychological safety and other psychological safety have potentially different impacts on subordinates' behaviors vis-à-vis their relationship with their supervisor. For instance, while subordinates may feel psychologically safe, if their supervisor is perceived as having low psychological safety, they may be impeded from acting. They keep themselves from taking action in the relationship not because they themselves fear being embarrassed or suffering damaging consequences, but rather to protect the supervisor and to avoid damaging the supervisor's sense of well-being.

Perceived Empathetic Listening of the Supervisor and the Subordinate's Sense of Self Psychological Safety

Several behaviors by supervisors have been shown or postulated to contribute to a sense of psychological safety. Some of the contributing factors that help create these feelings of psychological safety are actions taken by supervisors such as making themselves accessible to subordinates; providing direct one-on-one coaching; and communicating in an honest, open, and inspiring way (Edmondson, 2004). All of these behaviors involve listening. For example, listening is the core skill in effective, direct one-on-one coaching and other-centered, open communication (Flaherty, 2005). These relational activities would be illustrative of caring behaviors that characterize the existence of psychological safety within a relationship that exhibits unconditional positive regard (Rogers, 1961). It is listening empathetically. It is listening to learn, not to

refute. It is listening where the supervisor seeks to understand the subordinate, not to evaluate or judge him or her.

Drawing on this base, Comer and Drollinger (1999) defined active empathetic listening as "the process whereby the listener receives verbal and non-verbal messages, processes them cognitively, responds to them verbally and non-verbally, and attempts to assess their underlying meaning intuitively by putting themselves in the customers' place." It is the putting oneself into the other's place, suspending judgment, that is core to Rogers' view of listening with unconditional positive regard. Drollinger et al. (2006) then used this definition, which was a synthesis of prior listening research, in the development of their Active Empathetic Listening Scale.

It has been demonstrated by Lobdell et al. (1993) that the better the supervisor is perceived as listening, the more responsive and the more open the subordinates perceive the supervisor to be. This enables the subordinates to feel that they can act without fear of embarrassment. As Lobdell et al. (1993) showed, there is a positive association between a supervisor's listening and the subordinates' sense of control and empowerment, as well as giving subordinates a greater sense of feeling respected and included (Alvesson & Sveningsson, 2003). This respect and inclusion are similar to and illustrated by a number of the Self Psychological Safety Scale items, such as "My supervisor respects my abilities" and "My supervisor is interested in me as a person."

Thus, the study finding of a significant positive correlation between the perceived empathetic listening of the supervisor and the subordinate's sense of self psychological safety is consistent with the findings of Lobdell et al. (1993) that the more the supervisor

is perceived as listening, the more the subordinates feel that they can act without fear of embarrassment—which is the core essence of psychological safety.

Perceived Empathetic Listening of the Supervisor and the Subordinate's Sense of Other Psychological Safety

As to the perception of other psychological safety (i.e., in this study, how psychologically safe the subordinate perceives his or her supervisor to be), results indicate a significant correlation between the perceived listening of the supervisor and the subordinate's sense of other psychological safety.

This may be the result of the fact that it takes courage to listen, and courage is the first requirement for being able to listen deeply (Rogers, 1961). "If you really understand another person in this way, if you are willing to enter his private world and see the way life appears to him, without any attempt to make evaluative judgments, you run the risk of being changed yourself" (Rogers, 1961, p. 331). If you run the risk of being changed yourself when listening to another person, it is an act of courage then to be willing to aim to suspend one's own judgment and to enter into the world of the other. One has to demonstrate a high level of psychological safety in order to take the risk of suspending judgment and opening oneself to listen to subordinates. Thus, by the supervisor's demonstrated willingness to open up and listen, the supervisor is being perceived by the subordinate as having a higher level of psychological safety.

It has been demonstrated that through listening, the supervisor is perceived as been committed to the subordinate's success (Ellinger et al., 2003). Thus, the supervisor is perceived as acting in the interest of the subordinate, not just in his or her own self interest. These empathetic acts demonstrate a high level of psychological safety that can

be perceived by the subordinate. By demonstrating in actions a willingness to be vulnerable by focusing on the subordinate rather than self, the supervisor is perceived by the subordinate to have a higher level of other psychological safety and to be more psychologically safe.

