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What Did You Say? Investigating the Relationship of Self-Perceived  
Communication Competence and Mindfulness in Communication  
on Levels of Organizational Trust in a  
Postsecondary Academic Library

Rebecca Jo Peterson

A dissertation submitted to the faculty of  
Brigham Young University  
in partial fulfillment of the requirements for the degree of  
Doctor of Philosophy

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## ABSTRACT

### What Did You Say? Investigating the Relationship of Self-Perceived Communication Competence and Mindfulness in Communication on Levels of Organizational Trust in a Postsecondary Academic Library

Rebecca Jo Peterson  
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Doctor of Philosophy

Successful educational systems are established, maintained, and cultivated on a foundation of trust. Effective communication among colleagues is widely accepted as a characteristic of groups who establish and maintain high levels of trust. Despite the importance of the relationships between interpersonal communication skills and levels of organizational trust in postsecondary educational settings, there is very little published on this topic. Further, no published research was located that examined relationships between measures of mindfulness in communication with levels of organizational trust in postsecondary educational settings.

This study examined relationships between measures of competent and mindful communication with levels of organizational trust among coworkers, with supervisors, and with the organization in a postsecondary academic library. Study participants included 116 out of 150 non-student library employees of a postsecondary academic library on a large suburban private university campus. The research survey was comprised of four different instruments: the SocioCommunicative Orientation Scale (SCO; Richmond & McCroskey, 1990); the Cognitive Flexibility Scale (CFS; Martin & Rubin, 1995); the Mindfulness in Communication Scale (MCS; Arendt et al., 2019); and the Workplace Trust Survey (WTS; Ferres & Travaglione, 2003). The functioning of each instrument was examined by confirmatory factor analysis. Satisfactory model fit for each instrument was obtained. Structural equation modeling revealed that self-reported levels of communication responsiveness predicted levels of trust in coworkers ( $p = .02$ ). Perceived levels of mindfulness in communication of coworkers predicted levels of trust in coworkers ( $p < .001$ ), and perceived levels of mindfulness in communication of supervisors ( $p < .001$ ) predicted levels of trust in supervisors. This research suggests that perceptions of mindfulness in communication among coworkers and with supervisors are associated with levels of organizational trust within postsecondary academic settings in important ways. Further research is necessary to increase understanding of the relationships between mindfulness in communication and organizational trust in educational environments.

Keywords: trust (psychology), communication skills, interpersonal communication, mindfulness, factor analysis, structural equation models

## ACKNOWLEDGMENTS

The journey ahead looked daunting.

Jagged peaks of uncertainty.

Looking up, I sought a path to begin the climb.

I started forward, one tentative footstep following another.

Voices of encouragement

Teaching, lifting, guiding

I continued upward, one step further, one step closer.

Now I stand on jagged peaks of humility

Awed by the vistas.

Grateful for the journey

and for the Hands and Hearts

that Carried Me here.

Matt, Makenna, Caleb, Caden, Kinley, Mom B, Dad B, Mom P, Dad P, sisters, brothers – family.

Louise, Darin, Jared, Pam, Lane, Ross, Ellie, Holt, Jeff, Brian, Cali, Rick. So many more.

My Savior Jesus Christ - who never leaves us alone to our own resources but grants us grace for our day.

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## CHAPTER 1

### Introduction

Educational organizations require effectiveness and efficiency. Successful educational systems are established, maintained, and cultivated on a foundation of trust. Low levels of organizational trust within an educational institution negatively impact its efficiency and effectiveness (Bryk & Schneider, 2002; Covey & Merrill, 2018; Fukuyama, 2001). Factors that contribute to levels of organizational trust—such as quality of communication—can be directly influenced by education leaders and administrators (Bryk & Schneider, 2002). When low trust environments exist, policymakers and administrators must act to change them from low-trust to high-trust effective systems.

Effective communication among colleagues is widely accepted as a characteristic of groups who establish and maintain high levels of trust (Bryk & Schneider, 2002; Covey & Merrill, 2018; Hallam et al., 2015; Tschannen-Moran, 2001; Zeffane et al., 2011). Individuals who are proficient in interpersonal communication are more likely to communicate in ways that foster trust among colleagues in both non-academic and academic environments (Sabanci et al., 2016; Tyler, 2016; Zaugg & Davies, 2013).

People who work in academic settings tend to have high levels of education and to be proficient in oral and written communication (Lynch & Smith, 2001). However, possession of high levels of oral and written communication skills does not necessarily equate to the ability to demonstrate interpersonal communication competency (McCroskey, 1982). Individuals who are effective communicators tend to possess high levels of communication competence that is characterized by balanced levels of assertiveness and responsiveness and by high levels of cognitive flexibility (Dilbeck & McCroskey, 2008; Martin & Rubin, 1995). Additionally,

effective communicators are attuned to the non-verbal, contextual, and emotional messaging involved in sharing and creating meaning and demonstrate mindfulness in communication with a calm demeanor, attentiveness, and openness (Arendt et al., 2019; Covey & Merrill, 2018; Patterson et al., 2012).

While there is a large body of research that supports the importance of trust within organizations of all sizes and functions, research exploring the factors that facilitate trust and that describes how to create and promote trust within organizations is minimal in comparison (Shockley-Zalabak et al., 2000). Communication and organizational trust studies tend to focus on supervisor/subordinate trust relationships, or parent/school trust relationships (Bryk & Schneider, 2002; Hallam et al., 2015; Tschannen-Moran & Gareis, 2015). In addition, despite the acknowledged importance of communication as a factor associated with organizational trust in educational settings, there is very little published research literature that explores the nature of relationships between measures of communication competence and levels of organizational trust in postsecondary educational settings.

Furthermore, even though the importance of mindfulness in the communication interactions of colleagues as a support for healthy levels of relational trust in business and non-academic organizational environments has been established over the last 20 years (Arendt et al., 2019; Good et al., 2015; Reb et al., 2014; Stedham & Skaar, 2019), no published research was located that examined the relationship between levels of trust and mindfulness in communication among colleagues in a postsecondary academic setting.

This research contributes to the research literature through its novel exploration of measures of self-perceived communication competency and self-reported mindfulness in communication, with levels of organizational trust among coworkers, with supervisors, and with

the organization in a postsecondary academic setting. The findings illustrate predictive relationships between components of communication competence and mindfulness in communication on organizational trust. This provides useful information to researchers, administrators, and policymakers who wish to further explore these relationships to identify potential targets for professional learning and employee coaching to target improvement in trust within postsecondary academic settings.

### **Statement of the Problem**

In 2019 the university library where this research took place conducted a study to investigate factors that may have been contributing to employee dissatisfaction and low levels of trust among employees within the library. They hypothesized that gender bias was a contributing factor and focused their research on gender equity within the library. Results from the gender equity study indicated the presence of problematic behaviors that were likely contributors to low levels of trust among employees at the library. Many of the problematic behaviors reported in the study were associated with unprofessional comments and conversations (Belliston et al., 2019). After publication of the gender equity study, library administration identified communication skills as an area of weakness among library employees that continues to contribute to low levels of organizational trust (Peterson, personal interview, January 2020).

When ineffective or problematic communication, such as the items noted in the library's gender equity study, takes place in educational organizations, organizational trust is likely to be adversely impacted (Gill & Sypher, 2009; Hallam et al., 2014; Patterson et al., 2012). Low levels of organizational trust negatively impact employee morale, increase staff turnover, and decrease the achievement of desired organizational outcomes (Bryk & Schneider, 2002; Covey & Merrill, 2018; De Jong et al., 2016). In contrast, competency with interpersonal communication increases

the likelihood that individuals will communicate in ways that strengthen trust among colleagues (Sabanci et al., 2016; Tyler, 2016; Zaugg & Davies, 2013).

Examination of the relationships between self-perceptions of components of communication competence and mindfulness in communication with levels of organizational trust provides insight into the predictive role of effective and mindful communication on organizational trust. The relationships between components of communication competence and mindfulness in communication with levels of organizational trust within postsecondary academic library settings were not described in the research literature prior to completion of this study. This research represents a focused effort to identify potential targets for further exploration related to improving communication among the staff and faculty within the postsecondary academic library to facilitate improvement in levels of organizational trust.

### **Statement of the Purpose**

The intent of this research was to establish the presence or absence of predictive relationships between self-perceived levels of communication competency as measured by assertiveness, responsiveness, and cognitive flexibility (Martin & Rubin, 1995; Richmond & McCroskey, 1990), and self-reported mindfulness in communication of self, coworkers, and supervisors (Arendt et al., 2019), on levels of trust in coworkers, trust in supervisors, and trust in the organization (Ferres & Travaglione, 2003) in a postsecondary academic library.

### **Research Questions**

This study addresses the following research questions:

1. How well do the factor structures of the SocioCommunicative Orientation Scale (SCO; Richmond & McCroskey, 1990), the Cognitive Flexibility Scale (CFS; Martin & Rubin, 1995), the Mindfulness in Communication Scale (MCS; Arendt et al.,

- 2019), and the Workplace Trust Survey (WTS; Ferres & Travaglione, 2003) fit the data when applied to survey responses from a postsecondary academic library? What modifications, if any, must be made to the instruments to obtain adequate model fit and allow for their use in structural equation modeling?
2. Can the MCS be successfully adapted and expanded to measure perceptions of mindfulness of communication of self and mindfulness of communication of coworkers?
  3. Is there a predictive relationship between components of self-perceived communication competency (assertiveness, responsiveness, and cognitive flexibility) and mindfulness in communication (self, coworkers, and supervisor), and levels of trust in
    - coworkers
    - supervisor
    - the organizationin a postsecondary academic library?

## CHAPTER 2

### Review of Literature

At first glance, communication and trust are two subjects that seem to be easy to describe and understand. However, upon further examination it becomes apparent that both communication and trust are complex ideas with multiple components, definitions, and applications. To understand possible relationships between communication and levels of trust within a postsecondary academic organization, it is necessary to gain a clear understanding of the concepts of communication and of trust, and to understand how communication and trust relate to interpersonal relationships in organizational settings. The following is a summary of the significant research literature that provided the foundation for this study.

#### **Trust**

Trust is commonly defined as the willingness for an individual to accept a position of vulnerability based on the expectation that the intentions and behaviors of another are positive and aligned with favorable outcomes (Deutsch, 1962; Rousseau et al., 1998; Tschannen-Moran & Hoy, 1998). This definition is the result of many years of study and debate as researchers sought to define key components of trust that set it apart as a distinct construct from other concepts. This literature review covers major developments in conceptualizations of trust as a unique construct, the impact of trust within organizations and schools, and social economic theories that provide additional insights into the role of trust within groups. This section concludes with the operational definition of trust used to inform this research.

#### ***Conceptualizing Trust***

**A Brief History of Trust Research.** Morton Deutsch was one of the pioneers in trust research. Beginning in 1949, he examined the role that trust plays in group cooperation. In 1962,



Deutsch published a paper that has shaped trust research over the last nearly 60 years. In his paper, *Cooperation and Trust: Some Theoretical Notes* (1962), Deutsch conceptualized the relationship between the trustee, trustor, and perceived risk of beneficial or harmful outcomes. He examined the psychological consequences of cooperation and competition to determine the conditions that lead to cooperation through a game experiment. He found that individuals who engaged in cooperative behaviors were more likely to be perceived as trustworthy, and to be trusted by their peers. He also examined the role of trust in facilitating cooperation. He found that individuals who are trusting, tend to also be trustworthy, and individuals who are suspicious, tend to be untrustworthy.

Mayer et al. (1995) synthesized a definition of trust that has become an influential part of modern trust research. They defined trust as the willingness to be vulnerable. This aspect was incorporated into the work done by Rousseau et al. (1998) as they completed a cross-disciplinary survey of the research in an attempt to define the construct of trust. Rousseau et al. concluded that trust could be defined as the willingness to accept vulnerability based on favorable perceptions of the intended actions or behaviors of another. The goal of Rousseau et al.'s research was to assemble a cohesive multi-disciplinary understanding of the concept of trust. They described trust as both an overarching "meso" concept that stretches across many different groups and beliefs, and as more a granular characteristic or process within organizations. The authors pointed out that while there was not a universally accepted scholarly definition of trust, there was agreement about trust as an important factor in promoting effective networks, interactions, and organizational outcomes.

In the cross-disciplinary research articles about trust reviewed by Rousseau et al. (1998) positive expectations and willingness to be vulnerable emerged as common themes, resulting in

the working definition, “trust is a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another” (p. 395). They further described the nature of trust in relationships as a dynamic process that may go through phases that include the building phase, stability phase, and the dissolution phase, though not necessarily in a sequential order.

Rousseau et al. (1998) described the various ways that the concept of trust is used in research literature. They found that trust was used as an independent variable, as a dependent variable, or a moderating variable. Trust was also examined from the individual, or microlevel, to the firm, or macrolevel. They also identified different forms of trust including deterrence-based trust, calculus-based trust, relational trust, and institutional-based trust. The authors concluded that trust is an important component of workplace environments and that it contributes to desirable outcomes such as cooperation, and economic gains.

The Five Facets of Trust model conceptualized by Tschannen-Moran and Hoy (1998) and used within the research of Hallam et al. (2015), aligns with the work of earlier trust researchers. They identified trust as, “one party’s willingness to be vulnerable to another party based on the confidence that the latter party is (a) benevolent, (b) reliable, (c) competent, (d) honest, and (e) open” (Hallam et al., 2015, p. 196). Alarcon et al. (2017) further substantiated the work of their predecessors in establishing the importance of vulnerability and expectations of positive or “trustworthy” behavior.

Alarcon et al. (2017) investigated how beliefs and trust intentions affected behaviors through a multivariate multilevel survival analysis that they used to examine three aspects of trust longitudinally: trusting beliefs, trusting intentions, and trusting actions. They engaged 189 participants in a game called *Checkmate* that was specifically created to create different levels of

perceptions about trustworthiness and trust-related behaviors over successive rounds. Their research demonstrated that trust developed over time and through interactions between the trustor and trustee based on experience with perceptions of trustworthiness and behaviors of trust, which lends further support to the definitions of trust suggested by Deutsch (1962), Mayer et al. (1995), Rousseau et al. (1998), and Tschannen-Moran and Hoy (1998).

**Describing Trust Within Organizations and the Workplace.** Contemporary researchers have further attempted to define the concept of trust as applied to organizations. In their article, *Trust as an Organizing Principle*, McEvily et al. (2003) explored the concept of trust within organizations. They pointed out that there are aspects of trust that enable desirable organizational experiences such as positive interpretations of the behavior of colleagues, cooperation, and high levels of performance. In the researchers' view, trust should be conceptualized as an organizing principle. They asserted that a clan is the organizing principle most closely related to trust because a membership in a clan creates an expectation that others will act in a way that aligns with the interests of the individuals involved in the interactions and with the group. This expectation makes decision making more efficient and allows group members to conserve cognitive resources. McEvily et al. identified two causal pathways that describe the influence of trust on organizing: structuring pathways and mobilizing pathways. They also pointed out important considerations of downsides of trusting behaviors and orientations within organizations. Misplaced trust, possibility of fraud, and "rules of thumb" to make decisions about interactions based on trust can all lead to undesirable outcomes.

Trust is often conceptualized as something that exists between two people, in a dyad (Mayer et al., 1995). While it is true that trust influences interpersonal relationships at the dyad level, research also supports the importance of trust at a macro level - among colleagues and

organizations- to support realization of group and organizational goals (Alarcon et al., 2017; Bryk & Schneider, 2002; Covey & Merrill, 2018; Hallam et al., 2015; Tschannen-Moran & Gareis, 2015). Evidence from the published literature indicates that trust is important for parties who are engaged in social exchange (Atkinson & Butcher, 2003; Coleman, 1988; McEvily et al., 2003).

The work of Atkinson and Butcher (2003) examined factors that affected the development of trust within managerial relationships. Working from the concept of trust as vulnerability and willingness to accept uncertainty and risk that also defined the work of Deutsch (1962), Mayer et al. (1995), and Rousseau et al. (1998), Atkinson and Butcher described trust as a social agreement constructed between two parties to facilitate a decrease of uncertainty. They found that when uncertainty decreases, individuals are more willing to be vulnerable and accept uncertainty and risk.

Trust within organizations appears to be dependent to a large degree on interpersonal interactions. One framework for describing trust in the workplace is based on the work of Shockley-Zalabak et al. (2000). Much like Rousseau et al. (1998) described the importance of positive expectations for trust between individuals, Shockley-Zalabak et al. outlined a framework that described organizational trust as something that occurs when individuals within the group have positive expectations about the intent and behaviors of the members of the organization. They proposed and validated a five-dimensional model of trust characterized by the following factors: (a) competency, (b) openness and honesty, (c) concern for employees, (d) reliability, and (e) identification with the organization.

The work of Shockley-Zalabak et al. (2000) helps to describe characteristics of trust in the workplace. However, those characteristics may not capture a full picture of factors that

impact levels of trust within an organization. Ayoko and Pekerti (2008) identified conflict as a factor that impacts the presence or absence of trust within the workplace. To examine the role of conflict on organizational trust, they used survey data from 510 respondents to investigate the effect of different types of conflict, the intensity and duration of conflict, and the moderating effect of communication openness on levels of trust. The researchers determined that when relationships experienced conflict, the levels of trust were negatively impacted. They also found that increased empathy and conflict management norms helped to decrease levels of conflict, and thus helped improve trust, which supported assertions made by Covey and Merrill (2018). In agreement with the model proposed by Shockley-Zalabak et al. (2000), communication openness was found to improve trust in organizations. However, in Ayoko and Pekerti's research, the effectiveness on of communication openness to improve trust was dependent upon the presence of short-term conflict only; long-term conflict seriously affected levels of organizational trust and negated the impacts of communication openness. They demonstrated that communication openness was a predictor of trust and emphasized the importance of conflict management in building trust within groups and organizations.

In agreement with the conclusions of Ayoko and Pekerti (2008) about the negative impact of long-term conflict on organizational trust, Gill and Sypher (2009) described the results obtained from a longitudinal study on trust and employee communication choices within an IT organization. Gill and Sypher found that incivility in the workplace directly contributed to decreased levels of organizational trust within the IT organization. Interestingly, they found that less egregious and more subtle forms of incivility, when applied frequently, tended to have more damaging effects on levels of trust than more explosive and obvious uncivil behaviors. They

concluded that efforts to enhance civility and trust can improve relationships between coworkers and organizational effectiveness.

**Trust and Distrust.** A framework that seems to be closely related to trust, but is arguably distinct, is the framework of distrust (Cook et al., 2004; Lewicki et al., 1998). In making the argument that distrust is different from trust, researchers Lewicki et al. (1998) and Cook et al. (2004) pointed out that low distrust is not the same as high trust, and vice versa; an individual may not distrust another party, but the absence of distrust does not mean that trust exists between the two parties. Cook et al. examined relationships of trust between physicians and patients (physicians' trust in their patients, and patients' trust in their physicians) and found that trust and distrust operated as related, but separate constructs with different antecedents.

### ***Importance of Trust***

**Impacts of Trust on Organizations.** Low trust environments are high cost in terms of time, effort, and redundancy. Low levels of organizational trust impact employee morale, staff turnover, and the achievement of desired organizational outcomes (Bryk & Schneider, 2002; Covey & Merrill, 2018; De Jong et al., 2016; Fukuyama, 2001). In the book, *The Speed of Trust*, Covey and Merrill (2018) described the importance and impact of trust on relationships within the workplace, business, and in the personal lives of individuals. They asserted that in high-trust business relationships, costs are reduced. They gave examples of mergers and other business transactions that took place in high-trust environments and their associated low costs and compared them with the high personal and economic costs of business transactions that occur in low-trust environments.

Covey and Merrill (2018) created an analogy of trust as ripples on water that extend outward in waves. They described five waves as crucial to development and maintenance of

trust: (a) self-trust, (b) relationship-trust, (c) organizational trust, (d) market trust, and (e) societal trust. A key component of organizational trust according to Covey and Merrill is alignment between words, actions, and intentions. Covey and Merrill concluded their book with advice on extending “smart trust” and shared ways to restore trust that has been damaged or violated. While Covey and Merrill do not explicitly define trust in terms of willingness to take risks and be vulnerable as do Deutsch (1962), Mayer et al. (1995), Rousseau et al. (1998), Tschannen-Moran and Hoy (1998), and Alarcon et al. (2017), their definitions still align with the published research. There are easily ascertainable similarities between Covey and Merrill’s descriptions of the components of trust and that of Tschannen-Moran and Hoy that include references to honesty, capability, and reliability. Additionally, the relationship trust behaviors of listening and clarifying expectations as described by Covey and Merrill align with research on the relationships between communication and trust as described by Bryk and Schneider (2002) and Hallam et al. (2015).

In their meta-analysis of the effect of trust on team performance, De Jong et al. (2016) found that intrateam trust has an above average effect on team performance ( $p = .30$ ,  $CI_{95\%} = .24, .36$ ). After controlling for trust in team leaders, past team performance, and cognitive and affective variables the researchers found that intrateam trust still predicted team performance ( $\beta = .13$ ,  $CI_{95\%} = .02, .25$ ). Trust was found to be most important when considering differentiation in authority, skill differentiation, and the level of task interdependence, all of which decreased uncertainty in situations where vulnerability was present.

Researchers Colquitt et al. (2007) explored the relationship between trust, trustworthiness, and propensity of individuals to extend trust. They completed a meta-analysis of 132 research articles and examined relationships between trust variables, risk taking

(vulnerability), and job performance. They found moderately strong relationships between trust and risk taking ( $r_c = .42$ ,  $N = 1,384$ ), as well as trust and task performance ( $r_c = .33$ ,  $N = 4882$ ), and citizenship behaviors ( $r_c = .27$ ,  $N = 4050$ ). They concluded that trust benefits relationships with coworkers and with leaders and is an essential factor in effective working relationships in agreement with the conclusions of Bryk and Schneider (2002), Covey and Merrill (2018), De Jong et al. (2016), and Hallam et al. (2015).

**Trust and K-12 Schools.** Tschannen-Moran and Hoy (1998), Hallam et al. (2014), and Hallam et al. (2015) explored the impact of trust in schools. They described significant positive relationships between levels of trust that teachers have with their colleagues, their principal, and levels of school effectiveness. Hallam et al. describe the importance of trust for highly functioning and effective professional learning community (PLC) collaborative teams; when levels of trust among team members are high, teachers engage in sharing of information in ways that result in effective team collaboration (Hallam et al., 2014; Hallam et al., 2015). When trust in colleagues and trust in the principal is high, school effectiveness tends to increase as do indicators of positive school climate (Hallam et al., 2015; Tschannen-Moran & Hoy, 1998). Research by Van Maele and Van Houtte (2015) concluded that the level of teacher-principal trust impacts the likelihood of teacher burnout and emotional exhaustion. Improving levels of teacher-principal trust can act as a buffer against teacher burnout and turnover.

The work of Gülbahar (2017) further corroborates the conclusions of Tschannen-Moran and Hoy (1998) and Hallam et al. (2015). Gülbahar conducted survey research with 559 elementary school teachers in Turkey to examine the relationship between work engagement and levels of organizational trust. He found a significant positive relationship between the perceptions of teachers about their engagement in their work and their perceptions of



organizational trust ( $r = .71, p < .01$ ) in much the same way that participants in the research of Hallam et al. (2015) reported that levels of trust influence the willingness of teachers to engage with each other in collaborative efforts within professional learning communities.

Bryk and Schneider (2002), in their landmark study on the Chicago School System, found that the quality of communication contributed directly to levels of organizational trust, which in turn impacted student outcomes. In agreement with work described by Hallam et al. (2014), Covey and Merrill (2018), and Tschannen-Moran and Hoy (1998), they concluded that these factors can be directly influenced by educational leaders and administrators. Bryk and Schneider examined data from 400 elementary schools in Chicago over a period of four years and discovered factors that predicted successful outcomes for students, parents, teachers, and schools. One of those factors was levels of trust. The authors describe the importance of day-to-day social exchanges among teachers, parents, and school leaders as a resource for building and maintaining trust. They found that high levels of relational trust within school communities acted as a resource that enabled effective school reform and improved student outcomes. Components of relational trust include respect, personal regard, competence in roles and responsibilities, and personal integrity.

Bryk and Schneider (2002) also found that the actions of school principals were an important predictor of levels of organizational trust. When principals consistently engaged in trust-building behaviors that promote the school's mission and values, the level of relational trust within the school community increased, and further reform efforts were more likely to succeed as compared to schools where principals did not consistently engage in trust-building behaviors.

Parent engagement in the school community was another important component of building relational trust. The researchers described the importance of teachers reaching out to

parents to facilitate their engagement. When teachers engaged in behaviors that encouraged parental involvement, trust with parents and the community was improved.

Structural factors within the schools also contributed to development of relational trust. Small school size, low levels of student and family mobility, and opportunities to exercise choice in school settings were all associated with increased levels of trust within school communities. The authors concluded with a call to action for educational leaders who are working to improve schools. They suggested that to realize the benefits of school improvement efforts, educational leaders must intentionally construct environments and opportunities for building of relational trust between members of a school community.

Researcher Huseyin Akar (2018) completed a meta-analysis to describe findings in research that investigated organizational trust in educational settings. His research concurs with the findings of Tschannen-Moran and Hoy (1998), Bryk and Schneider (2002), Hallam et al. (2015), and Gülbahar (2017). Akar found that high levels of organizational trust increased job satisfaction, organizational citizenship behaviors, and organizational commitment in educational settings. Furthermore, he also determined that high levels of organizational trust reduced organizational cynicism and perceptions of the need for silence within an organization. Akar's conclusions align with the work of Hallam et al. (2015) who also concluded that high levels of trust reduce silence by facilitating open and vulnerable communication among team members.

**Trust in Postsecondary Academic Settings.** While the importance of trust within in K-12 educational environments has been established by several authors (Akar, 2018; Bryk & Schneider, 2002; Gülbahar, 2017; Hallam et al., 2015; Tschannen-Moran & Hoy, 1998; Van Maele & Van Houtte, 2015), there are fewer studies that examine the impact of trust within postsecondary academic settings. One study completed by Fard and Karimi (2015) examined

relationships between organizational trust, organizational silence, job satisfaction, and organizational commitment in a postsecondary setting. The findings of their study mirrored those from K-12 educational settings. Fard and Karimi determined that organizational trust was positively related to job satisfaction ( $r = .73, p < .01$ ) and organizational commitment ( $r = .75, p < .01$ ), and negatively related to organizational silence ( $r = -.81, p < .01$ ).

The work of Moye et al. (2006) examined the impact of empowerment of faculty on perceptions of trust in their department chairs. They found that the perceived levels of empowerment of faculty members and the levels of trust with their department chairs were positively correlated. Additionally, faculty who found their work meaningful and important, and who reported autonomy and influence in their work environment, perceived higher levels of trust in their department chairs. These findings appear to support the conclusions of Fard and Karimi (2015) that significant relationships between trust, job satisfaction, and organizational commitment exist in postsecondary academic settings.

### ***Social Economic Theories and Trust***

While the concept of trust has been studied extensively as a psychological construct, trust also plays a significant role in the major social economic theories that describe interactions between individuals and groups. Social capital theory and social exchange theory provide a different, but still related, view of the role of trust within groups.

**Social Capital Theory.** Social capital has its roots in sociology, economics, and political science. In 1916, L. J. Hanifan, as reported by Robert Putnam (2001), first introduced the term “social capital” when discussing the advantages and leverage created by the investment and cooperation of individuals within their communities. The concept of social capital became more prevalent in the later part of the twentieth century with the work of Pierre Bourdieu (1977) who

sought to better define and quantify the value of social capital. Bourdieu used an ethnographic approach to study construction of social reality in among people in Algeria. He emphasized the importance of “habitus” – a system of structures, skills, and dispositions that are socially ingrained and that reproduce the socio-cultural conditions which govern the way members of a society relate to one another. The concept of habitus was used by Bourdieu to explore the way that individuals interpret and react to their social world. He asserted that social, cultural, or symbolic capital is built within groups but is housed within and wielded by individuals in the group to mobilize resources or exert power. He observed that the various types of capital can be accumulated or transferred.

James Coleman’s (1988) work expanded the idea of social capital to include the role that trust plays in interactions, among other factors. Coleman described social capital as a resource for action within social structures. He focused on three forms of social capital: (a) obligations and expectations, (b) information channels, and (c) social norms and sanctions.

According to Coleman (1988), one example of the power of social capital is its association with the rate at which students drop out from school. He found that students who attend Catholic school, where the environment is conducive to development of social capital among students, families, and the school community, had lower dropout rates as compared to other schools. He asserted that the lower dropout rates that he observed were due to differences in social capital among Catholic school students and families as compared to private, and public-school students and families.

Coleman (1988) described social capital as a resource that can be used to facilitate individual or collective actions to achieve results, either positive or negative. He explained that social capital exists in the relationships among actors (individuals or groups), rather than as a

physical or tangible asset. He also identified trustworthiness of the social environment as a key component of social capital theory; when high levels of trust exist in the social environment, levels of social capital are also high. Coleman described how changes among individuals and groups of individuals can build or destroy levels of trustworthiness, and thus influence levels of social capital.

In his book, *Bowling alone: The collapse and revival of American community* (2001), Robert Putnam outlined the importance of social capital for building and maintaining democracy. He discussed the impact of technology and the decrease of person-to-person interactions on levels of social capital in the United States and explored the impact of changes in social capital in contemporary American society. He described social capital as “the connections among individuals’ social networks and the norms of reciprocity and trustworthiness that arise from them” (p. 19). Putnam described two types of social capital. Bridging, or inclusive social capital includes diverse groups of people and tends to be associated with overarching messages such as the civil rights movement. Bonding, or exclusive social capital tends to reinforce exclusiveness of homogenous groups and characteristics of the “in-group.” According to Putnam, bonding and bridging social capital can co-exist simultaneously.

Through meta-analytic research, Putnam (2001) found that levels of social capital increased in the United States until the 1970s when social capital began a steady and significant decline. Putnam worked to determine possible reasons for the drop in social capital. He determined that generational differences, the impact of television, pressures of time and money, and urban sprawl together explained approximately 85% of the decrease in social capital.

To combat the decline in social capital, Putnam (2001) made several suggestions including improving civics and service-learning programs in schools, creation of family-oriented

workplaces, implementation and creation of technologies that reinforce face-to-face interactions (instead of replacing face-to-face interaction), and decentralization of power. He asserted that increasing bridging social capital is an important component for realization of a more connected society.

In contrast to the social focus described by Putnam (2001), economist Francis Fukuyama (2001) examined social capital from the lens of norms that are created as part of group membership that decrease transaction cost and increase productivity. Fukuyama described social capital as a factor that promotes cooperation between individuals and is important for efficient functioning of modern economies. From an economic lens, social capital reduces transaction costs, and from a political lens, social capital facilitates stable modern democracies. Social capital tends to come from shared religious beliefs, traditions, and historical experiences. He indicated that educational institutions facilitate the transmission of social norms and rules as social capital. In environments other than education, governments and policymakers are generally not able to create social capital itself, but they can create situations where social capital can develop. Additionally, Fukuyama asserted that social capital is best developed by “insiders” who have local connections and roots. Governmental agencies and NGOs that are not connected to developing nations directly tend to be ineffective at developing sustainable levels of social capital within their target area. On the other hand, religion and globalization are external sources of social capital because they can inspire cultural change (both negative and positive).

**Social Exchange Theory.** Social exchange theory is related to the idea of social capital, but it focuses on the concept that parties engage in cost-benefit analysis to determine whether to engage in an interaction. George Homans (1958) examined social exchange theory through the lens of economic behaviorism. He framed social interactions as occurrences that humans engage

in through a cost-benefit and stimulus-reward mechanism. He compared the behavior of pigeons, and the situational factors that promoted or dissuaded their engagement (punishment, reward) to understand the ways in which exchange between parties occurs. He explained that people engage in social behavior as an exchange process that is predicated on the behavior of each party and whether the engagement punishes or rewards the act of engagement. Shared norms and cohesiveness were also described by Homans as important factors that attract people to take part in group interactions and exchanges and help groups to maintain levels of “practical equilibrium” that assist in preserving the social group.

While the argument for exploring interpersonal interactions through the impact of risk/benefit and rewards is a reasonable one, social exchange theory seems to only capture a small part of the complex nature of human interaction. Social exchange is part of building social capital, but the theory in and of itself does not capture the complexity of factors that build or diminish trust in organizations.

### ***Operational Definition of Trust***

The conceptual model of trust described by Rousseau et al. (1998) as the willingness for an individual to accept a position of vulnerability based on the expectation that the intentions and behaviors of another are positive and aligned with favorable outcomes as applied to the workplace by Ferres and Travaglione (2003) guides the definition, interpretation, and discussion of organizational trust in this study. The degree of trust between colleagues, groups, or institutions as evidenced by trust in coworkers, trust in supervisors, and trust in the organization are three levels that define the framework of organizational trust. When applied to institutions, trust in colleagues, trust in supervisors, and trust in the organization can be used to evaluate organizational trust (Ferres & Travaglione, 2003).

## **Communication**

Communication is a large and diverse field of study. Definitions, descriptions, and models of communication have proliferated over the last 70 years as means, methods, and understanding of communication have grown. As the field of communication theory has expanded policymakers, educators, and employers became increasingly interested in investigating the characteristics of competent communicators as they sought to promote effective communication in a variety of environments (Craig, 1999). As a result, the study of communication encompasses everything from physics and signal theory to the study of speech pathology. In this literature review the concept of communication is explored by describing the historical development of models of communication, reporting the research related to communication skills as applied to organizations, and discussing the role of self-efficacy in communication decisions. This section concludes with a description of the research that addresses communication in postsecondary academic libraries and a summary of the operational definition of communication used for this research.

### ***Models of Communication***

In a broad sense, communication happens when at least two parties contribute to a continuous and complex series of events in which one both influences and is influenced by the other in a reciprocal system of decisions and interactions. Each perceives the other in context, determines what they think is happening, decides how to react, and then responds accordingly (Barnlund, 1970; Berlo, 1960; Burlison, 2009; Craig, 1999).

**Linear Model.** One framework for understanding communication is the linear model of communication as described by Shannon and Weaver in 1949. They conceptualized a mathematical linear model of communication for Bell Laboratories that provided a framework



for examining the sending and receiving of messages as well as noise that could interfere with communication signals. The goal of this framework was to help improve early telephone communication and message transmission and receipt. This conceptualization became a foundational model for studying communication that has been expanded upon and further developed by many other researchers over the past 70 years. The linear model of communication portrays communication as a back-and-forth process where the sender issues a message to the receiver, and upon arrival of the message, the receiver then becomes the sender and issues a message back to the original sender (who is now a receiver).

Over the next 20 years, researchers expanded the linear model to capture a more complex picture of communication that included concepts of encoding and decoding, as well as interpretation based on individual factors (Berlo, 1960; Schramm, 1954). Schramm's (1954) work involved modeling communication with what he described as "fields of experience." He described how messages from the sender must be carefully encoded from thought into content so that the receiver can decode the message. According to Schramm, an individual's fields of experience shape encoding and decoding. These are essential processes that enable communication to occur; when encoding or decoding does not work properly, communication will fail. Schramm's "fields of experience" added an important perspective to communication theory that centered on the impact of individual perceptions.

Shortly after Schramm's (1954) research, Berlo (1960) created a simple model of communication that was an extension of Shannon and Weaver's (1949) linear model of communication. Berlo's model included four main components that senders and receivers use to engage in communication: (a) source, (b) message, (c) channel, and (d) receiver. This

model allowed researchers to identify areas beyond sending and receiving of messages that impacted the success of communication efforts.

**Transactional Communication.** In 1970, Barnlund proposed a transactional model that included simultaneous reciprocal connections within communication, as opposed to the simple models of communication previously conceptualized by Shannon and Weaver (1949) and Berlo (1960). Barnlund's transactional communication model attempted to describe the complex nature of communication as an activity with many facets that influence each other. The transactional communication model emphasized the importance of multiple factors that occur simultaneously while participants work to convey and interpret meaning. His communication theory outlined communication as a continuous cycle where each person is both a speaker and a listener engaged in a perpetually evolving process of sending and receiving messages. In transactional communication, participants interpret the feedback and adjust their communication based on the interactions and cues. Each perceives the other in context, determines what they think is happening, decides how to react, and then responds accordingly.

Transactional communication models became the basis for much of modern communication theory research because of their description of the simultaneous and constant feedback and input involved. Transactional models allowed flexibility for researchers as they sought to fill in details about the decisions that participants in communication make that influence simultaneous listening, interpreting, responding, and adjusting based on context and continuous communication feedback.

**Contemporary Models of Communication.** Over the past 20 years, researchers have continued to create and refine conceptualizations of communication in ever-expanding pathways. The work of Burleson (2009) addressed inconsistencies in definitions of interpersonal

communication in the research literature. Like his predecessors, Burleson's conceptualization of interpersonal communication involved the importance of the exchange of messages between parties. However, he proposed a message-centered description of interpersonal communication that is focused on social interaction situated in various dimensions of context (physical setting, social relational setting, institutional setting, functional setting, and cultural setting) that is centered around the complex process of producing and interpreting messages as a means to accomplish social goals. Burleson's conceptualization of interpersonal communication created a framework that attempted to connect processes, structures, functions, and contexts to aid in understanding the complexities inherent in communication research.

Since the beginning of the twenty-first century, in addition to attempts to portray the complex nature of interpersonal communication, models of communication have expanded into areas including artificial intelligence (Guzman & Lewis, 2019), social media (Flanagin, 2017), as well as complex neuropsychological research (Balconi, 2010).