The perception subordinates have of their supervisor's sense of psychological safety is important, as the greater this sense of other psychological safety, the less the subordinates feel the need to self-monitor their interactions and "tiptoe" around the supervisor in their communications. A higher level of other psychological safety also opens subordinates and increases their willingness to learn from their supervisor, to more freely admit errors, to ask for help, to surface disagreements, and to give direct upward feedback (Tynan, 2005).

The Listening Subscales and Psychological Safety

Hypotheses 2 through 4 examined three components of listening—processing, responding, and sensing—as determined by Drollinger et al. (2006). Processing refers to the "cognitive operations of the listener" and includes understanding, interpreting, evaluating, and remembering (p. 164). Responding "refers to the signals listeners send back to the speaker that indicate that they have been heard" (p. 164). Sensing includes hearing the words of the speaker as well as perceiving the implied messages of the speaker that come through nonverbal signaling (p. 163).

All of these hypotheses were supported:

- **H2:** There was a significant positive correlation between the supervisor's perceived effective listening *processing* of the supervisor and the subordinate's

sense of both self (r = .551, r^2 = .30; p < .01) and other (r = .461, r^2 = .213; p < .01) psychological safety.

- **H3:** There was a significant positive correlation between the supervisor's perceived effective listening *responding* of the supervisor and the subordinate's sense of both self (r = .713, r^2 = .508; p < .01) and other (r = .614, r^2 = .377; p < .01) psychological safety.
- **H4:** There was a significant positive correlation between the supervisor's perceived effective listening *sensing* of the supervisor and the subordinate's sense of both self (r = .620, r^2 = .384; p < .01) and other (r = .452, r^2 = .204; p < .01) psychological safety.

The correlations (r^2 values above) show the extent to which the variance in the subordinate's sense of psychological safety was associated with the variance in the listening subscale. The strength of the correlations, based on the rule of thumb interpretations for the size of the correlation coefficient as recommended by Hinkle et al. (1998), are summarized in Table 5-1.

Table 5-1
Strength of Correlations Between Listening Subscales and Psychological Safety Subscales

	Level of correlation	
Listening subscale	**Self psychological safety**	**Other psychological safety**
Processing	Moderate	Low
Responding	High	Moderate
Sensing	Moderate	Low

These preliminary findings are of interest, in that the testing of the hypotheses demonstrated a positive correlation between each element of the listening subscales, and with both self and other psychological safety. While this may make intuitive sense on

first glance, it is possible that the opposite assumption could have been shown to be true. That is, hypothetically, a supervisor's lack of listening could create feelings of self psychological safety for subordinates, in that it would be easy for them to do what they wanted if the supervisor was not paying attention; they would have no fears of being embarrassed or harmed.

The results also indicate that the correlation between listening and dyadic psychological safety was somewhat higher for self psychological safety than for other psychological safety. This finding may have several explanations. It may be due to self-image bias (Lewicki, 1983) and the subordinates' own sense of self psychological safety playing a role in how they perceive the psychological safety of their supervisor. Self-report ratings and observational measures have been shown to produce minimal correlation (Rubin, 1987). Asking subordinates to describe the state of psychological safety they perceive of their supervisor is asking them to describe something much less known than their personal state. It is difficult to assess the mental processes of another person, and thus the numbers may be lower due to a cautious sense of evaluation on the part of subordinates.

Also, this study did not explore other behaviors the supervisor may exhibit that strengthen or diminish the perception subordinates have of the other's psychological safety. As other psychological safety is a relatively new construct, these antecedent factors have yet to be explored in the literature.

Lastly, in regards to the listening subscales, the findings show that the correlation with self and other psychological safety was higher for the element of responding than for the elements of processing and sensing. Processing and sensing are more mental

processes that may be difficult to evaluate and see, which could lead to their lower strength of correlation. This exemplifies the difficulty of listening research, as listening is a cognitive function that is perceived behaviorally, and listening behaviors and cognitions are often not congruent (Witkin, 1990). It is demonstrative of how difficult it is to evolve testable theories that further the legitimate studying of listening (Janusik, 2007).

This result is also similar to that of the second survey performed by Drollinger et al. (2006), which found that correlation with trust and relationship quality was higher for the element of responding than for the elements of processing and sensing, as exemplified in Table 5-2.

Table 5-2
Pearson Correlation Coefficients Between Listening Subscales and Benevolence, Credibility, and Relationship Quality

	Correlation coefficient		
Variable	**Sensing**	**Processing**	**Responding**
Benevolence	.31	.32	.53
Credibility	.43	.40	.48
Relationship quality	.39	.38	.61

Note. All scores are significant at $p < .001$. Adopted from "Development and Validation of the Active Empathetic Listening Scale," by T. Drollinger, L. Comer, and P. Warrington, 2006, *Psychology & Marketing, 23,* p. 176.

However, the low power of the correlation in the current study may be due to the small sample size, and care must be taken in drawing conclusions. That being said, it is an intriguing finding that "how" a supervisor responds to the subordinate can be one of the more important elements. For instance, a supervisor's empathetic statement, "I'm sorry I didn't hear you and was distracted at the moment," may show a lack of strong processing or sensing skills, but this kind of response—honest, focused on the other

person—may evoke a larger correlation with the subordinate's sense of self and other psychological safety.

Findings Regarding the Study Instruments

Both of the study instruments are relatively new in their development. The most extensive work has been done on the self psychological safety concept. Little work to date has employed the Other Psychological Safety Scale outside of Tynan's (2005) work. The Active Empathetic Listening Scale has just begun to be used, with studies primarily performed within the sales environment. Both instruments, though, portray useful constructs that reflect a dynamic within the supervisor and subordinate relationship and emanate from a similar theoretical background. However, given the emerging usage of both instruments, a principal component analysis was conducted as part of this research study to further explore and assess their usefulness.

Dyadic Psychological Safety Scales

Multiple studies have validated the usefulness of the psychological safety construct as developed by Edmondson (1999a), which is mirrored by the self psychological safety construct of Tynan (2005), and have attested to its impact in multiple contexts, including outdoor management programs (McEvoy, 1997), classroom learning (Kennedy, 1995; McGuiness, 1993), health care (Raber, 1996), and multinational corporations (Baer & Frese, 2003). Thus, there is ample evidence for pursuing further understanding of the construct of self psychological safety and its various impacts.

There has yet to be other work that validates the utility of the Other Psychological Safety Scale following on Tynan's work. Tynan (2005) demonstrated that other psychological safety has a mediating effect on the supervisor's threat sensitivity level. As can be seen in the results of chapter 4, the components for the psychological safety scales loaded to the self and other scales as expected based on Tynan's (2005) original instrument. However, one item that was in Tynan's original Other Psychological Safety Scale, "My supervisor wants others to support his/her ideas" loaded to a third undetermined factor with a loading of .99. This loading may have occurred because the item is open to interpretation as to whether support of the supervisor's ideas should be viewed negatively or positively. This possible third component requires greater exploration before this item can continue to be employed usefully in the Other Psychological Safety Scale.

Even with this last item being removed from the Other Psychological Safety Scale, the two psychological safety scales demonstrated high internal consistency (α = .96 and α = .85, respectively). The Other Psychological Safety Scale now consists of four items. It may be worth exploring if additional items are warranted to increase the effectiveness of this scale.

Active Empathetic Listening Scale

According to Janusik (2007), current listening instruments fall into two categories: recall tests and perceptual instruments. Perceptual instruments elucidate the responders' perception of themselves or another as a listener. The Active Empathetic Listening Scale is in this mode and in this study aimed to reflect the subordinates' perception of their supervisor's listening in regards to them.

While the originators give credence to the subscales as having construct validity, there is a significant overlap in the explained variance of all three scales. Given the magnitude of the overlap in the three scales, it is questionable how valuable the specific subscales of sensing, processing, and responding are. Two of the three questions in the processing scale had a shared variance with the sensing or responding scale; the exception was the question "My supervisor assures me that he or she will remember what I say by taking notes when appropriate." The shared variance makes this subscale much less useful as currently defined. While the three subscales support high internal consistency levels separately, the usefulness of the subscales, particularly that of processing, must be questioned, as it may "muddy the water" more than clarify the overall concept of active empathetic listening.