Communication between humans and machines, also known as artificial intelligence (AI), is an area that has components of traditional human-to-human communication as well as algorithmic components. With the introduction of computer-based communication, interactions between communication theory and technology needed to be explored and defined. To meet this need, Guzman and Lewis (2019) created a framework for exploring communicative AI. Their framework included three main components: (a) functional dimensions that facilitate human understanding, (b) relational dimensions that describe how communicative AI influences relationships among humans, and (c) a metaphysical dimension that guides researchers toward exploring philosophical ideas surrounding human and machine communication.

With a slightly different take on the relationship between technology and communication than Guzman and Lewis (2019), Balconi (2010) used technology to explore and demonstrate a direct relationship between neural structure and functioning and complex language processing and communication tasks. He provided examples using tools including MRI and functional imaging along with analysis of anatomical structures to demonstrate that the brain's structures are polyfunctional – meaning that neural networks and units have more than one function which they perform. Balconi demonstrated how this polyfunctional complexity makes it difficult for researchers to decode the neural mechanisms used by individuals for processing language and engaging in communication tasks. This neurobiological view of communication is yet another lens through which to study and attempt to understand communication.

While these complex contemporary models for examining and understanding communication stand in stark contrast to the simplicity of Shannon and Weaver's (1949) linear communication model, they are also still built on the basic premise of message sent, message received, as conceptualized by Shannon and Weaver.

### ***Communication Skills***

Communication occurs in slightly different ways for everyone involved based on their individual levels of communication competence and their mindfulness in communication. Individual levels of assertiveness, responsiveness, and cognitive flexibility, as well as levels of attentiveness and openness to non-verbal, contextual, and emotional messaging can influence the ways in which communication participants simultaneously give and receive messages, make interpretations, and respond (Arendt et al., 2019; Dilbeck & McCroskey, 2008).

McCroskey (1982) argued that to meet the increasing demands for effective communication, educators must clearly define what it means for an individual to be a competent

communicator. He described challenges faced when terminology used to describe effective communication is used in an unclear or interchangeable manner. For example, McCroskey pointed out that “communication competence” is not necessarily the same thing as “communication effectiveness.” He also pointed out that communication competence may not be equivalent to performance of communication. Effectiveness tends to focus on accomplishment of goals. He described a hypothetical situation where two competent communicators discuss who gets the last piece of chicken. If effectiveness in achieving a goal is the same as competence, then it could be argued that the person who did not get the chicken was not competent. McCroskey argues that equating effectiveness and competence in communication is incorrect and is not helpful in understanding what it means to be a competent communicator.

He also indicated that it is incorrect to assume that performance and competence are always related. To support his argument, he described how a student who is skilled at reading aloud (performance), does not necessarily mean that the student has a high level of reading comprehension (competence). According to McCroskey, knowing how to communicate does not neatly translate to appropriate communication behavior. Individuals who are competent communicators demonstrate knowledge of appropriate communicative behaviors in a given context, and individuals who exhibit skill in communication perform communication behaviors correctly in a given context.

**Communication Competence.** As discussed above, communication competence is defined as individual’s ability to demonstrate knowledge of the appropriate communicative behavior in different situations (McCroskey, 1982). There are three generally accepted components of communication competence: (a) assertiveness, (b) responsiveness, and (c) cognitive flexibility (Dilbeck & McCroskey, 2008; Martin & Rubin, 1995).

Dilbeck and McCroskey (2008) examined assertiveness, responsiveness, and cognitive flexibility as factors that predict competent communicators and compared those constructs to the construct of rhetorical sensitivity (the ability to balance interpersonal goals of self and other). They defined assertiveness and responsiveness as characteristics of how a person begins communication, reacts, adapts, and ends communication with others. They pointed out that assertiveness and responsiveness are neither positive nor negative in and of themselves. Effective communicators are both assertive, and responsive. Ineffective communicators may be perceived to be only assertive, and not responsive to the other party's needs, or they may be both non-assertive, and non-responsive.

According to Dilbeck and McCroskey (2008), the level of assertiveness and responsiveness of communicators is highly predictive of their level of communication competence. Cognitive flexibility, the ability to adapt communication to meet the needs of various situations, also predicts communication competence (Martin & Rubin, 1995). Competent communicators use cognitive flexibility to shift between assertiveness and responsiveness, based on the context of the conversation. Levels of assertiveness, responsiveness and cognitive flexibility are correlated with individuals' effective communication behaviors (Dilbeck & McCroskey, 2008; Martin & Rubin, 1995). Communication competence predicts whether people are likely to engage in communication with their colleagues (McCroskey, 1982).

**Mindfulness in Communication.** Mindfulness is described as a state of focus and awareness about what is happening in the present moment, both internally and externally, with a non-judging attitude (Arendt et al., 2019; Brown & Ryan, 2003). When applied to communication, mindfulness is typified by communication behaviors where individuals are calm, present and paying attention, and demonstrate non-judgmental and open attitudes.

Mindfulness in communication is positively associated with employee performance and levels of trust (Arendt et al., 2019; Good et al., 2015; Horton-Deutsch & Horton, 2003; Reb et al., 2014; Stedham & Skaar, 2019). Additionally, mindfulness predicts communication self-efficacy (Sundling et al., 2017).

**Mindfulness in the Workplace.** Good et al. (2015), created a framework for use in studying mindfulness and management. Through the lens of the traditional views of Buddhism, they examined the research literature to identify ways in which mindfulness appears to affect human functioning and summarized the impact of mindfulness on the areas of performance, interpersonal relationships, and personal well-being. Good et al. defined mindfulness as “receptive attention to and awareness of present events and experience” (p. 4). The authors claimed that mindfulness is an important aspect of workplace functioning that influences attention, cognition, emotion, behavior, and even physiology. They summarized findings in the research that suggest that mindfulness impacts work performance by improving performance levels, reducing variability in performance, influencing goal-directed behavior and motivation, and stabilizing work environments to help avoid disruptions and distractions.

In agreement with the work of Good et al. (2015), Horton-Deutsch and Horton (2003) found that increasing mindfulness was an important behavior in the workplace. However, in contrast to the work of Good et al. which focused on general impacts of mindfulness in the workplace, Horton-Deutsch and Horton focused their research specifically on the impacts of mindfulness in communication in the workplace. They identified mindfulness in communication as an effective tool to overcome longstanding patterns of damaging ineffective communication, known as intractable conflict, within the workplace. The researchers interviewed participants to gain an understanding of how people effectively navigate intractable conflict in the workplace.

After collecting all the results, the authors categorized the data using Grounded Theory to guide their process. They theorized that individuals engage in two main types of behaviors which they categorized as either mindless or mindful behaviors. Mindless behaviors are associated with rigidity in thinking, high levels of emotion, and lack of self-control, while mindfulness is associated with cognitive flexibility, use of context to help with making meaning, and emotional control. They found that moving from mindless to mindful behaviors helped participants work through destructive communication patterns. Individuals who demonstrated mindfulness to overcome conflict went through three phases of mindfulness: (a) growth in awareness of self and others, (b) accepting reality, and (c) regaining equilibrium. When subjects focused their attention and energy on factors they could control (themselves and their response), they were better able to manage intractable conflict.

Taking the ideas of Horton-Deutsch and Horton (2003) one step further, Arendt et al. (2019) determined that mindfulness in communication was positively related to positive perceptions of leadership behaviors. They further asserted that mindfulness in communication is a skillset that is amenable to training and development in the workplace.

**Mindfulness and Trust in School Settings.** Hoy et al. (2006) explored the relationship between organizational mindfulness and trust in a school setting. They discussed the importance of flexibility and being present (mindfulness) in the day-to-day operations of schools and asserted that these traits are necessary components for schools to be able to effectively deal with unexpected events. Hoy et al. stated that when schools have a climate of openness, teamwork, and trust, they can use mistakes and failures as opportunities to learn, rather than viewing them as reason for punishment. This aligns with the work of Hallam et al. (2015) that described the level of trust as a key component of teachers' willingness to be vulnerable and share their



instructional practices and to seek help from their peers. In Hoy et al.'s work, data on mindfulness and organizational trust were collected from 75 different middle schools during regularly scheduled faculty meetings. Analysis of the data indicated that mindfulness was highly correlated with trust in the principal and trust among teachers, with both trust factors explaining much of the variance in mindfulness. The researchers concluded that trust is essential for engaging in successful problem solving, and that mindfulness creates a climate that facilitates trust.

### ***Importance of Communication Skills***

Communication skills are important for success in the various aspects of life. There is a direct relationship between the quality of communication between individuals and their quality of life. As described in *The Handbook of Communication Skills*, effective interpersonal skills tend to be related to increased quality of life, resilience to stress, fewer psychological and social problems, and increased academic and professional achievements. Furthermore, along with cognitive skills and technical skills, communication skills are one of the three main sets of skills that determine competency in employment (Hargie, 2019).

Recent work by Okoro et al. (2017) provides additional support to the relative importance of interpersonal communication skills in the workplace. In their synthesis of the published research on communication competence, interpersonal effectiveness, and organizational competitiveness, they asserted that effective communication is essential for success in business, academic and professional environments. They cited numerous examples of the emphasis placed on communication as a precursor to successful employment interactions, as well as examples of the amount of time and resources allocated by managers to address issues of communication. With its focus on effective communication as an essential component of workplace success, the

work of Okoro et al. appears to support the findings of Sabanci et al. (2016), Tyler (2016), and Zaugg and Davies (2013) which describe the impact of effective interpersonal communication skills in the workplace.

### ***Self-Efficacy Beliefs and Communication***

**Self-Efficacy.** Alfred Bandura's (1978) influential work on self-efficacy described the importance of an individual's expectation of success as a predictor of the likelihood of the individual initiating a behavior, maintaining effort, and persisting through challenges. Through experiments on behavioral change with individuals who had a phobia of snakes, Bandura concluded that self-efficacy was the mechanism that facilitated relief from the snake phobias. He found that self-efficacy beliefs are enhanced when individuals experience success in tasks and have experiences with mastery. According to Bandura, individuals use performance accomplishments, vicarious experience, verbal persuasion, and physiological (emotional) states to inform their perceptions of their levels of efficacy. When participants in his research were given tasks that they believed that they had the capabilities to complete successfully, participants experienced mastery and increased levels of self-efficacy. Participants' experiences with success and increased self-efficacy predicted participant success on tasks that were unfamiliar and stress-inducing. On the other hand, when individuals were given tasks that were outside of their perceived level of competence, they were not successful, and self-efficacy beliefs decreased. Bandura determined that beliefs about efficacy influenced the level of performance demonstrated by research participants because the level of self-efficacy beliefs was related to the intensity and persistence of effort.

**Communication Self-Efficacy.** Challenging conversations are common in organizations. Communication self-efficacy is self-confidence in one's ability to successfully engage in written

and oral communication (Hassall et al., 2013). In agreement with Bandura's (1978) description of the impact of self-efficacy beliefs on the decisions an individual makes about whether they will engage in a task, and how much effort they will put toward completing the task, Patterson et al. (2012) described how individuals who are not confident in their abilities to hold challenging conversations tend to engage in challenging conversations ineffectively or avoid them. They further described how people who are less than "fairly confident" in their ability to succeed in a difficult conversation are significantly more likely to struggle with low efficiency, poor morale, and a negative work environment.

Ruben et al. (1993) found that when individuals have high levels of self-efficacy beliefs about their interpersonal communication competence, they are more likely to experience satisfying communication. This is significant because individuals tend to behave based on their self-perceptions about their communication competency rather than on actual communication skill levels (McCroskey & McCroskey, 1988).

### ***Communication in Postsecondary Academic Libraries***

Communication is an important part of the work that occurs in today's postsecondary academic libraries (Bechtel, 1986; Freedman, 2009; Lynch & Smith, 2001; O'Sullivan & Partridge, 2016). Bechtel's (1986) research described changes in the functioning and roles of academic libraries during the late twentieth century. She argued for the importance of changing the perception of an academic library as a storehouse for books to academic libraries as a place for promotion and participation in conversation and sharing of ideas. According to Bechtel, academic librarians must be skilled communicators who can bring diverse voices together in meaningful ways.

O’Sullivan and Partridge (2016) explored the importance of strategic communication in postsecondary academic libraries. Much like Bechtel (1986), they asserted that all employees have an important role in communication both within the organization, and across external areas of influence, as “brand ambassadors.” O’Sullivan and Partridge describe seven steps to improve and leverage communication opportunities in postsecondary academic libraries:

1. Create a communication path.
2. Employ a transparent style.
3. Build trust.
4. Train managers to be good communicators.
5. Build accountability for corporate values.
6. Articulate a mutual benefit for the employee and organization.
7. Adopt many small practices to reinforce the motivation.

Implementation of these communication strategies resulted in positive feedback from staff at all levels in the library. The authors conclude that all library staff members must develop and demonstrate empathy for clients and colleagues, and they must have a clear understanding of their roles within the organization as they work toward the goals of their institution (O’Sullivan & Partridge, 2016).

While communication is of the utmost importance in postsecondary educational settings, academic faculty and professional staff may have competing or conflicting priorities (Mamiseishvili, 2012). When there is a competition for financial, time, or material resources, and when there are competing priorities among groups, challenging conversations are likely to arise (Patterson et al., 2012). Freedman (2009) investigated collegiality, bureaucracy, and collegial decision making in action via a survey of the librarians from the Massachusetts State College

Association. Seventy-six percent of respondents reported that they worked in a collegial environment, while twenty-four percent identified issues with collegiality in their work environment.

Increasingly, traditionally separate academic library departments must collaborate to meet the requirements of academic access to information. Effective communication can improve the ability of librarians and library structure to adapt to a more flexible structure that contributes to effectiveness and efficiency. Lack of communication between departments can cause interdepartmental conflicts and power struggles. Factors that influence collegiality include open communication between library departments and librarians, mutual support, respect, and trust, and common goals (Freedman, 2009).

People who work in academic settings tend to have high levels of education and to be proficient in oral and written communication (Lynch & Smith, 2001). However, possession of high levels of oral and written communication skills does not necessarily equate to the ability to demonstrate interpersonal communication competency (McCroskey, 1982). Lynch and Smith (2001) analyzed library job advertisements that were published between 1973 and 1998 to determine how the skills required of library personnel had changed over the 25 years represented in their data set. They found that a professional degree accredited by the American Library Association was required in 80% of the job description postings, indicating that a specific library degree was still important. The postings also indicated that the ability of librarians to effectively employ computer skills, written communication, and oral communication skills was important. In addition to an increased focus on demonstrated interpersonal communication skills, contemporary job postings included terms such as flexibility, leadership, and creativity. The authors asserted that as Library Information Science programs are revised and updated, the core

skills and values that are hallmarks of library professionals must include behavioral content, including an emphasis on good communication skills, in library science curricula.

Review of the research literature revealed a lack of published literature about postsecondary academic libraries and organizational culture, trust, or communication. Only four articles about postsecondary academic libraries that were related to communication skills were located (Bechtel, 1986; Lynch & Smith, 2001; O'Sullivan & Partridge, 2016; Sheldon, 1992). Two articles that were related to the concept of trust in postsecondary academic libraries were located (Freedman, 2009; Sheldon, 1992).

### ***Mindfulness in Communication and Organizational Trust***

Work on mindfulness in communication is a relatively new area of focus in the research literature with very few studies published prior to 1990, and the bulk of the research literature published after the year 2000. No research articles were located that investigated the link between mindful communication and organizational trust, though components of mindful communication such as being open and calm, have been investigated in separate studies (Ayoko & Pekerti, 2008). There were, however, articles that linked mindfulness with communication self-efficacy (Sundling et al., 2017) with reducing negative reactivity in communication (Horton-Deutsch & Horton, 2003; Huston et al., 2011). Further, two articles linked mindfulness and trust, but neither study examined relationships between mindfulness in communication and levels of organizational trust (Hoy et al., 2006; Stedham & Skaar, 2019).

### ***Operational Definition of Communication***

Communication happens when at least two parties contribute to a continuous and complex series of events in which one both influences and is influenced by the other in a reciprocal system of decisions and interactions. Each perceives the other in context, determines

what they think is happening, decides how to react, and then responds accordingly (Barnlund, 1970; Berlo, 1960; Burlison, 2009; Craig, 1999). Hallmarks of effective communication include communication competency as defined by levels of assertiveness, responsiveness and cognitive flexibility described by McCroskey and Richmond (1996) and Martin and Rubin (1995).

Mindfulness in communication behavior is characterized by individuals who are calm, present and paying attention, and who demonstrate non-judgmental and open attitudes (Arendt et al., 2019). Communication competency and mindfulness in communication define the core attributes of communication for this study.

### **Relationships Between Trust and Communication**

Methods of communication impact levels of trust (Covey & Merrill, 2018; Patterson et al., 2012). Covey and Merrill (2018) asserted that, “most organizational performance issues are actually trust issues in disguise” (p. 340). While low-trust environments impede effectiveness and efficiency, high-trust environments facilitate success (Bryk & Schneider, 2002; Covey & Merrill, 2018; De Jong et al., 2016; Fukuyama, 2001). Researchers Hallam et al. (2015) found that “trust facilitates collaboration by enabling teachers to be open with sensitive information that might cause vulnerability” (p. 211). Additionally, they determined that “trust enables teachers to deprivatize their teaching practice and engage in more open communication about their instruction” (p. 211). These findings parallel those of Hoy et al. (2006) that a culture of trust enables people to openly admit errors, take risks, and share ideas without fear.

Examination of the relationships between self-perceptions of communication competence (Martin & Rubin, 1995; Richmond & McCroskey, 1990), communication mindfulness of self, coworkers, and supervisors (Arendt et al., 2019), on levels of organizational trust (Ferres &

Travaglione, 2003), may provide insight into the predictive role of competent and mindful communication on organizational trust.



## CHAPTER 3

### Method

To explore the possible existence of predictive relationships between measures of communication competence and mindfulness in communication, on levels of organizational trust, a survey instrument was administered to non-student employees in a postsecondary academic library. To explicate the methods used in this research study, information about participants in this research and the setting in which the research took place will be detailed first. A description of the compilation of the research survey instrument and its subsequent validation process follows the discussion of the research participants. After instrumentation, the research model and statistical analysis procedures are explained.

### Participants

#### *Institutional Review Board*

The researcher completed Collaborative Institutional Training Initiative (CITI) programs, created introduction (see *Request for Participation* in Appendix A) and informed consent letters (see *Implied Consent* in Appendix B), and obtained a letter of support from the postsecondary library administration (see *Letter of Support* in Appendix C) prior to submission of the Institutional Review Board (IRB) application. IRB approval was obtained through the university (see *Approval Letter* in Appendix D). Approximately one week before the research began, participants were contacted by email and provided with introductory information about the upcoming survey research so that they would be familiar with the reason they would receive a request to participate in a survey. Participants were not required to take part in the research and could choose not to complete the survey without any repercussions. Informed consent was obtained via the survey instrument before participants were asked any survey items. Those who

indicated that they did not wish to participate were not asked any survey items. All data were collected without any personally identifiable information to ensure the security of the responses and to facilitate trust that results could not be connected to any individual or subgroup of individuals within the library.