The scale might be improved by strengthening the usefulness of the responding construct by expanding it to incorporate the response overlap that is present in the sensing and processing scales. One way this may be accomplished is by incorporating, adapting, and testing other responding items such as those from Brownell (2002) and her HURIER (Hearing, Understanding, Remembering, Interpreting, Evaluating, Responding) Listening Profile:

- I adapt my response according to the needs of the particular situation.
- I do not let my emotions interfere with my listening or decision-making.
- I provide clear and direct feedback to others.
- I encourage information sharing by creating a climate of trust and support.
- I make sure that the physical environment encourages effective listening.

- I recognize and take into account personal and cultural differences in the use of time and space that may influence listening effectiveness.

As can be seen, these items are quite different than the four responding items as conceived by Drollinger et al. (2006), which look at using verbal acknowledgments, showing receptivity, asking clarifying questions, and using appropriate body language. Given the importance of the perception of responding, it would seem appropriate to elaborate further on this construct and to gain a clearer picture of the elements that inform it.

Study Implications

This section explores the implications of this research study for theory, future research, and practice.

Implications for Theory

This study looked at perceptions of listening of the supervisor and their relationship to self and other psychological safety for the subordinate. The researcher hypothesized that there would be a correlation between listening elements of sensing, processing, and responding and both self and other psychological safety. What the results confirm is the stronger correlation between responding and its impacts on the person being responded to (rather than inferences made about the cognitive processes being engaged in by the other). To gain further understanding into this phenomenon, researchers could explore the nature and type of responses by supervisors and their impact on psychological safety. For example, what role does politeness play? Does a

predominant questioning response mode have a different impact than a predominant exclamatory mode of response in creating psychological safety?

The findings of this study have furthered the theoretical work on both dyadic psychological safety and listening. Regarding dyadic psychological safety, it has further refined the construct of other psychological safety by questioning the usefulness of one item, "My supervisor wants others to support his/her ideas." Rogers (1961) noted that for psychological safety to be present, there needs to be freedom from evaluation. Schein (1993) noted the need for support and encouragement to create psychological safety. Perhaps the inherent bias in the question is around the evaluation of "ideas." Brown and Leigh (1996) also noted that supportive interpersonal relationships promote psychological safety. It remains unclear as to whether or not this item is just poorly formulated or if it denotes some other psychological safety construct altogether. Further exploration is required to see if this item truly denotes a possible third factor that underlies the psychological safety construct within dyadic relationships or if eliminating it would further clarify the construct. Would questions regarding being supportive give more clarity to the construct? What are the specific behaviors that reflect being supportive?

As little empirical work has been done to validate the construct of dyadic psychological safety, this study begins to build on the theory hypothesized to understand further the underlying factors that have a correlation with the existence of a high sense of both self and other psychological safety. Additional research could examine whether other mediating variables related to communication between individuals affect psychological safety. Kahn (1990) indicated that strong interpersonal engagement is

connected to high levels of psychological safety. This research hypothesized that empathetic listening was an element of strong interpersonal engagement. Are there other behaviors related to communication that may impact psychological safety?

Theoretically, listening remains an elusive construct. The lack of a common operational definition of listening still impedes research of listening within the workplace (Flynn et al., 2008). This research has shown that, while the overall Active Empathetic Listening Scale leads to a picture of overall active empathetic listening, its subscales and constructs still require greater clarity; perhaps focusing more on the "responding element" would give greater clarity to the listening debate. Additional research would be helpful using a larger sample that would enable appropriate statistical analysis to further refine the model as it relates to the underlying listening theory. Such research would support a perceptual instrumentation approach to the study of listening, as it is within those perceptions that the supervisor-subordinate relationship is created.

Expanding the literature base to include the work done in the field of counseling might also provide greater clarity to both the psychological safety and listening constructs. For example, Ivey, Normington, Miller, Morrill, and Haase (1968) went into greater depth on the impact of the attending behaviors in the dyadic therapeutic relationship. Further exploration of the specific impacts as determined by Ivey et al. could provide greater clarity to the responding subscale of the Active Empathetic Listening Scale. The work of Corey, Corey, and Corey (2008), particularly in terms of their perspective on the use of active listening in the therapeutic group setting, could also provide a fruitful avenue of exploration to gain further understanding of the active empathetic listening construct.