### ***Response Rate***

With 119 respondents out of the population of 150, this survey had an 79.3% response rate. Three out of 119 individuals who responded to the request for participation in the survey research indicated that they did not wish to participate and did not complete any survey instrument items, resulting in a survey participation rate of 77.3% of the total population. Of the remaining 116 respondents, missing responses from four participants accounted for 99% of the missingness in the data set. Overall, there was very little missingness in the data set; the lowest rate of completion for any single item on the survey was 94.8%.

### ***Population Demographics***

To facilitate participation by library staff and faculty in research that examined self-perceived communication competency and mindfulness and their perceptions of levels of trust within their workplace, demographic information was not collected directly from participants. General demographic information of the non-student employees in the postsecondary university library provides a context for understanding the population from which our respondents are drawn. No demographic information was collected directly from the respondents to avoid possible concerns with identification of respondents due to small  $n$ -sizes in some of the demographic categories. The following information is a description of the characteristics of all non-student faculty and staff within the postsecondary academic library as presented in Table 1.

The academic library non-student employees are mostly full time (88.7%). Approximately 41% of the employees are academic faculty. The remaining employees are staff, administration, or part-time employees. There are four main departments within the library where the non-student employees work. Each department has multiple teams that complete the work of the department. Thirty-six percent of the non-student library employees work in teams housed within the Research and Learning Department and 21.3% work within the Collections Services department. The remaining 42.7% of non-student employees work in Administration or in Administration Services.

The number of years that non-student employees of the academic library have been working within the library are clustered at 1 to 3 years, and at more than 15 years of employment. Nearly one-third (31.3%) of the library's employees have worked at the library for more than 15 years while another 24% have been employed by the library for only one to three years. Other categories exhibit fairly even distribution.

The demographic characteristics employees of the postsecondary academic library reveal a population that is 52.7 % female, and 47.3% male. Most employees are between 32 and 51 years old and the overwhelming percentage of library employees are white (96%). Only 2.7 % of employees are Hispanic/Latinx and 1.3% are Asian.

Though the survey was sent to all employees of the library, it is possible that the distribution of characteristics of the respondents to the survey does not fully represent the characteristics of the employee population. However, due to the fairly homogenous nature of the population and to a survey response rate of 77.3%, it is likely that the survey responses are representative of the population as a whole.

**Table 1***Demographics of Sample (n=150)*

Characteristic	<i>n</i>	%
Full time (40 hrs/wk)	133	88.7
Less than full time (39 – 21 hrs/wk)	15	10.0
Half time (20 hrs/wk)	2	1.3
Employment role		
Academic faculty	61	40.7
Staff	38	25.3
Administrator	34	22.7
Part time	17	11.3
Department		
Administration	12	8.0
Administration Services	7	4.7
Collection Services	32	21.3
Research and Learning	52	34.7
Years of Employment <sup>a</sup>		
< than 1 year	8	5.3
1 - 3 years	36	24.0
4 - 6 years	17	11.3
7 - 9 years	18	12.0
10 - 12 years	11	7.3
13 – 15 years	13	8.7
> 15 years	47	31.3
Gender		
Female	79	52.7
Male	71	47.3
Age <sup>b</sup>		
< 21 years old	0	0
22 to 31 years old	16	10.7
32 to 41 years old	39	26.0
42 to 51 years old	36	24.0
52 to 61 years old	37	24.7
62 to 71 years old	20	13.3
> 72 years old	2	1.3
Race/Ethnicity		
Caucasian/White	144	96.0
Asian	2	1.3
Hispanic/Latinx	4	2.7
Other	0	0
TOTAL non-student employees	150	100%

<sup>a</sup> Number of years calculated by rounding time to nearest year to get whole number increments.

<sup>b</sup> Age collected in age bands to protect privacy of library employees

## Setting

The setting for this research was a postsecondary academic library at a large private university in the intermountain west.

## Instruments

The questionnaire used in this research included four previously published instruments (see Appendix E)

- SocioCommunicative Orientation Scale (SCO; Richmond & McCroskey, 1990)
- Cognitive Flexibility Scale (CFS; Martin & Rubin, 1995)
- Mindfulness in Communication Scale (MCS; Arendt et al., 2019)
- Workplace Trust Survey (WTS; Ferres & Travaglione, 2003)

To probe levels of mindfulness in communication for self and coworkers, the MCS was adapted and expanded to measure perceptions of mindfulness of self and mindfulness of coworkers in addition to mindfulness of supervisor (see Appendix E). Since none of the instruments had been used in a postsecondary academic library, and with the addition of two new components to the MCS, the functioning of each instrument was examined by confirmatory factor analysis and the instruments were adjusted based on the data to obtain good model fit.

### *SocioCommunicative Orientation Scale*

Communication Competence has three generally accepted components: (a) assertiveness, (b) responsiveness, and (c) cognitive flexibility (Dilbeck & McCroskey, 2008; Martin & Rubin, 1995). Assertiveness and responsiveness describe ways in which individuals initiate, react, adapt, and end communication with others. The SocioCommunicative Orientation Scale (SCO) reliably measures the perceptions an individual has about how assertive and responsive they are

(Richmond & McCroskey, 1990). McCroskey and McCroskey (1988) suggested that self-report is appropriate for examining self-perceived communication competence. They pointed out that an individual's level of self-perceived communication competence guides the decisions that the individual makes concerning communication; they are likely to make decisions about communication based on self-perceived communication competence as opposed to actual levels of communication competence.

### ***Cognitive Flexibility Scale***

Individuals who demonstrate cognitive flexibility are aware of and willing to adapt to changes in situations. The Cognitive Flexibility Scale (CFS) has been shown to be a valid measure of flexibility in communication (Martin & Rubin, 1995). Use of both the SCO and CFS provides information about the assertiveness, responsiveness, and cognitive flexibility components of communication competence (Martin & Rubin, 1995; Richmond & McCroskey, 1990).

### ***Mindfulness in Communication Scale***

In their survey research, Arendt et al. (2019) explored the impact of mindfulness in communication as demonstrated by leaders in an organization on the followers' levels of satisfaction with communication and general satisfaction with the leaders. They developed the Mindfulness in Communication Scale to use in their study, since there was not an existing instrument targeted toward measuring behaviors that indicate mindfulness in communication. The instrument was developed by reviewing the literature relating to mindfulness in leadership to generate items related to communication and then completing an explanatory factor analysis which resulted in removal of five items and demonstrated a three-factor solution. After refining the instrument, researchers completed a confirmatory factor analysis that demonstrated good fit

statistics. They concluded their instrument development with an examination of discriminant validity that indicated that the instrument captured what it was intended to measure.

For this research, the MCS was expanded from a measurement of a single factor of mindfulness in communication of supervisors to also include the factors of mindfulness in communication of self, and mindfulness in communication of coworkers. This expansion was done by changing the word “supervisor” from the original text to “coworker” as well as to a personal pronoun as appropriate, such as the word “I” (see Appendix E).

### ***Workplace Trust Survey***

The work of Ferres and Travaglione (2003) examined factors that initiate and sustain trust in the workplace. Based on their research findings, they created the Workplace Trust Survey, an instrument to measure trust with coworkers, supervisors, and the organization. Development of the instrument included generation of 36 items intended to measure affective, normative, and behavioral factors of trust at the organizational, supervisor, and coworker level. Factor analysis conducted by Ferres and Travaglione revealed three factors: (a) trust in the organization, (b) trust in supervisor, and (c) trust in coworker. Based on factor loadings and examination of multicollinearity, Ferres and Travaglione reduced the number of items from 72 to 36. The reduction of items resulted in an instrument that demonstrated construct validity through the loading of each question on one of the three factors. After correlating their instrument with Cook and Wall’s (1980) previously validated Trust in Peers and Trust in Management subscales, Ferres and Travaglione concluded that the items in the Workplace Trust Survey measures (a) trust in colleagues, (b) trust in immediate managers, and (c) trust in the organization.

The Workplace Trust Survey (Ferris & Travaglione, 2003) was further validated through German and Italian adaptations and subsequent analysis. Lehmann-Willenbrock and Kauffeld

(2010) completed a German adaption of the instrument. As a result of their analysis, items that represented the opinion of the whole staff rather than of individuals were removed from the instrument. Their adaptation resulted in an instrument with 27 items and the same three factors as described by Ferris and Travaglione. Similar to the work done by Lehmann-Willenbrock and Kauffeld (2010), Maiolo and Zuffo (2018) adapted the Workplace Trust Survey to Italian. The fit statistics of the original 36-item survey items resulted in a model with poorer fit than the 27-item survey established in the German adaptation. The 27-item Italian survey replicated the same question and factor structure as the German adaptation with good model fit (Maiolo & Zuffo, 2018). Additionally, both the German and Italian adaptations utilized a 6-category Likert response scale instead of the 7-category scale originally proposed by Ferris and Travaglione.

### **Procedures**

After adapting the MCS to include mindfulness in communication of self and mindfulness in communication of coworkers, for ease of distribution and data collection, the complete survey instrument was compiled within Qualtrics XM software, Copyright 2020. The instrument was then shared with all 150 non-student employees in the postsecondary academic library via email. Respondents had three weeks to complete the survey. After two weeks, recipients who had not responded received an email reminder to complete the survey. Any remaining non-respondents were sent a reminder email two days prior to the closing of the survey.

### **Analytical Strategy**

The focus of this research was to determine whether there were any statistically significant predictive relationships between self-perceptions of components of communication competency and mindfulness in communication on levels of organizational trust as described by



Ferres and Travaglione (2003). To measure factors theorized to predict levels of organizational trust, relevant instrumentation that demonstrated a reasonable expectation of utility within a postsecondary academic library was located through an extensive search of published literature. However, none of the measurement instruments identified for use had been validated for use within a postsecondary academic setting. To collect initial evidence of structural validity of the survey instrument for this research, confirmatory factor analysis was completed. Confirmatory factor analysis (CFA) was selected because it provides a way to examine the relationship of survey items to each other and to a theorized factor.

CFA is commonly used to validate the theorized structure of measurement tools (Bandalos, 2018; Keith, 2015; Wang & Wang, 2012). CFA provides information about the fit of the data to a theorized measurement model; data from CFA can help to identify weaknesses in specific items and can point to potential modifications that may improve the model fit. When applying CFA to examine instrument functioning, the number of factors and the types of variables that are expected to load on each factor specified in advance by the researcher. Sometimes the application of CFA does not provide useful information because of complex patterns of poor model fit. When that occurs, it may be that the theorized measurement structure is not accurately configured. An exploratory factor analysis may be necessary to verify the number of factors represented by the data and to examine the functioning of the items relative to each factor.

This research poses questions about relationships between multiple factors. A structural equation model (SEM) is a two-part model that is comprised of both a measurement model and structural equations. Structural equation modeling allows for testing of theorized relationships between multiple endogenous and exogenous factors while including estimates of measurement

error that impact the model (Wang & Wang, 2012). Structural equation modeling was applied to the data from the modified measurement instrument to analyze relationships between the variables to test the plausibility of the theorized model with the observed data, and to identify predictive relationships between the input variables and the outcome measures.

### **Model Fit Indices**

To evaluate the models, both absolute and comparative fit statistics were examined. Models with poor fit statistics were rejected in favor of models with better fit statistics. Measures of absolute fit used in this research include the root mean square error of approximation (RMSEA) and the standardized root mean square residual (SRMR). To examine comparative fit, the comparative fit index (CFI) and the Tucker-Lewis index (TLI) were used as indicators of model fit.

The RMSEA is an absolute fit index that measures the average lack of fit of the specified model to the observed model. Generally, RMSEA values of 0.08 or less are considered good fit, values between 0.08 and 0.10 indicate mediocre fit, and values over 0.10 are considered poor fit. SRMR is an absolute measure of fit that describes the standardized difference between the residuals of the observed covariance matrix and the covariance of the hypothesized model. An SRMR value  $< 0.08$  indicates good model fit and an SRMR value  $< 0.10$  is considered to indicate acceptable model fit (Wang & Wang, 2012).

The CFI is a measure of comparative fit between the null model and the hypothesized model. Some researchers suggest that the cutoff for good fit for CFI values should be  $\geq .95$ . However, CFI values  $\geq .90$  are generally accepted as an indicator of good model fit. Like the CFI, the TLI is an incremental fit index that compares the fit between the null model and the hypothesized model. While the CFI is not very sensitive to sample size, the TLI has a penalty for

model complexity and is preferable for smaller samples. The recommended cutoff value for TLI is a value  $> 0.90$  (Wang & Wang, 2012).

## CHAPTER 4

### Results

This study examined the relationships between components of communication competence and mindfulness in communication, on levels of organizational trust in a postsecondary academic library. The structural validity of the survey instrument used in this study was examined. The survey instrument was comprised of the SCO (Richmond & McCroskey, 1990); the CFS (Martin & Rubin, 1995); the MCS (Arendt et al., 2019); and the WTS (Ferres & Travaglione, 2003). Theoretically supported modifications were made to the instruments based on CFA results to obtain adequate model fit to allow for their use in structural equation modeling. The MCS was successfully adapted and expanded to measure perceptions of *mindfulness of communication of self* and *mindfulness of communication of coworkers* in a postsecondary academic library.

SEM revealed the presence of predictive relationships between self-reported *responsiveness*, and perceptions of *mindfulness in communication of coworkers* with levels of *trust in coworkers*. Predictive relationships were demonstrated between perceived *mindfulness in communication of supervisors* with *trust in supervisors*. No predictive relationships were identified between self-perceived levels of *assertiveness* and *cognitive flexibility* and any of the levels of trust. Additionally, none of the factors predicted levels of *trust in the organization* at  $p < .05$ .

#### Assumptions of Statistical Model

Each section of the survey instrument was examined for linearity, independence, normality, multicollinearity, and equality of variance. Linearity was examined using a standardized residual plot of four randomly selected predictor variables within each survey

section. Curve fit estimation indicated the presence of a linear relationship for all sections of the survey instrument.

The assumption of independence was also examined. Since this data set is only comparing respondents within one postsecondary university library, it is likely that the responses are related simply because they were all submitted by employees of the same organization. There is a potential lack of independence because employees are clustered in departments. However, data about participant membership in departments was not collected to protect confidentiality.

Histograms indicated approximately normal distributions for each section of the measurement instrument with coverage across response categories sufficient to treat all items as continuous, except for Item 1 of the SocioCommunicative Orientation Scale (SCO). Item 1 of the SCO functioned as a nearly dichotomous item with 44% of respondents selecting answer Option 4 and 54.3% selecting answer Option 5; one respondent selected answer Option 3, and no respondents selected answer Options 1 or 2. This item was treated as a categorical response in the data analysis but was subsequently removed due to poor item functioning.

A visual examination of residual versus predicted values on scatter plots did not indicate the presence of any abnormal skewness and equality of variance was assumed. No significant multicollinearity was observed between items in any section of the instrument.

### **Confirmatory Factor Analysis**

#### ***Instrument Validation: SocioCommunicative Orientation Scale***

The SCO is comprised of two factors; one factor that measures *responsiveness* and one that measures *assertiveness*. Each factor was examined using a single factor model to evaluate question functioning. Initial model fit of the single factor of responsiveness to the data indicated moderately poor fit (RMSEA = 0.144, CFI = 0.686, TLI = 0.596, SRMR = 0.100). Fit statistics

for the single factor of assertiveness also suggested that the model did not fit the data well (RMSEA = 0.124, CFI = 0.866, TLI = 0.828, and SRMR = 0.074). Examination of the SCO as a two-factor model resulted in fit statistics that were still not adequate (RMSEA = 0.086, CFI = .672, TLI = 0.631, SRMR = 0.115). In-depth examination of the items in the SCO instrument revealed that four items did not appear to discriminate between *assertiveness* or *responsiveness* (Items 3, 12, 13, and 20). All had poor standardized correlations and low r-square values. Additionally, Item 1, which functioned as a categorical item, demonstrated poor functioning. Questions 1, 3, 12, 13, and 20 were removed one at a time to assess the impact on model fit. Modification indices as suggested by data output were added. The combination of removal of poorly functioning items and the application of modification indices resulted in a final model with adequate model fit (RMSEA = 0.079, CFI = 0.915, TLI = 0.895, SRMR = 0.089) as presented in Table 2 and Figure 1.

**Table 2***CFA Results for SocioCommunicative Orientation Scale*

Questions	Final Model		
	<i>b</i>	$\beta$	$R^2$
Assertiveness			
2. defends own beliefs	1.000	0.510***	0.260**
3. independent <sup>a</sup>			
5. forceful	2.312***	0.840***	0.705***
6. has strong personality	2.417***	0.756***	0.572***
9. assertive	2.117***	0.786***	0.618***
11. dominant	2.171***	0.799***	0.638***
14. willing to take a stand	0.894***	0.442***	0.196**
18. acts as a leader	1.516***	0.576***	0.332***
19. aggressive	1.747***	0.709***	0.503***
20. competitive <sup>a</sup>			
Responsiveness			
1. helpful <sup>a</sup>			
4. responsive to others	1.000	0.515***	0.266**
7. sympathetic	1.709***	0.757***	0.573***
8. compassionate	1.990***	0.795***	0.633***
10. sensitive to the needs of others	1.556***	0.679***	0.461***
12. sincere <sup>a</sup>			
13. gentle <sup>a</sup>			
15. warm	1.335***	0.473***	0.223**
16. tender	1.562***	0.507***	0.257**
17. friendly	0.787**	0.395***	0.156*

*Note.* *b* is the unstandardized factor loading and  $\beta$  is the standardized factor loading,  $R^2$  is the communality.

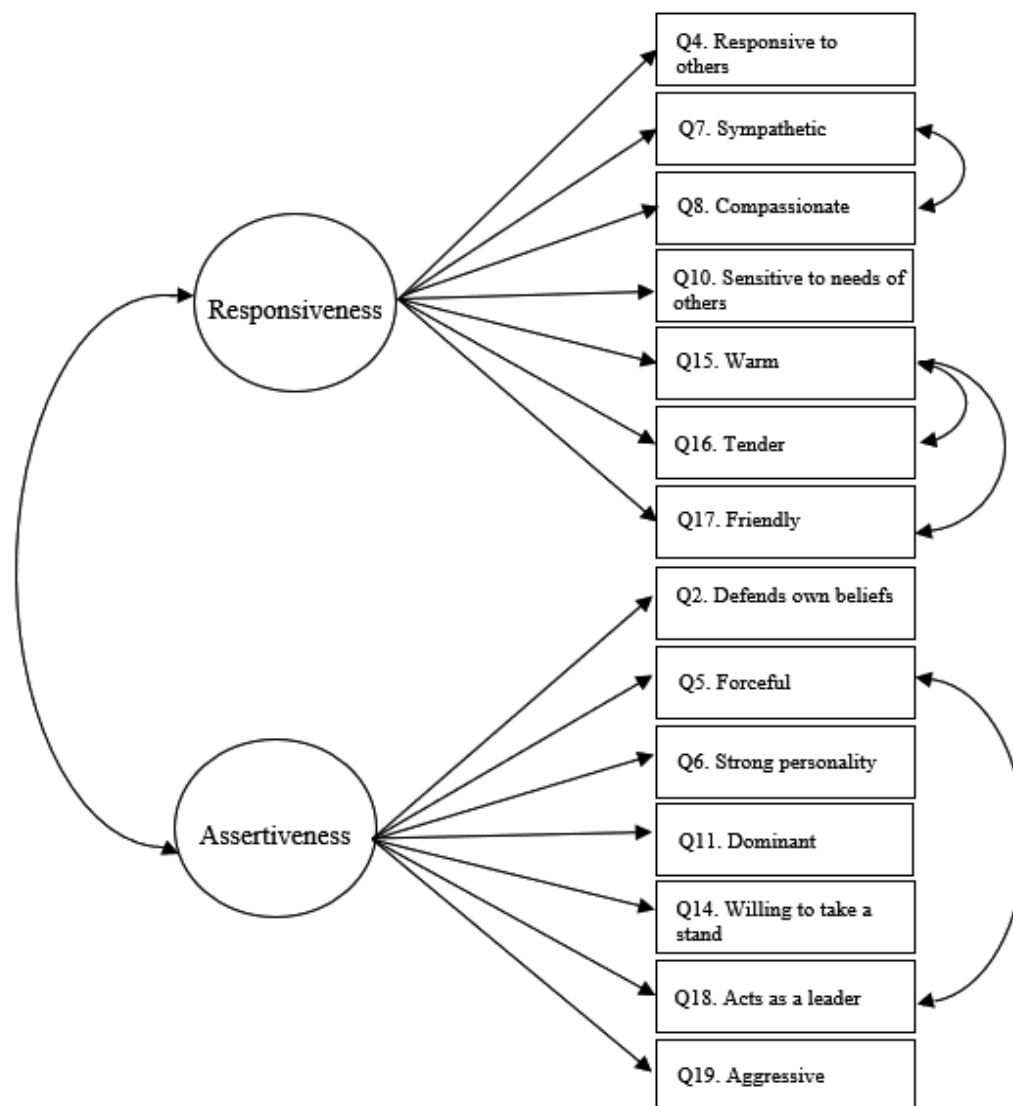
<sup>a</sup> Questions 1, 3, 12, 13, and 20 removed from final model due to poor item functioning.

In the final model, theoretically logical residuals were allowed to covary: 17 with 15, 8 with 7, 16 with 15, and 18 with 5.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < 0.001$

**Figure 1**

*CFA Path Diagram SocioCommunicative Orientation Scale*



*Note.* The questions maintained in the instrument are summarized in the rectangles on the right.

### ***Instrument Validation: Cognitive Flexibility Scale***

This single factor measure did not demonstrate good fit statistics without item deletion (RMSEA = 0.100, CFI = 0.698, TLI = 0.630, SRMR = 0.085). Modification indices did not indicate any additional covariances for this model. Removing items with poor factor loadings



that could theoretically be tied to something other than *cognitive flexibility* (Items 3, 7, and 8) resulted in a final model with good model fit (RMSEA = 0.064, CFI = 0.909, TLI = 0.879, SRMR = 0.063) as communicated in Table 3 and Figure 2.

**Table 3**

*CFA Results for Cognitive Flexibility Scale*

Questions	Final Model		
	<i>b</i>	$\beta$	$R^2$
1. I can communicate an idea in many different ways.	1.000	0.680***	0.463***
2. I avoid new and unusual situations.	-0.520*	-0.217*	0.047
3. I feel like I never get to make decisions. <sup>a</sup>			
4. I can find workable solutions to seemingly unsolvable problems.	1.213***	0.688***	0.473***
5. I seldom have choices when deciding how to behave.	1.327**	0.337**	0.113
6. I am willing to work at creative solutions to problems.	1.000***	0.732***	0.535***
7. In any given situation, I am able to act appropriately. <sup>a</sup>			
8. My behavior is a result of conscious decisions that I make. <sup>a</sup>			
9. I have many possible ways of behaving in any given situation.	0.604**	0.383***	0.147*
10. I have difficulty using my knowledge on a given topic in real life situations.	1.243**	0.348***	0.121
11. I am willing to listen and consider alternatives for handling a problem.	0.398**	0.339**	0.115
12. I have the self-confidence necessary to try different ways of behaving.	0.544**	0.334**	0.111

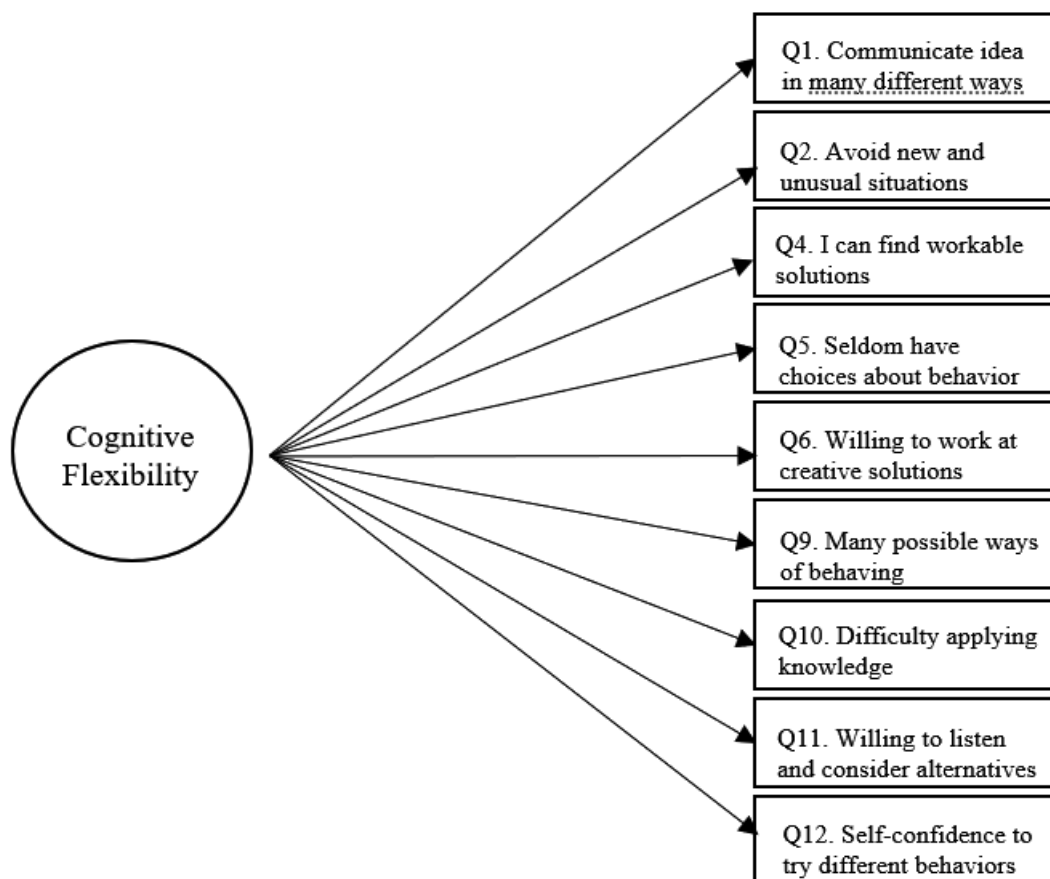
*Note.* *b* is the unstandardized factor loading and  $\beta$  is the standardized factor loading,  $R^2$  is the communality.

<sup>a</sup> Questions 3, 7, and 8 removed from final model due to poor item functioning.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < 0.001$

**Figure 2**

*CFA Path Diagram Cognitive Flexibility Scale*



*Note.* The questions maintained in the instrument are summarized in the rectangles on the right.

### ***Instrument Validation: Mindfulness in Communication Scale***

The three-factor model did not demonstrate good fit statistics in its initial form with all items retained and without modification indices applied (RMSEA = 0.122, CFI = 0.640, TLI = 0.607, SRMR = 0.099). Each factor was examined independently to establish the presence or absence of unidimensionality and to determine whether items should be retained.

**Mindfulness in Communication: Self.** The model of *mindfulness in communication of self* was improved through removal of Item 7 based on a low standardized correlation and low r-

square value and by applying theoretically defensible modification indices to allow the residual variance of Items 9 and 8 and Items 3 and 1 to vary together. This resulted in a model with very good model fit (RMSEA =0.058, CFI = 0.967, TLI = 0.949, SRMR = 0.054; see Table 4 and Figure 3).

**Table 4**

*CFA Results for Mindfulness in Communication Scale: Self*

Questions	Final Model		
	<i>b</i>	$\beta$	$R^2$
1. I give my full attention to coworkers when they are speaking.	1.000	0.275**	0.075
2. In conversations, I am impatient.	-2.806*	-0.370***	0.137*
3. I am only half-listening when my coworkers are talking.	-2.449**	-0.442***	0.196*
4. In conversations I first listen to what my coworkers have to say before forming my own opinion.	3.604*	0.589***	0.347***
5. Before my coworkers have finished talking, I have already formed my own opinion.	-5.804**	-0.900***	0.811***
6. I have preconceived opinions about many topics and hold on to my opinions.	-4.081*	-0.574***	0.329***
7. I stay calm even in tense situations. <sup>a</sup>			
8. I get easily worked up.	-1.571	-0.220*	0.048
9. When I do not like something, emotions can easily boil over.	-3.081*	-0.449***	0.202**

*Note.* *b* is the unstandardized factor loading and  $\beta$  is the standardized factor loading,  $R^2$  is the communality

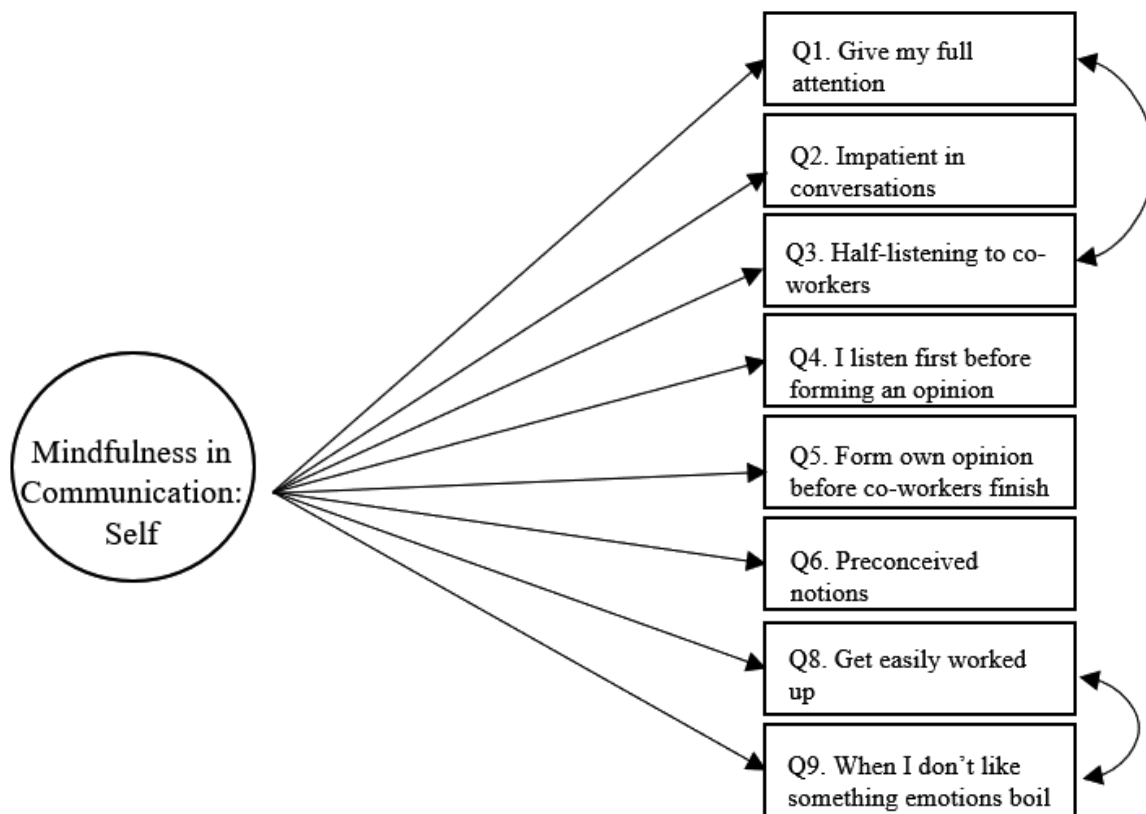
<sup>a</sup> Question 7 was removed from final model due to poor item functioning

In the final model, theoretically logical residuals were allowed to covary: 9 with 8, and 3 with 1.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < 0.001$

**Figure 3**

*CFA Path Diagram Mindfulness in Communication Scale: Self*



*Note.* The questions maintained in the instrument are summarized in the rectangles on the right.

**Mindfulness in Communication: Coworkers.** To achieve good model fit for measuring *mindfulness in communication of coworkers*, all items were retained, and theoretically defensible modification indices were applied that allowed residuals to covary between items as seen in Table 5 and Figure 4 (RMSEA = 0.110, CFI = 0.943, TLI = 0.902, SRMR = 0.069).

**Table 5***CFA Results for Mindfulness in Communication Scale: Coworkers*

Questions	Final Model		
	<i>b</i>	$\beta$	$R^2$
1. I have my coworkers' full attention when I am speaking.	1.000	0.557***	0.310**
2. In conversations, my coworkers are impatient.	-1.015***	-0.566***	0.321***
3. My coworkers are only half-listening when I am talking.	-0.905***	-0.487***	0.237**
4. In conversations my coworkers first listen to what I have to say before forming their opinions.	0.822***	0.403***	0.163*
5. Before my I have finished talking, my coworkers have already formed their own opinions.	-1.495***	-0.758***	0.575***
6. My coworkers have preconceived opinions about many topics and hold on to their opinions.	-1.683***	-0.806***	0.650***
7. My coworkers stay calm even in tense situations.	0.889***	0.545***	0.297***
8. My coworkers get easily worked up.	-1.414***	-0.661*	0.437***
9. When my coworkers do not like something, emotions can easily boil over.	-1.625***	-0.724***	0.524***

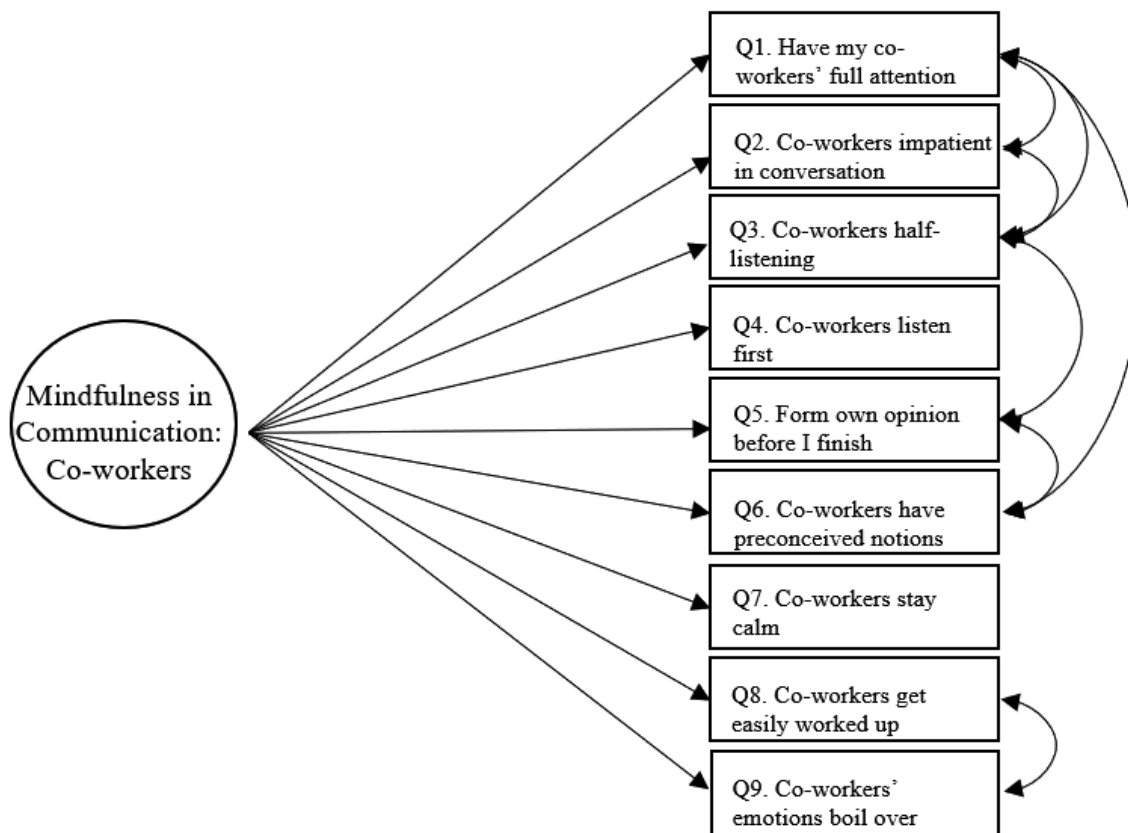
*Note.* *b* is the unstandardized factor loading and  $\beta$  is the standardized factor loading,  $R^2$  is the communality.

In the final model, theoretically logical residuals were allowed to covary: 3 with 2, 9 with 8, 3 with 1, 5 with 3, 2 with 1, and 6 with 1.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < 0.001$

**Figure 4**

*CFA Path Diagram Mindfulness in Communication Scale: Coworkers*



*Note.* The questions maintained in the instrument are summarized in the rectangles on the right.

**Mindfulness in Communication: Supervisor.** To achieve good model fit for measuring *mindfulness in communication of supervisor*, all items were retained, and residuals were allowed to covary for Items 9 and 8, Items 6 and 5, Items 8 and 7, and Items 9 and 7 (RMSEA = 0.107, CFI = 0.948, TLI = 0.918, SRMR = 0.073), as shown in Table 6 and Figure 5.