This study also furthers the growing body of literature on communication between supervisors and subordinates. While it has been shown that supervisors who act in a supportive manner have a positive impact on feelings of psychological safety (Edmondson, 1999a; Tynan, 2005), the specific behaviors that may contribute to the creation of these feelings of psychological safety had yet to be empirically demonstrated. This study begins to address that gap by demonstrating that how the supervisor is perceived as responding to the subordinates not only demonstrates how the subordinates perceive they are listened to, but also contributes to the subordinates' sense of psychological safety and sense of how psychologically safe they feel their supervisor to be. What other communication responses contribute to these senses? Do the communication channels matter? Are there communication styles that predominantly influence the creation of psychological safety?

Implications for Research

The current study's findings have set a base for creating additional understanding of the complex nature of the relationship between supervisors and subordinates and the communication within this dyadic relationship. This study has established that there is indeed a statistically significant relationship between subordinates' perception of how their supervisor listens to them and subordinates' sense of psychological safety. It has also demonstrated a significant relationship between the subordinates' perception of how their supervisor listens to them and how psychologically safe they perceive their supervisor to be. While correlation does not imply causation, it can be reasonably implied that there is a causal connection based on the significant correlation (Hinkle et al., 1998). Future research is needed to create a deeper understanding of this relationship and the

extent to which listening may or may not contribute to self and other psychological safety and vice versa. A controlled experimental study would be helpful, if possible, to see if there is causation between the variables of listening and psychological safety. Given that this can be reasonably assumed, the magnitude and direction of the relationship would be interesting to explore.

A larger sample would enable a deeper analysis of the underlying constructs, particularly in terms of refining the Active Empathetic Listening Scale, as well as the Dyadic Psychological Safety Scales. While theoretically sound, both scales have exhibited issues regarding what they are trying to measure. Additional refinement of both instruments is required if they are to contribute further to the understanding of both listening and self and other psychological safety in dyadic relationships. A larger sample size would also allow a confirmatory factor analysis to be performed and to validate these preliminary results as to the helpfulness and usefulness of the study scales.

Exogenous and external factors that also influence the creation of psychological safety within dyadic relationships would also provide a fruitful avenue for exploration. For example, how do various business cycles, market conditions, and/or economic factors impact psychological safety? How does organizational positioning (market share, for example) foster an environment where psychological safety is created or diminished? Lastly, what impact does organizational culture—for example, firm values, physical layout, type of industry—have on the creation of psychologically safe relationships? While these factors are difficult to measure, perhaps a qualitative inquiry would shed further light on the psychological safety construct.

Implications for Practice

The results of this research also have implications in terms of practice. They demonstrate that there is a significantly high level of correlation between how a supervisor listens and the subordinate's sense of self and other psychological safety. While not implying causality, the case can be made that given the relationship between the two, the supervisor's efforts to be a more attentive listener may have numerous positive effects. If supervisors truly want their subordinates to take risks, innovate, and speak up, then it is incumbent upon them to create relationships where these activities are possible. It appears that greater levels of listening are highly related to the senses of psychological safety that foster environments where these behaviors can take place.

On a practical level, this study sheds light on the dilemma that supervisors face in their role as an evaluator of performance for subordinates and the increasing attention being paid to the supervisor's role as coach. The coaching role, which is predominantly a listening-based activity, may add to the creation of psychological safety. More and more, supervisors are asked to play the role of coach to their subordinates. However, the demand on supervisors to assess and evaluate performance is antithetical to the ability to listen empathetically and nonjudgmentally. The presence of evaluation and judgment diminishes psychological safety. Therefore, it is questionable if supervisors can indeed play both the role of coach and the role of evaluator. How are supervisors to balance these two responsibilities? How are they to ensure that the subordinate knows which role they are playing, and is it possible to keep the roles separate? Lastly, is it truly possible for supervisors to suspend judgment and a frame of reference of evaluation and for the subordinate to perceive them as doing so?

The study findings would imply that separating the role of coach and evaluator across supervisors may be necessary to foster psychological safety in the workplace. They would also imply that the current emphasis of all supervisors being coaches to the subordinates that report to them is misguided in terms of creating optimal performance.