**Table 6***CFA Results for Mindfulness in Communication Scale: Supervisor*

Questions	Final Model		
	<i>b</i>	$\beta$	$R^2$
1. I have my supervisor's full attention when I am speaking.	1.000	0.843***	0.711***
2. In conversations, my supervisor is impatient.	-1.061***	-0.836***	0.698***
3. My supervisor is only half-listening when I am talking.	-1.191***	-0.907***	0.823***
4. In conversations my supervisor first listens to what I have to say before forming their opinion.	0.642***	0.381***	0.145*
5. Before my I have finished talking, my supervisor has already formed their own opinion.	-1.001***	-0.661***	0.437***
6. My supervisor has preconceived opinions about many topics and holds on to their opinions.	-0.782***	-0.478***	0.228**
7. My supervisor stays calm even in tense situations.	0.568***	0.477***	0.227**
8. My supervisor gets easily worked up.	-0.640***	-0.547***	0.299***
9. When my supervisor does not like something, emotions can easily boil over.	-0.646***	-0.476***	0.227**

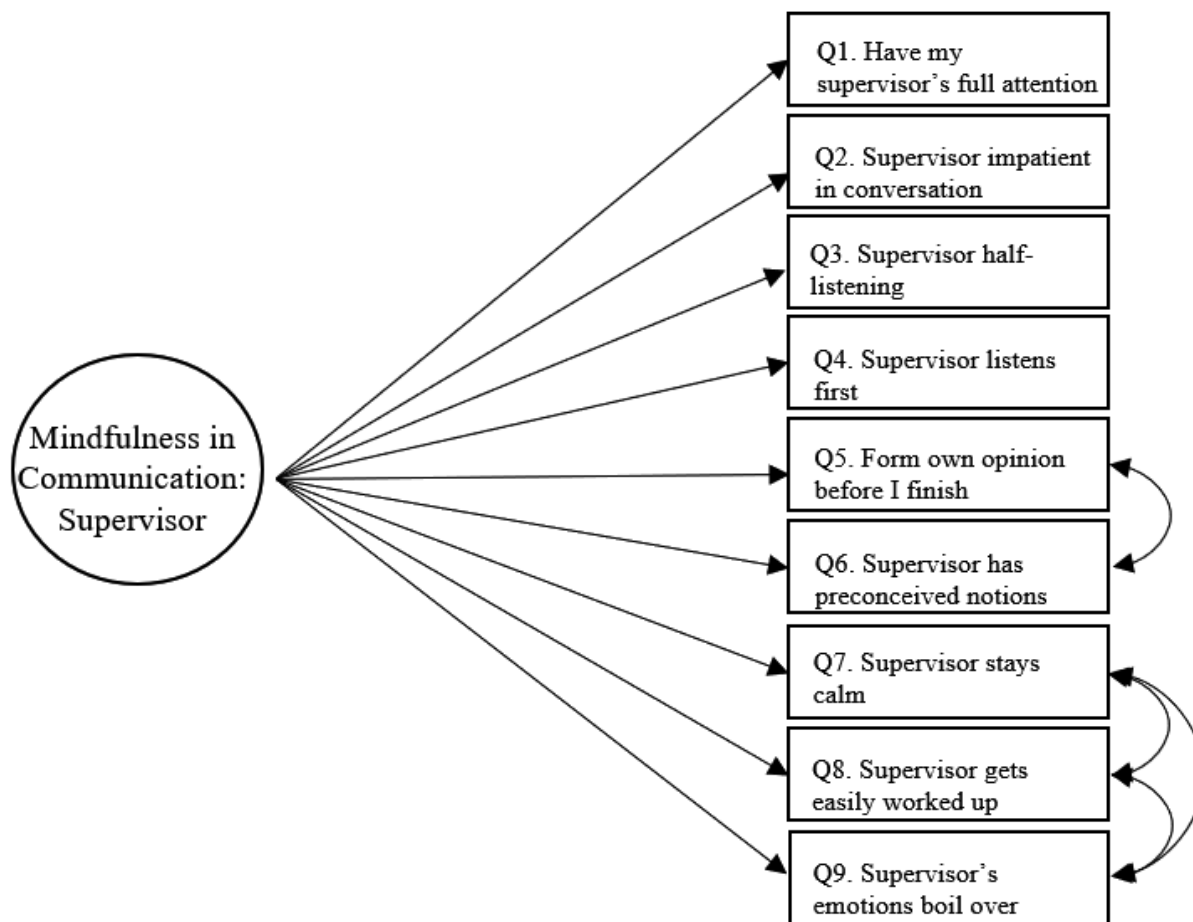
*Note.* *b* is the unstandardized factor loading and  $\beta$  is the standardized factor loading,  $R^2$  is the communality.

In the final model, theoretically logical residuals were allowed to covary: 9 with 8, 6 with 5, 8 with 7, and 9 with 7.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < 0.001$

Figure 5

*CFA Path Diagram Mindfulness in Communication Scale: Supervisor*



*Note.* The questions maintained in the instrument are summarized in the rectangles on the right.

### ***Instrument Validation: Workplace Trust Survey***

The three-factor model of workplace trust includes *trust in coworkers*, *trust in supervisor*, and *trust in organization*. The WTS with all items retained and without modification indices applied did not demonstrate good model fit (RMSEA = 0.117, CFI = 0.747, TLI = 0.730, SRMR = 0.110). To establish unidimensionality and examine item functioning, each factor was examined as a single factor measure.



**Workplace Trust in Coworkers.** The first set of items one through twelve in the instrument were intended to measure *workplace trust in coworkers*. Confirmatory factor analysis of a single coworker trust factor did not demonstrate good fit statistics without item deletion (RMSEA = 0.145, CFI = 0.819, TLI = 0.779, SRMR = 0.081). Removing Item 1 due to a weak factor loading and Items 4, 9, and 11 (items that reference how the group feels about coworkers) resulted in good model fit (RMSEA = 0.096, CFI = 0.958, TLI = 0.941, SRMR = 0.040; see Table 7 and Figure 6). Removal of items that focus on group perceptions aligns with the findings of both the German and Italian adaptations of the WTS (Lehmann-Willenbrock & Kauffeld, 2010; Maiolo & Zuffo, 2018).

**Table 7***CFA Results for Workplace Trust Scale: Coworkers*

Questions	Final Model		
	<i>b</i>	$\beta$	$R^2$
1. I feel I can trust my coworkers to do their jobs well. <sup>a</sup>			
2. I proceed with the knowledge that my coworkers are considerate of my interests.	1.000	0.758***	0.574***
3. I believe that my coworkers will support me if I have problems.	1.105***	0.796***	0.634***
4. Most employees at this organization believe that coworkers are reliable. <sup>a</sup>			
5. I feel confident that my coworkers appreciate my good work.	0.849***	0.626***	0.392***
6. I feel that my coworkers are truthful in their dealings with me.	1.176***	0.839***	0.705***
7. I think that my coworkers act reliably from one moment to the next.	0.901***	0.781***	0.610**
8. I will act on the foundation that my coworkers display ethical behavior.	0.751***	0.690***	0.476***
9. Most employees at this organization believe that coworkers will be supportive if problems arise. <sup>a</sup>			
10. I believe that my coworkers give me all the information to assist me at work.	0.926***	0.632***	0.400***
11. Employees at this organization generally feel that coworkers appreciate their good work. <sup>a</sup>			
12. I behave on the basis that my coworkers will not disclose personal information.	1.424***	0.816***	0.666***

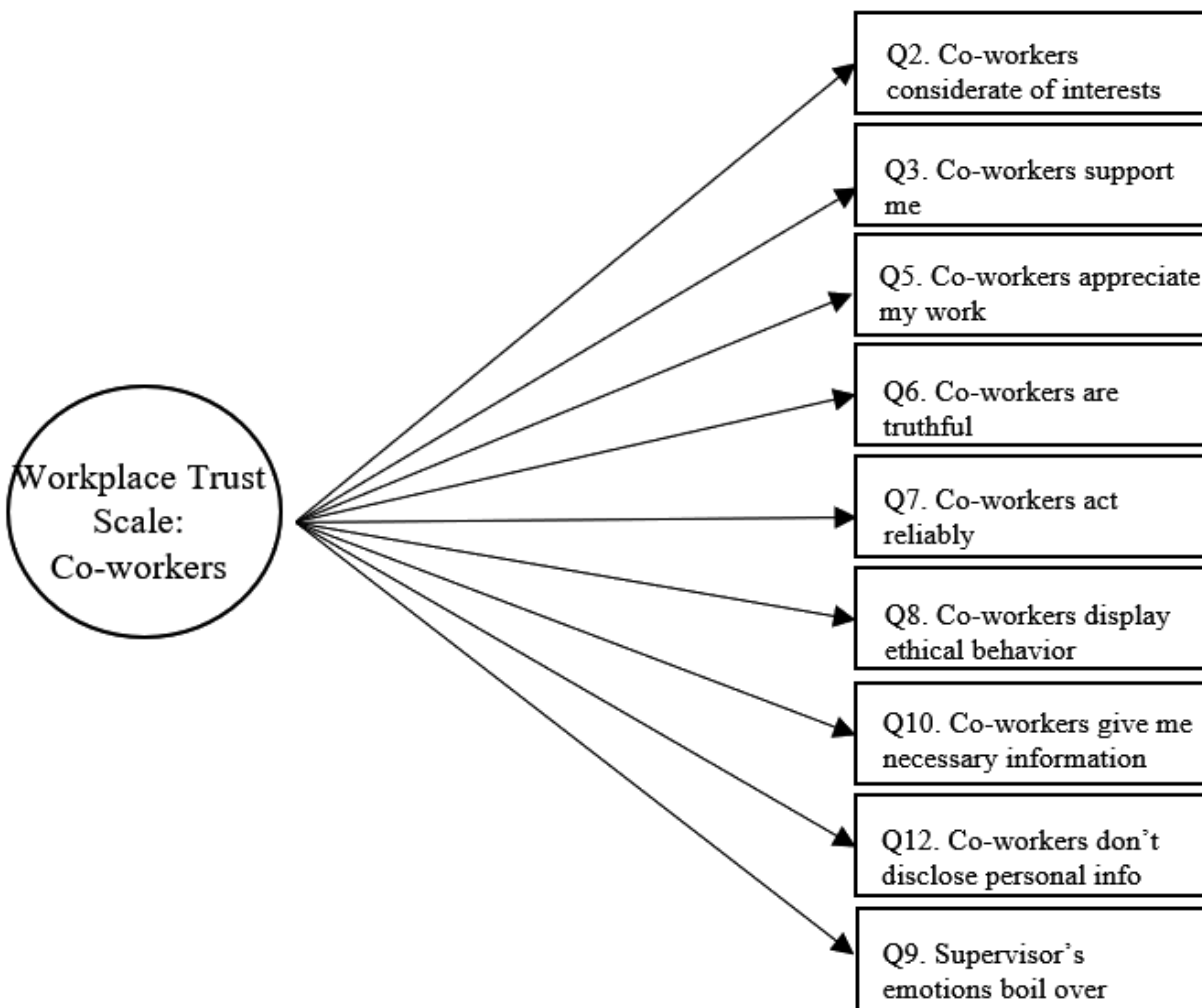
*Note.* *b* is the unstandardized factor loading and  $\beta$  is the standardized factor loading,  $R^2$  is the communality.

<sup>a</sup> Questions 1, 4, 9, and 11 removed from final model due to poor item functioning.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < 0.001$

**Figure 6**

*CFA Path Diagram Workplace Trust Scale: Coworkers*



*Note.* The questions maintained in the instrument are summarized in the rectangles on the right.

**Workplace Trust in Supervisor.** The second set of Items 1 through 12 were intended to *workplace trust in supervisor*. The confirmatory factor analysis of the second set of items in this instrument with the single factor of *trust in supervisor* did not result in a model with good fit statistics (RMSEA = 0.166, CFI = 0.845, TLI = 0.811, SRMR = 0.070). To obtain a model with good fit, the items measuring *trust in supervisor* required parceling of Items 3, 5, and 6 into a

single variable (*supervisor integrity*) and allowing the parceled variable to covary with Item 7. Additionally, as found in items measuring *workplace trust in coworkers*, items that focused on the perception of the group, rather than individual perceptions had weak factor loadings. Removal of Items 10, 11, and 12, creation of the parceled variable *supervisor integrity*, and allowing residuals to covary resulted in a model with good fit (RMSEA = 0.141, CFI = 0.951, TLI = 0.921, SRMR = 0.045; see Table 8 and Figure 7).

**Table 8***CFA Results for Workplace Trust Scale: Supervisor*

Questions	Final Model		
	<i>b</i>	$\beta$	$R^2$
1. I feel that my supervisor listens to what I have to say.	1.000	0.867***	0.751***
2. I proceed on the basis that my supervisor will act in good faith.	0.985***	0.919***	0.844***
3. I act on the basis that my supervisor displays integrity in his/her actions. <sup>b</sup>			
4. I think that my supervisor appreciates additional efforts I make.	1.046***	0.800***	0.639***
5. I act knowing that my supervisor will keep his/her word. <sup>b</sup>			
6. I believe that my supervisor follows through promises with action. <sup>b</sup>			
7. I feel that my supervisor is available when needed.	0.818***	0.610***	0.372***
8. I believe that my supervisor keeps personal discussions confidential.	0.779***	0.644***	0.415***
9. I feel that my supervisor trusts his/her employees to work without excessive supervision.	0.996***	0.698***	0.487***
10. Employees generally believe that management provides honest answers. <sup>a</sup>			
11. It is frequently acknowledged by employees of this organization that their immediate supervisors reward those who perform well. <sup>a</sup>			
12. Most people at this organization feel comfortable with their immediate supervisors. <sup>a</sup>			
Parcel: Supervisor Integrity (Q3, Q5, & Q6)	0.908***	0.893***	0.797***

Note. *b* is the unstandardized factor loading and  $\beta$  is the standardized factor loading,  $R^2$  is the communality

<sup>a</sup> Questions 10,11, and 12 removed from final model due to poor item functioning

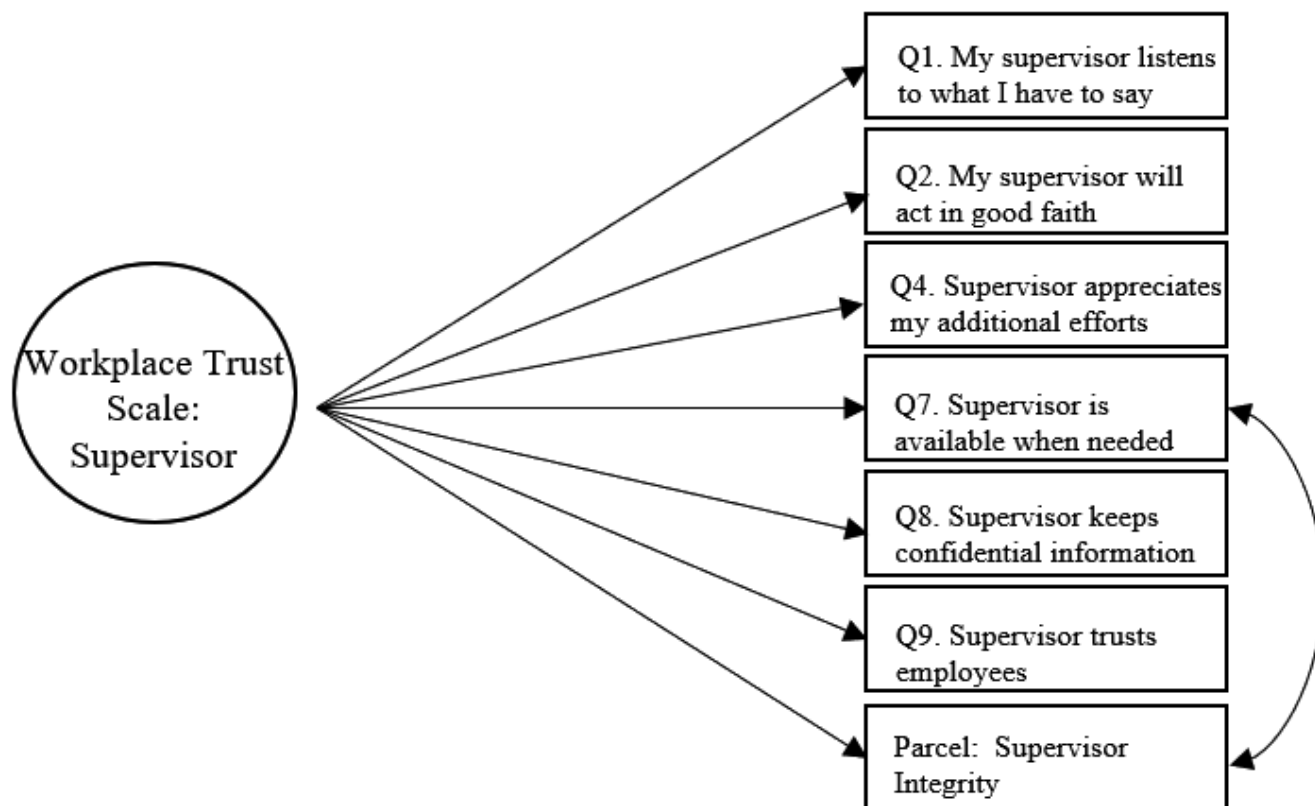
<sup>b</sup> Questions 3, 5, and 6 were parceled into variable *Supervisor Integrity*

In the final model, theoretically logical residuals were allowed to covary: *Supervisor Integrity* with 7.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < 0.001$

Figure 7

*CFA Path Diagram Workplace Trust Scale: Supervisor*



*Note.* The questions maintained in the instrument are summarized in the rectangles on the right.

**Trust in Organization.** *Trust in organization* as a single factor did not require the removal of any items but did require modification indices that allowed the residuals of Items 2 and 1, 9 and 8, and 7 and 5 to covary. This resulted in good model fit (RMSEA = 0.125, CFI = 0.930, TLI = 0.907, SRMR = 0.046; see Table 9 and Figure 8).

**Table 9***CFA Results for Workplace Trust Scale: Organization*

Questions	Final Model		
	<i>b</i>	$\beta$	$R^2$
1. There is a widely held belief that the library is moving forward for the better.	1.000	0.661***	0.436***
2. I have positive feelings about the future direction of the library.	1.090***	0.663***	0.439***
3. I honestly express my opinion at the library with the knowledge that employee views are valued.	1.680***	0.808***	0.653***
4. I think that the library offers a supportive environment.	1.601***	0.925***	0.856***
5. I believe that the library recognizes and rewards employees' skills and abilities.	1.701***	0.814***	0.662***
6. It is generally accepted that the library takes care of employee interests.	1.381***	0.725***	0.526***
7. I perform knowing that the library will recognize my work.	1.819***	0.774***	0.599***
8. I think that processes within the library are fair.	1.492***	0.822***	0.676***
9. Employees commonly believe that they are treated fairly at the library.	1.505***	0.822***	0.676***
10. I act on the basis that the library follows plans with action.	1.418***	0.750***	0.563***
11. I feel that information can be shared openly within the library.	1.847***	0.820***	0.673***

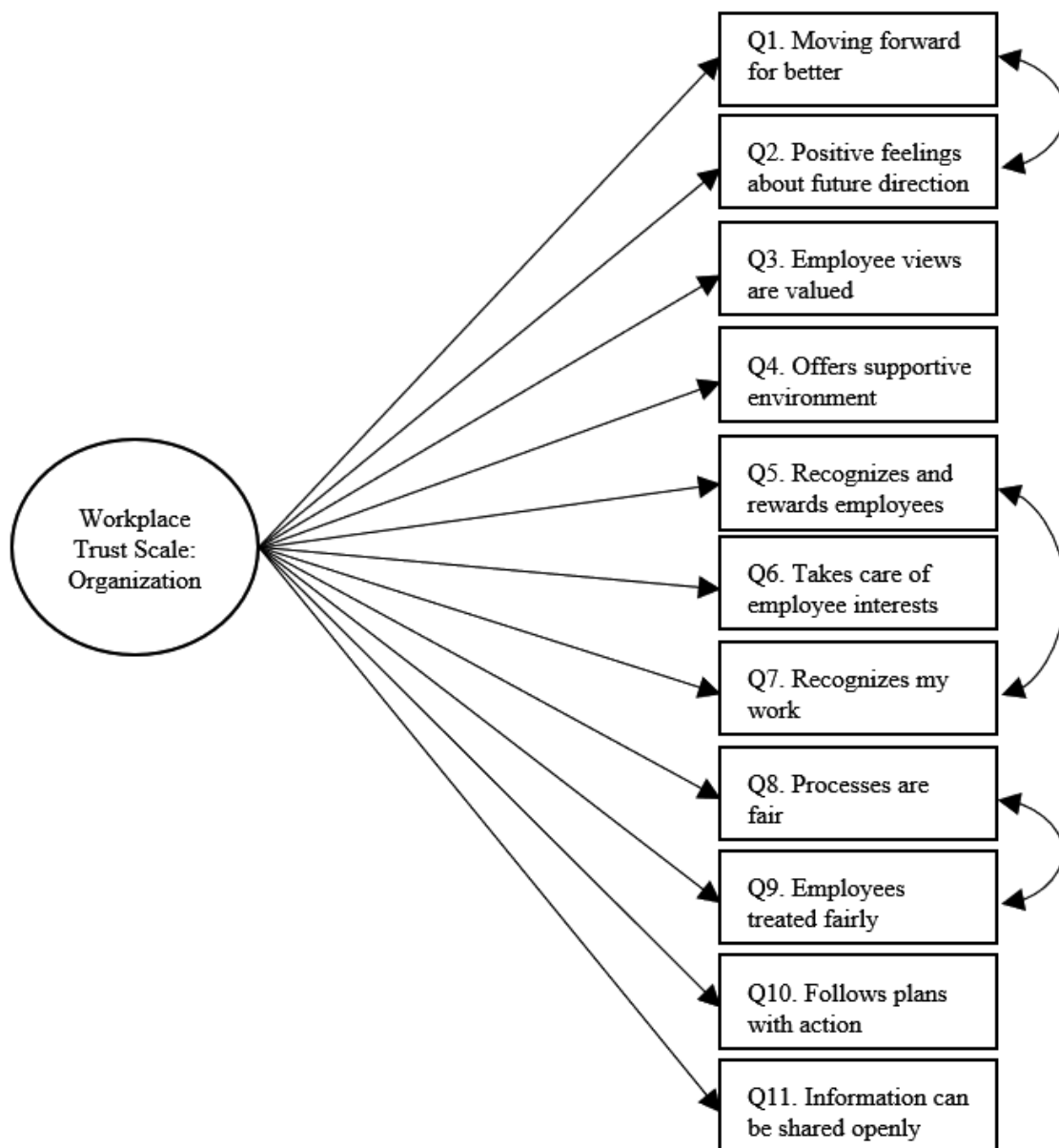
*Note.* *b* is the unstandardized factor loading and  $\beta$  is the standardized factor loading,  $R^2$  is the communality

In the final model, theoretically logical residuals were allowed to covary: 2 with 1, 9 with 8, and 7 with 5.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < 0.001$

**Figure 8**

*CFA Path Diagram Workplace Trust Scale: Organization*



*Note.* The questions maintained in the instrument are summarized in the rectangles on the right.

### Superfactors

The research literature suggests that a communication competency superfactor may exist that consists of the three factors of assertiveness, responsiveness, and cognitive flexibility



(Dilbeck & McCroskey, 2008; Martin & Rubin, 1995; McCroskey & Richmond, 1996). In the interest of parsimony, this research explored whether a communication superfactor did indeed exist. In addition, analyses were completed to determine whether superfactors of mindfulness in communication and overall workplace trust were present in the data. The results of these explorations revealed that no superfactors existed and that each factor measured a unique trait.

### ***Communication Competency Superfactor***

Factor analysis to examine the presence or absence of a super factor of communication competency composed of the three factors of responsiveness, assertiveness, and cognitive flexibility suggested by the research literature resulted in a model that did not converge.

### ***Mindfulness in Communication Superfactor***

An overall model of mindfulness in communication as a superfactor retaining items and modification indices as outlined in the single factor analyses resulted in a model with fairly weak model fit (RMSEA = 0.080, CFI = 0.860, TLI = 0.839, SRMR = 0.103). Application of theoretically defensible modification indices resulted in mild improvement (RMSEA = 0.069, CFI = 0.897, TLI = 0.880, SRMR = 0.093). However, the superfactor fit statistics were not an improvement over fit statistics treating each component of the theorized superfactor as separate factors, even taking parsimony into consideration, and the three separate factors were retained.

### ***Overall Workplace Trust Superfactor***

An overall model of trust in the workplace as a superfactor retaining items and modification indices as outlined in the single factor analyses resulted in a model with weak model fit (RMSEA = 0.104, CFI = 0.855, TLI = 0.838, SRMR = 0.082). Running the full model of workplace trust with the deletions and modifications suggested by the superfactor analysis did

not result in good overall model fit (RMSEA = 0.101, CFI = 0.864, TLI = 0.848, SRMR = 0.081).

### **Correlations Between Factors**

Further exploration of the factors through examination of the estimated correlation matrix shows that each of the factors are distinct constructs (see Table 10). No unexpected correlations were identified within the correlation matrix. Correlation values suggest that the factors within each of the theorized superfactors function as separate latent variables. For example, the three areas of mindfulness in communication (self, coworker, and supervisor) demonstrated only low to moderate correlations, with  $r = .614, p < .001$  as the highest correlation. This correlation occurred between *mindfulness in communication of supervisor* and *mindfulness in communication of coworker* and is a theoretically defensible moderate correlation since the categories of supervisor and coworker could have some overlap. However, the fact that the correlation was not higher than  $r = .614$  further supports the assertion that while related, they are distinct from each other.

**Table 10***Estimated Correlation Matrix for Latent Variables*

	RV	AT	CF	MCSF	MCCW	MCSP	WTCW	WTSP
AT	.038	--						
CF	.197	.337***	--					
MCSF	.346**	-.308**	.139	--				
MCCW	-.028	-.076	.288**	.351**	--			
MCSP	.151	-.013	.243*	.288**	.614***	--		
WTCW	.210	.014	.290**	.118	.668***	.428***	--	
WTSP	.163	.050	.237*	.165	.434***	.854***	.641***	--
WTO	.088	-.041	.254*	.091	.400***	.428***	.614***	.593***

*Note.* The following abbreviations were used to facilitate table use. *Responsiveness* (RV), *Assertiveness* (AT), *Cognitive Flexibility* (CF), *Mindfulness in Communication: Self* (MCSF), *Mindfulness in Communication: Coworkers* (MCCW), *Mindfulness in Communication: Supervisor* (MCSP), *Workplace Trust: Coworkers* (WTCW), *Workplace Trust: Supervisor* (WTSP), *Workplace Trust: Organization* (WTO)

\* $p < 0.05$       \*\*  $p < 0.01$       \*\*\* $p < 0.001$

### **Examination of Relationships Between Predictive Factors and *Trust in the Workplace***

Each of the predictive factors (*assertiveness, responsiveness, cognitive flexibility, mindfulness in communication of self, coworkers, and supervisor*) was regressed on each outcome variable (*trust in coworkers, trust in supervisor, and trust in organization*), one outcome variable at a time, in a structural equation model to determine whether a relationship existed between the predictors and the outcome variable.

#### ***Relationships With Trust in Coworkers***

Structural equation modeling of the relationships between self-perceived levels of communication competency (*assertiveness, responsiveness, and cognitive flexibility*),

*mindfulness in communication of self, coworkers, and supervisors with trust in coworkers* indicated that *mindfulness in communication of coworkers* was predictive of *trust in coworkers* ( $b = 0.778, SE = 0.192, p < 0.001$ ), ( $\beta = 0.617, SE = 0.124, p < 0.001$ ). With an unstandardized beta ( $b$ ) of  $b = 0.778$ , for every one-unit increase in *mindfulness in communication of coworkers*, *trust in coworkers* increases by 0.778 of a unit. While unstandardized betas can be useful for interpretation when units are clearly defined and understood, in this case, it is unclear exactly what a unit of *mindfulness* or what a unit of *trust* means. A more helpful measure for interpretation of the relative strength of the predictive relationship is the standardized beta since it provides a description of the relationship in standard deviation units. The standardized beta ( $\beta$ ) statistic indicates that for every one-standard deviation increase in *mindfulness in communication of coworkers*, *trust in coworkers* increases by 0.617 standard deviations. This relationship represents a moderately large effect.

*Responsiveness* was also predictive of *trust in coworkers* ( $b = 0.701, SE = 0.302, p = 0.02$ ), ( $\beta = 0.283, SE = 0.192, p < 0.001$ ), though its predictive value was significantly less than *mindfulness in communication of coworkers*. The standardized beta ( $\beta$ ) statistic indicates that for every one-standard deviation increase in *responsiveness*, *trust in coworkers* increases by 0.283 standard deviations. This relationship represents a small but significant effect.

All other factors were not predictive of trust in coworkers (see Table 11 and Figure 10). In the presence of each other, all factors explained 48.4% of the variance in *trust in coworkers*, with *mindfulness in communication of coworkers* explaining 21.5% of the unique variance in *trust in coworkers* and *responsiveness* explaining 6.4% of the unique variance in *trust in coworkers* (see Table 12).

**Table 11***Structural Equation Model of Factors Predicting Trust in Coworkers*

Factor	<i>b</i>	<i>SE</i>	$\beta$	<i>SE</i>
SocioCommunicative Orientation: Assertiveness	-0.064	0.114	-0.057	0.104
SocioCommunicative Orientation: Responsiveness	0.701*	0.302	0.283**	0.109
Cognitive Flexibility	0.127	0.167	0.086	0.112
Mindfulness in Communication: Self	-1.125	0.666	-0.256	0.123
Mindfulness in Communication: Coworkers	0.778***	0.192	0.617***	0.124
Mindfulness in Communication: Supervisor	0.114	0.114	0.115	0.115

*Note.* *b* is the unstandardized factor loading and  $\beta$  is the standardized factor loading

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < 0.001$

**Table 12***Unique Variance Explained: Trust in Coworkers SEM*

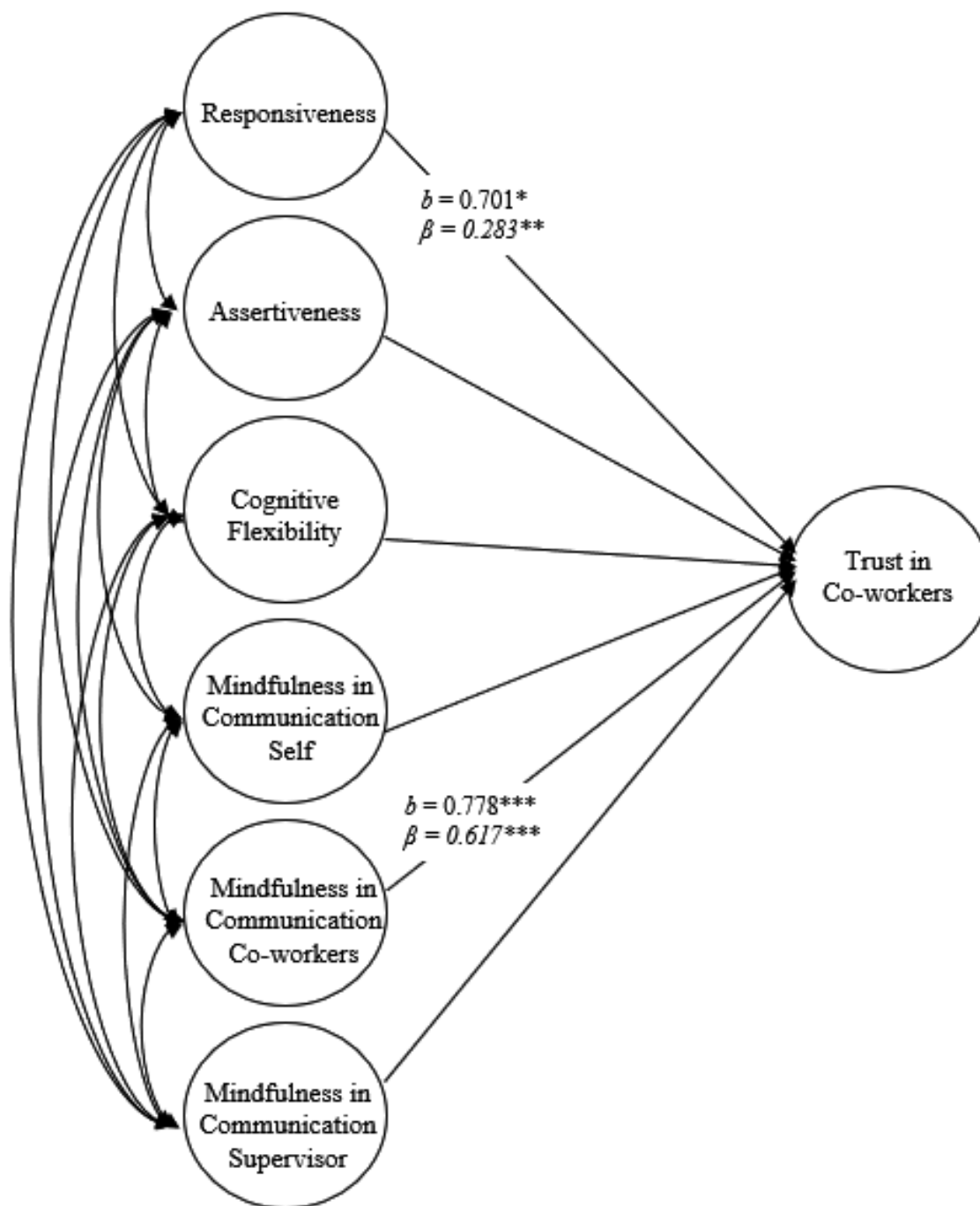
( $R^2 = 0.484$ ,  $SE = 0.091$ ,  $p < 0.001$ )

Factor	$R^2$	$\Delta R^2$	% unique variance
SocioCommunicative Orientation: Responsiveness	0.420 ***	0.064	6.4%
Mindfulness in Communication: Coworkers	0.269**	0.219	21.5%

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < 0.001$

Figure 9

SEM Communication Factors and Trust in Coworkers

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < 0.001$

### ***Relationships With Trust in Supervisor***

Structural equation modeling of the relationships between self-perceived levels of communication competency (*assertiveness, responsiveness, and cognitive flexibility*), *mindfulness in communication of self, coworkers, and supervisor* with *trust in supervisor* indicated that *mindfulness in communication of supervisor* ( $b = 0.896, SE = 0.136, p < 0.001$ ), ( $\beta = 0.831, SE = 0.079, p < 0.001$ ) was the only predictor of *trust in supervisor*. The standardized beta ( $\beta$ ) statistic indicates that for every one-standard deviation increase in *mindfulness in communication of supervisor*, *trust in supervisor* increases by 0.831 standard deviations. This relationship indicates the presence of a large effect of *mindfulness in communication of supervisor* on levels of *trust in supervisor*.

All other factors were not predictive of *trust in supervisor* (see Table 13). Together, all the factors explained 66.6% of the variance in *trust in supervisor* ( $R^2 = .666, SE = 0.072, p < 0.001$ ) with *mindfulness in communication of supervisor* explaining 45.8% of the unique variance in the outcome (see Table 14).

**Table 13**

#### *Structural Equation Model of Factors Predicting Trust in Supervisor*

Factor	<i>b</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
SocioCommunicative Orientation: Assertiveness	0.011	0.102	0.009	0.084
SocioCommunicative Orientation: Responsiveness	0.090	0.241	0.034	0.090
Cognitive Flexibility	0.086	0.149	0.054	0.093
Mindfulness in Communication: Self	-0.252	0.465	-0.054	0.098
Mindfulness in Communication: Coworkers	-0.060	0.153	-0.042	0.107
Mindfulness in Communication: Supervisor	0.896***	0.136	0.831***	0.079

*Note.* *b* is the unstandardized factor loading and  $\beta$  is the standardized factor loading

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < 0.001$

**Table 14**

*Unique Variance Explained: Trust in Supervisor SEM*

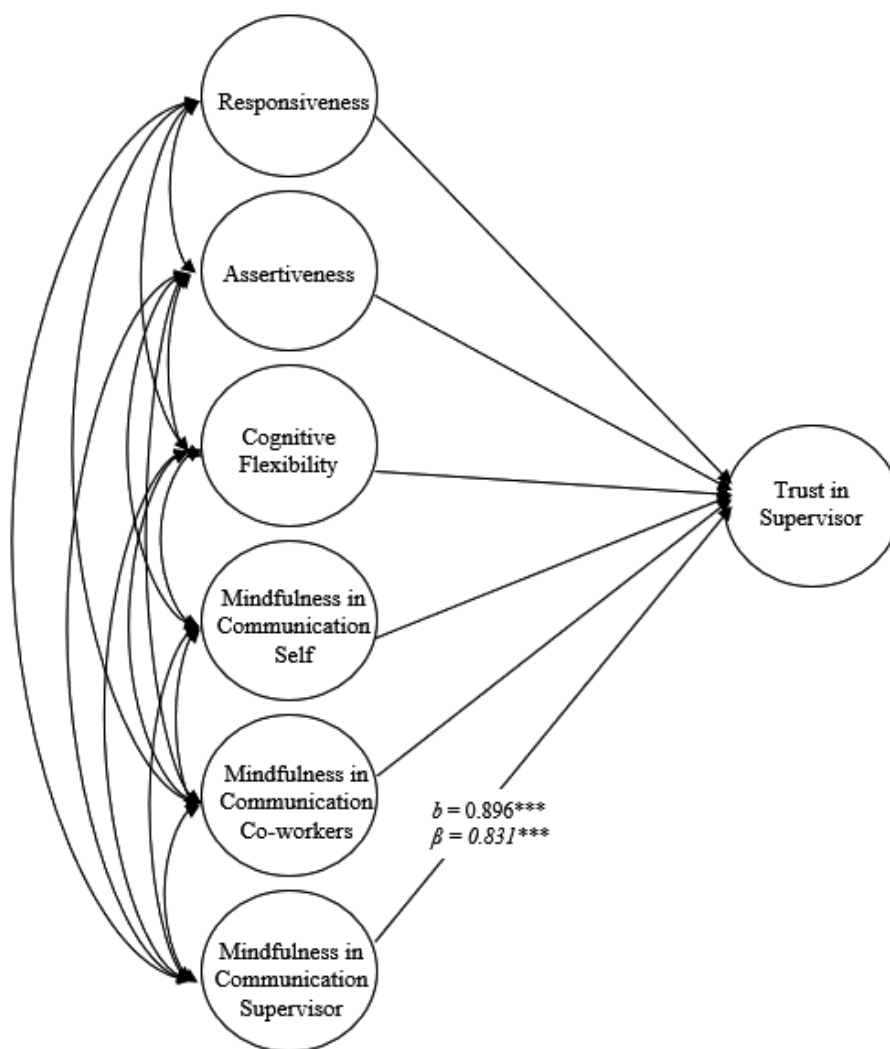
$(R^2 = 0.666, SE = 0.072, p < 0.001)$

Factor	$R^2$	$\Delta R^2$	% unique variance
Mindfulness in Communication: Supervisor	0.208**	0.458	45.8%

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < 0.001$

**Figure 10**

*SEM Communication Factors and Trust in Supervisor*



\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < 0.001$



### ***Verification of Separate Factors***

With an r-squared value of .455, it was prudent to examine whether *mindfulness of communication of supervisors* and *trust in supervisors* were measuring different things that are highly correlated, or if they were measuring the same thing asked in two ways. A comparison of fit between a one-factor CFA (RMSEA 0.132, CFI = 0.853, TLI = 0.821, SRMR = 0.065) and a two-factor model CFA (RMSEA = 0.109, CFI = 0.901, TLI = 0.878, SRMR = 0.076) verified the likelihood that there were two separate factors measured by the measurement instrument items as the two-factor model fit the data better than the one-factor model did.