Limitations of the Study

Every study has limitations, and this research study is not exempt. Note must be taken of several key limitations.

First, this study used a nonexperimental correlational design that examined the relationship between the variables and not causality. While it may be tempting to infer that greater listening by the supervisor enhances the subordinates' perspectives of self and other psychological safety, the opposite may just as well be true, in that a greater sense of self and other psychological safety helps create a better listening environment, as described by Brownell (1994a), which frees the supervisor to listen more effectively and attentively. Also, many other variables not explored in this study may explain levels of self and other psychological safety.

Second, the findings of this study are not generalizable, given that the research took place in one specific organization as part of a specific industry. The relationships described by the data obtained here may be similar or completely different in another organizational context and with another group of employees. As noted earlier, the study population was predominantly young, white women. While it is uncertain what impact such demographic factors have on the study results, a larger study with a greater diversity of respondents would most likely provide greater clarity.

Third, while the quantitative data collection and analysis were robust, the responses were still limited to the nature of the survey used. Qualitative data obtained after the survey may have been useful to provide more understanding about what was driving the responses—by, for example, exploring the nature of the perceived responses of the supervisors and how that created or diminished a sense of psychological safety for the subordinate.

Fourth, listening behaviors are just one subset of the many behaviors that make up the complexity of supervisor-subordinate communication. The interactive effects of any of these behaviors may augment or mitigate the effects that perceived empathetic listening has on the subordinate's sense of self and other psychological safety. For instance, a supervisor's inability to clearly communicate performance expectations could create psychological anxiety that would not be mitigated by perceptions of how the supervisor listens.

Lastly, this study took place in a very limited context—that of the workplace—and did not address the complexity of human relationships. Would the subordinate's sense of self and other psychological safety regarding the supervisor change if the research explored the nature of their interactions outside of the workplace?

Closing Comments

This study was a starting place. While building on theoretical foundations, it began to give empirical evidence regarding both listening and psychological safety in the supervisor-subordinate relationship. As this chapter has outlined, this study pointed out multiple areas that need additional exploration and research to increase understanding of these two constructs. Increased listening effectiveness and increased psychological safety

within the workplace also have very practical implications for performance. This study began to paint a picture of the relationship between how a supervisor listens to his or her subordinates and how that directly impacts them and their sense of psychological safety. Hopefully, it will spur continued exploration, as these constructs are ultimately tied to individual well-being and to organizational performance.

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APPENDIX A:

ONLINE SURVEY

This appendix includes copies of the online survey screens that were used for this dissertation. The first screen contains the study information sheet and consent to participate. The second screen (printed on 2 pages here) introduces the actual survey and includes the self and other psychological safety items of Tynan (2005). The third screen of the survey includes the listening items of Drollinger, Comer, and Warrington (2006). The fourth and final screen contains requests for demographic information.

Information Sheet

You are invited to take part in a research study. Before you decide to be a part of this study, it is important for you to understand the risks and benefits. This information sheet provides information about this study. Your decision to take part in the study is voluntary and you are free to choose whether or not you will take part.

The investigator (person in charge of this research study) is Andrew Fenniman, a student in the Department of the School of Education and Human Development, George Washington University, who is conducting research regarding the relationship between how subordinates perceive how their supervisor listens to them and its impact on the subordinate's sense of psychological safety.

To the best of our knowledge, completing this survey will have no more risk of harm than you would experience in everyday life. There are no costs associated with taking part in this study. You will not get any personal benefit from taking part and will not receive compensation for participating in this study. Your participation in this research study is voluntary. You may decide not to begin or to stop this study at any time. You will be told of any new information about the research study that may cause you to change your mind about participating.

Your responses will be confidential. You will not be identified (e.g. name, Social Security number) in any way and in any reports or publications of this study. Feedback from the survey will be given to the sponsor based on average scores across groups of employees. No individual responses will be identified. The data collected may be provided to the United States Department of Health and Human Services, foreign government agencies (if any and if relevant to the study), and/or authorized representatives of The George Washington University Office of Human Research and/or Committee on Human Research. Except for these entities, research records will be kept confidential unless you authorize their release, or the records are required to be released by law (i.e. court subpoena).

Once you submit your answers, your name, email address and access codes will be deleted from the data record.

If you have questions about the procedures of this research study please contact Andrea Casey, the principal investigator of this study, at (phone number), or Andrew Fenniman, the student investigator of this study, at (phone number).

	Information Sheet	Yes	No
1	Having read the Information Sheet, do you wish to participate? If yes, please select Yes, and click on Next. If no, please select No and click on Submit. Your survey record will be deleted. You will not be reminded to complete the survey. At any time during the survey, if you change your mind, you may return to this page, select No, and click on Submit to delete your survey record.	○	○

Next

I am done. SUBMIT

Thank you for agreeing to complete this survey.

Please navigate the survey with **Previous** and **Next** buttons. When you do, your answers will be saved. Do not use your browser's back button to navigate the sections.

When you have completed your survey, click on **Submit**. If there are no omissions you should see a thank you confirmation that you have finished. If there are omissions you will be directed back to the survey page and omissions will appear in red. You may choose no comment.

Submit also saves your answers and indicates that you have approved them as final. In addition, when you Submit, your name, email address and access codes will be deleted from your data record.

If you have any technical difficulties please contact Martin at (email address) or call Martin at (phone number).

The survey will close on June 22, 2009.

This survey seeks to understand perceptions of supervisor listening and the impact that has on feelings of psychological safety. If you have more than one supervisor, please consider the one you have the most interaction with when completing the survey.

For each item below please using the following 9-point scale ranging from 1 (Not at All True) to 9 (Very True).

Survey Part 1 of 3		(1) Not At All True	(2) Almost Never True	(3) Usually Not True	(4) Sometimes But Infrequently True	(5) Occasionally True	(6) Often True	(7) Usually True	(8) Almost Always True	(9) Very True
1	My supervisor has the best of intentions toward me.	○	○	○	○	○	○	○	○	○
2	My supervisor really cares about me.	○	○	○	○	○	○	○	○	○
3	My supervisor respects my abilities.	○	○	○	○	○	○	○	○	○
4	My supervisor is interested in me as a person.	○	○	○	○	○	○	○	○	○
5	I trust my supervisor.	○	○	○	○	○	○	○	○	○

6	My supervisor would go to bat for me.	○	○	○	○	○	○	○	○	○
7	I feel my supervisor works for my best interest.	○	○	○	○	○	○	○	○	○
8	My supervisor wants others to support his/her ideas.	○	○	○	○	○	○	○	○	○
9	At some level, I feel I have to tiptoe around my supervisor's feelings.	○	○	○	○	○	○	○	○	○
10	My supervisor gets hurt feelings if criticized.	○	○	○	○	○	○	○	○	○
11	My supervisor gets annoyed at some level if challenged.	○	○	○	○	○	○	○	○	○
12	At some level, I feel my supervisor will be unhappy if I disagree with him/her.	○	○	○	○	○	○	○	○	○

Please navigate to other sections with **Previous** and **Next**. When you do, your answers will be saved.

Previous Next

Do not use your browser's back button to navigate the sections.

I am done. SUBMIT

For each item below please using the following 7-point scale ranging from 1 (Never or Almost Never True) to 7 (Always or Almost Always True).

	Survey Part 2 of 3	(1) Never Or Almost Never True	(2) Usually Not True	(3) Sometimes But Infrequently True	(4) Occasionally True	(5) Often True	(6) Usually True	(7) Always Or Almost Always True
1	My supervisor is sensitive to what I am not saying.	○	○	○	○	○	○	○
2	My supervisor is aware of what I imply but do not say.	○	○	○	○	○	○	○
3	My supervisor understands how I feel.	○	○	○	○	○	○	○
4	My supervisor listens for more than just the spoken words.	○	○	○	○	○	○	○
5	My supervisor assures me that he or she will remember what I say by taking notes when appropriate.	○	○	○	○	○	○	○
6	My supervisor summarizes points of agreement and disagreement when appropriate.	○	○	○	○	○	○	○
7	My supervisor keeps track of points I make.	○	○	○	○	○	○	○
8	My supervisor assures me that he or she is listening by using verbal acknowledgments.	○	○	○	○	○	○	○
9	My supervisor assures me that he or she is receptive to my ideas.	○	○	○	○	○	○	○
10	My supervisor asks questions that show his or her understanding of my positions.	○	○	○	○	○	○	○
11	My supervisor shows me he or she is listening by his or her body language (e.g. head nods.)	○	○	○	○	○	○	○

Please navigate to other sections with **Previous** and **Next**. When you do, your answers will be saved.

Previous Next

Do not use your browser's back button to navigate the sections.

I am done. SUBMIT

Demographics Part 3 of 3

1	How many years have you worked for your company?	Select
2	What is your age?	Select
3	What is your gender?	Select
4	What is your ethnicity (you may select one or more categories)?	Please check all that apply: ☐ American Indian or Alaska Native ☐ Asian ☐ Native Hawaiian or other Pacific Islander ☐ Black or African American ☐ White ☐ Hispanic or Latino ☐ Not Hispanic or Latino ☐ Some Other Race

Please navigate to other sections with **Previous** and **Next**. When you do, your answers will be saved.

Previous Next

Do not use your browser's back button to navigate the sections.

I am done. SUBMIT

APPENDIX B:

EMAIL MESSAGE FROM PRESIDENT

Subject: Brief Employee Research Survey

Andrew Fenniman, a doctoral student at George Washington University, is conducting research on the relationship between how perceptions of supervisor listening impact employees' feelings of psychological safety (that is, how safe employees feel to take risks, speak contrary news, etc.). I have agreed to sponsor the study and to survey us here at [name of company]. My hope is that we will learn something through this study that will help us in how we manage our people and how we become an even better place to work.

Within the next couple of days you will receive a brief online survey from Martin Gross at gross@onlineworksolutions.com. Both Andrew and I would appreciate it if you would take a few minutes and complete the survey. By doing so, you will help Andrew to complete his research, and you will help us learn something about ourselves.

Your answers will be completely confidential and there will be no way to link the data provided back to the individual completing the survey. Please take a few minutes when you receive it to complete it. Only aggregate data will be shared with me, and I will of course let you know what we find out.

If you have any questions, feel free to contact me, [name of the director of human resources], or Andrew Fenniman at (phone number) or via email address at (email).

(President's name)

APPENDIX C:

INVITATION MESSAGE FROM SURVEY ADMINISTRATOR

To: [Participant's name]
From: Martin
Subject: Brief Employee Research Survey

Dear [Participant's name],

Here is the brief survey (only 27 questions) that [company president's name] wrote you about on June 8th. It will help us gain insight into how [the company]'s employees perceive how their supervisors listen to them, and the impact that has on employees' sense of psychological safety. In addition, it will help Andrew Fenniman, the doctoral student who is exploring these ideas, to complete his dissertation research.

This email has your own access code so you may complete it independently and online. The survey instrument will aggregate all responses; individual answers will not be reported. Once you have submitted the survey, all identifying marks (your name, email address and access code) will be deleted so that your responses will remain anonymous and confidential.

The survey will take less than 10 minutes to complete.

Please click on the link below to offer your input. The deadline is June 22, 2009.

https://www.onlineworksolutions.com/cgi-bin/fenniman/dlsurvey.pl

The username and password are case sensitive.

Your username and password are: [individual information]

Should you have questions concerning any technical issues, please contact Martin at (email address) or (phone number).

Should you have questions regarding the survey content, you may also contact Andrew Fenniman at (phone number) or by email at (email address).

Thank you in advance for your participation and prompt attention in this matter.

Thank you and best regards,
Martin
Survey Administrator
(phone number)

APPENDIX D:

FOLLOW-UP EMAILS FOR PARTICIPANTS

Subject: Reminder to Complete Brief Employee Research Survey

Dear [Name],

This is a reminder to complete the Brief Employee Research Survey. The survey closes on June 22, 2009. If you do not wish to participate, please reply so that we may remove your name.

Thank you for your participation.
Martin
(phone number)

[original invitation repeated afterwards]

Follow-up Email from Company President

Thanks to those who have completed the recent Employee Research Survey that is exploring listening and psychological safety.

If you have not yet completed the survey, please do so, as it is important that we receive as complete a picture as possible. If you haven't filled it out, please take five minutes today to do it. Thanks.

[President's name]