### ***Relationships With Trust in Organization***

Structural equation modeling of the relationships between self-perceived levels of communication competency (*assertiveness, responsiveness, and cognitive flexibility*), *mindfulness in communication of self, coworkers, and supervisors* with *trust in the organization* indicated there were no predictors of *trust in organization* at a significance level of  $p < .05$  (see Table 15). This may be because trust in an organization is fundamentally different than trust in people. The predictive relationships that exist with *trust in coworkers* and *trust in supervisor*, but not with *trust in organization* seem to suggest that people trust coworkers and supervisors, both of which exist within and make up the organization, in ways that are distinct from the ways they trust organizations. Said simply, people trust people differently than they trust organizations.

All the factors together explained 23.2% of the variance in *trust in organization* ( $R^2 = .232$ ,  $SE = 0.080$ ,  $p = 0.004$ ) with *mindfulness in communication of supervisors* explaining only 4.0% and *mindfulness in communication of coworkers* explaining only 4.2% of the unique variance in the outcome (see Table 16). The lack of predictive relationships and the low

explanatory values suggest that there are other factors not identified in this research model that predict the level of trust that employees have in the organization (see Figure 11).

**Table 15**

*Structural Equation Model of Factors Predicting Trust in Organization*

Factor	<i>b</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
SocioCommunicative Orientation: Assertiveness	-0.115	0.103	-0.129	0.120
SocioCommunicative Orientation: Responsiveness	0.162	0.238	0.083	0.113
Cognitive Flexibility	0.207	0.149	0.176	0.124
Mindfulness in Communication: Self	-0.520	0.483	-0.151	0.132
Mindfulness in Communication: Coworkers	0.271	0.151	0.260	0.120
Mindfulness in Communication: Supervisor	0.177	0.098	0.226	0.138

*Note.* *b* is the unstandardized factor loading and  $\beta$  is the standardized factor loading

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < 0.001$

**Table 16**

*Unique Variance Explained: Trust in Organization SEM*

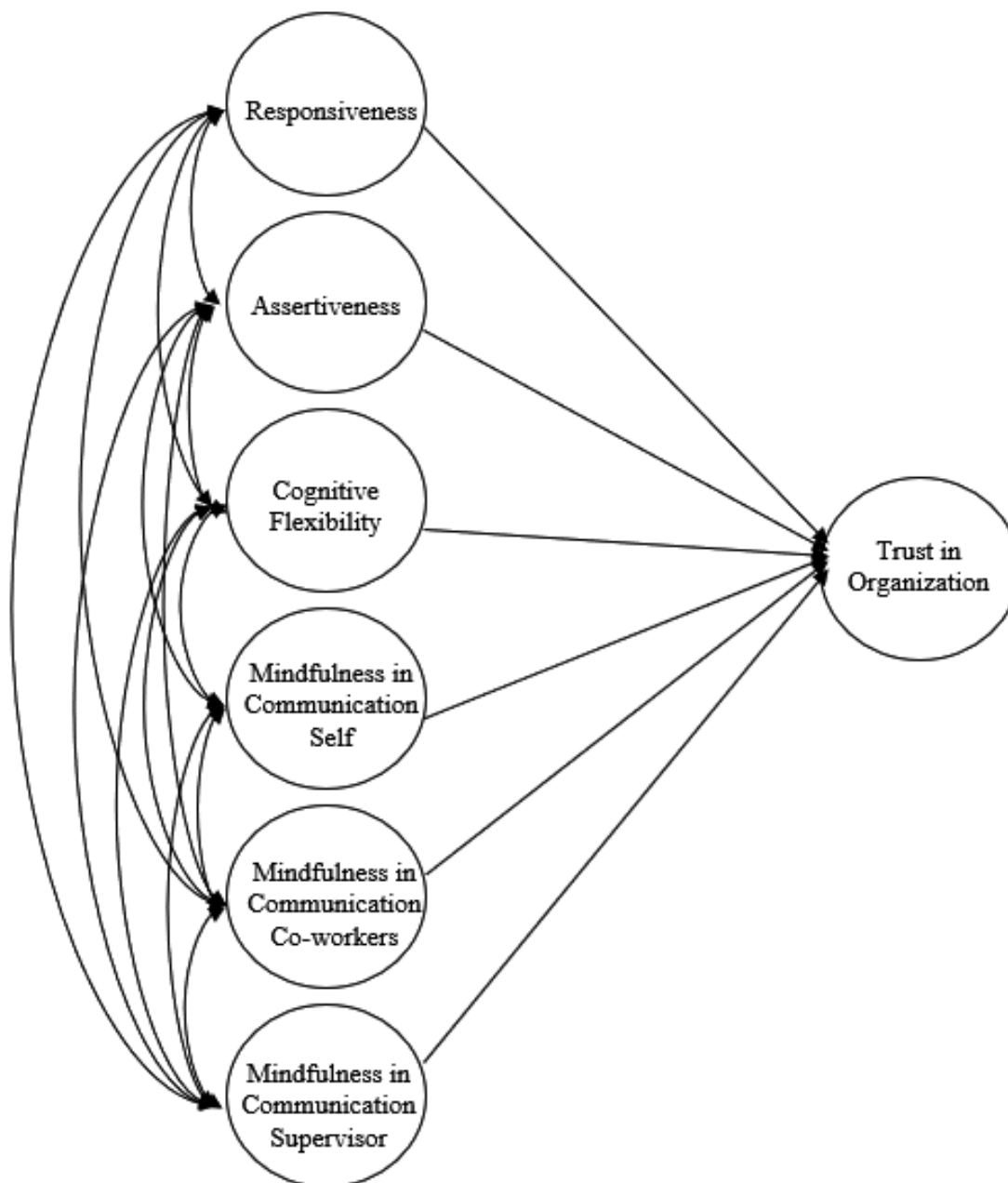
( $R^2 = 0.232$ ,  $SE = 0.080$ ,  $p = 0.004$ )

Factor	$R^2$	$\Delta R^2$	% unique variance
Mindfulness in Communication: Coworkers	0.190*	0.042	4.2%
Mindfulness in Communication: Supervisor	0.192*	0.040	4.0%

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < 0.001$

Figure 11

*SEM Communication Factors and Trust in Organization*



Of the factors theorized to predict levels of trust, three factors demonstrated statistically significant predictive relationships with trust; *mindfulness in communication of coworkers*,

*responsiveness*, and *mindfulness in communication of supervisors* predicted levels of trust. The factors predicted trust in only one outcome variable each, suggesting that the predictors are specific to relationships between the components of the factors and the specific outcome variable. *Mindfulness in communication of coworkers and responsiveness* predicted levels of trust in coworkers, while *mindfulness in communication of supervisor* predicted levels of trust in supervisor. No variables predicted levels of trust in organization.

## CHAPTER 5

### Discussion

The central purpose of this study was to establish the presence or absence of predictive relationships between self-perceived levels of communication competency (Martin & Rubin, 1995; Richmond & McCroskey, 1990) and self-reported mindfulness in communication of self, coworkers, and supervisors, (Arendt et al., 2019) on levels of trust in coworkers, trust in supervisors, and trust in the organization (Ferres & Travaglione, 2003) in a postsecondary academic library. Additionally, this research necessitated identification and adaptation of existing instruments to obtain the necessary information to achieve the aims of this research.

### Findings

#### *Question 1: Factor Structure of Survey Instrument*

The first question researched was, how well do the factor structures of the SocioCommunicative Orientation Scale (SCO; Richmond & McCroskey, 1990); the Cognitive Flexibility Scale (CFS; Martin & Rubin, 1995); the Mindfulness in Communication Scale (MCS; Arendt et al., 2019); and the Workplace Trust Survey (WTS; Ferres & Travaglione, 2003) fit the data when applied to survey responses from a postsecondary academic library? What modifications, if any, must be made to the instruments to obtain adequate model fit and allow for their use in structural equation modeling?

The research survey used for this study was comprised of four different validated instruments: (a) the SocioCommunicative Orientation Scale; (b) the Cognitive Flexibility Scale; (c) the Mindfulness in Communication Scale; and (d) the Workplace Trust Survey. For this research, the Mindfulness in Communication Scale was expanded from a focus on *mindfulness in communication of supervisor* to include measurement of perceptions of *mindfulness in*

*communication of self* and *mindfulness in communication of coworkers*. Each component of the survey instrument was examined by confirmatory factor analysis. Using results of the confirmatory factor analyses and applying theoretically justifiable modifications (such as deletion of non-discriminatory items or allowing theoretically related residuals to covary) resulted in satisfactory model fit for each instrument included in the survey. These findings suggest that the data collected using the instruments included in the survey can be used with confidence within this postsecondary academic library environment.

Future research will be important to continue to validate and improve the instrumentation. Items that exhibited poor item functioning should be reviewed to determine if their poor function was a result of the sample used for this research, or if their poor function is generalized across samples.

**Section 1.** The response categories of Item 1 in section one of this survey instrument (the SocioCommunicative Orientation Scale) functioned dichotomously. This limited the utility of the question. Since Item 1 was intended to be part of the measure of responsiveness which was one of the factors that was a significant predictor of *trust in coworkers*, it may be important to review the functioning of the response categories of Item 1 in future research. Additionally, since Items 3, 12, 13, and 20 did not appear to discriminate between *assertiveness* or *responsiveness*, those items should be reviewed to determine whether that lack of discrimination was due to the sample who completed the survey for this research, or whether their non-discrimination is due to the items themselves.

**Section 2.** Section 2 of the instrument addressed cognitive flexibility. Removal of Items 3, 7, and 8 resulted in a model with good fit. Reviewing the questions suggests that Items 3 and 8 are the least likely to be related to the concept of *cognitive flexibility* since they seem to be

related to locus of control in decision-making (and they appear to be inversely related to each other). Item 7 refers to ability to act appropriately. In this research Item 7 did not function well. However, it may be worth investigating the functioning of Item 7 in another response sample because of its emphasis on acting appropriately in any given situation.

**Section 3.** *Mindfulness in communication* was measured by Section 3 of this instrument. For the purposes of this research this instrument was expanded to include perceptions about *mindfulness in communication of self*, and *mindfulness in communication of coworkers*. This instrument functioned the best of the four instruments used in the survey with retention of all items except for Item 7 in the *mindfulness in communication of self* measure. Item 7 referred to the ability to stay calm in tense situations, which may be measuring something besides mindfulness in communication.

**Section 4.** Trust in the workplace outcome variables were measured by items in Section 4 of this survey. Item functioning statistics in this research supported removal of items that focused on perceptions of a group about trust rather than individual perceptions, in agreement with the findings of both the German and Italian adaptations of the WTS (Lehmann-Willenbrock & Kauffeld, 2010; Maiolo & Zuffo, 2018). In future uses of this instrument, it is suggested that items in Section 4 of this survey instrument that refer to group perceptions of trust be removed.

Of all components of the survey instrument used in this research, the Workplace Trust Survey required the most modification to obtain model fit. This could indicate a need for further item refinement or development.

### ***Question 2: Adapted Instrument Functioning***

The second question explored in this research was, can the MCS be successfully adapted and expanded to measure perceptions of *mindfulness in communication of self* and *mindfulness in communication of coworkers*?

Expansion of the Mindfulness in Communication Scale in Section 3 of the survey to include self and coworkers resulted in an expanded instrument that functioned well. Item 7 was removed from the items measuring *mindfulness in communication of self*, and no items were removed from the items measuring *mindfulness in communication of coworkers*. All items were retained for measurement of *mindfulness in communication of supervisors* as well. Each of the components of this measure, while correlated, did not suggest that the questions had significant multicollinearity. Based on the functioning and the data that suggest each set of questions measures a separate construct related to mindfulness in communication, it is recommended that future use of this instrument retain the expanded versions of the Mindfulness in Communication Scale.

### ***Question 3: Predictive Relationships***

The third research question investigated whether there was a predictive relationship between self-perceived levels of communication competency and self-reported mindfulness in communication on levels of trust in

- coworkers
- supervisor
- the organization

in a postsecondary academic library.



**Predictors of Trust in Coworkers.** Self-reported levels of *responsiveness* in communication and perceived levels of *mindfulness in communication of coworkers* meaningfully predicted levels of *trust in coworkers*. Together the two factors explained 21.5% of the unique variance in *trust in coworkers*, with *mindfulness in communication of coworkers* explaining 15.1% of the unique variance and *responsiveness* explaining 6.4% of the unique variance (see Table 12).

With a standardized beta statistic of  $\beta = 0.617$ ,  $p < 0.001$ , the predictive value of *mindfulness in communication of coworkers* on *trust in coworkers* represents a moderately large effect. This effect suggests changes in the levels of *mindfulness in communication of coworkers* are likely to result in significant changes in *trust in coworkers* because changes in coworker mindfulness predicts changes in trust in coworkers. While this research was not intended to establish presence or absence of causal relationships, the data suggest that it would be reasonable to pursue further research that explores the impact of changes in perceptions of *mindfulness in communication of coworkers* on levels of *trust in coworkers*.

*Responsiveness* was also predictive of *trust in coworkers*, though with a small, standardized beta value of  $\beta = 0.283$ ,  $p < .001$ . Its predictive value may be of less utility than *mindfulness in communication of coworkers*. Even though there is broad support for the importance of communication competency in establishing and maintaining trust within organizations (Sabanci et al., 2016; Tyler, 2016; Zaugg & Davies, 2013), only one component of communication competency, *responsiveness*, demonstrated a predictive relationship with measurement of trust. Perhaps measures of trust used in previous research measured different components of trust than the Workplace Trust Survey used in this research. Results of findings in this research suggest different relationships between assertiveness, responsiveness, and cognitive

flexibility on levels of trust in the workplace. However, the theoretical framework and definition of trust, the willingness for an individual to accept a position of vulnerability based on the expectation that the intentions and behaviors of another are positive and aligned with favorable outcomes (Rousseau et al., 1998) used for the Workplace Trust Survey (Ferres & Travaglione, 2003), has a high degree of alignment with other measurement instruments. The lack of findings that align with previous research suggests there may be something unique about the population used in this study such that elements of communication competency operate differently in postsecondary academic libraries than in other organizational settings.

While all other factors were not predictive of trust in coworkers (see Table 11 and Figure 10), in the presence of each other, all factors explained 48.4% ( $R^2 = 0.484$ ,  $SE = 0.091$ ,  $p < .001$ ) of the variance in *trust in coworkers*. The fact that approximately half of the variance was explained by the factors in this model is meaningful, especially considering that only two factors were statistically significant. This suggests further investigation is warranted to determine what factors may exist within the question structures that explain the 26.9% of the unique variance explained but not accounted for in the factor structure of this model.

**Predictors of Trust in Supervisor.** There was only one factor which predicted levels of *trust in supervisor*. In much the same way as *mindfulness in communication of coworkers* predicts *trust in coworkers* in the library, perceived *mindfulness in communication of supervisors* was a significant predictor of levels of *trust in supervisor*. This factor explained 45.8% of the unique variance in *trust in supervisor* which is a considerable amount of variance explained by a single factor. To explore the likelihood that the two measures were not actually measuring distinct constructs, the questions from the *mindfulness in communication of supervisor* and *trust in supervisor* sections of the survey were analyzed through a single factor and a two-factor CFA.

The results of the CFAs suggest that the items used to evaluate *mindfulness in communication of supervisor* measure a separate construct than those questions used to measure *trust in supervisor*. This indicates the perceptions of the postsecondary academic library's faculty and staff about the mindfulness in communication of supervisors is an important predictor of measures of *trust in supervisor* within the library. Changes in levels of perceived *mindfulness in communication of supervisor* are likely to have a meaningful impact on the measures of *trust in supervisor*. This relationship further supports the theorized importance of mindfulness in communication on levels of trust as described in previous research (Good et al., 2015; Reb et al., 2014; Stedham & Skaar, 2019).

While all other factors were not predictive of *trust in supervisor* (see Table 12 and Figure 11), in the presence of each other, all factors explained 66.6% ( $R^2 = 0.666$ ,  $SE = 0.072$ ,  $p < .001$ ) of the variance in *trust in supervisor*. With two-thirds of the variance in levels of *trust in supervisor* in the library explained by all variables together and 45.8% of the unique variance explained by *mindfulness in communication of supervisor*, the data should be explored to determine what may be explaining the remaining 20.8% of the variance in *trust in supervisor*.

Research literature suggested that communication competency has meaningful associations with levels of workplace trust (Sabanci et al., 2016; Tyler, 2016; Zaugg & Davies, 2013). As such, it was surprising that the components of communication competency were not significant predictors of levels of workplace trust. This may be because employees in postsecondary academic libraries tend to have high levels of communication competence (Lynch & Smith, 2001), so the measures did not discriminate meaningfully between employees.

**Predictors of Trust in Organization.** None of the factors predicted *trust in the organization* at a p-value of less than 0.05. This was somewhat surprising as the research

literature often referred to effective and mindful communication as a characteristic that was associated with high levels of trust in organizations (Bryk & Schneider, 2002; Covey & Merrill, 2018; Hallam et al., 2015; Tschannen-Moran, 2001; Zeffane et al., 2011). Identification of factors that predict trust in coworkers and trust in supervisor, but not trust in the organization suggests that people may conceptualize trust in organizations differently than they conceptualize trust in people. This begs the question if “trust in organizations” as commonly phrased in the research literature is actually referring to trust *within* organizations as opposed to trust in “the organization” as a separate entity from the people within the organization. For example, the idea described by Shockley-Zalabak et al. (2000) that trust in an organization occurs when individuals within a group have positive expectations about the intent and behaviors of the members of the organization, may require additional investigation. Perhaps the beliefs about the intent and behaviors of individuals in an organization predict trust in groups of the individuals who exist within the organization, and not with “the organization” as a separate construct. This may be because individuals trust people differently than organizations and the assumption that individuals identify organizations as a compilation of the people within the organization may be erroneous.

## **Limitations**

### ***Potential Confounding Variables***

While it is unreasonable to attempt to control all variables that could impact the outcomes of this study, there are some variables that should be examined and discussed due to their potential to influence the results in a way that could confound the results.

The proximity, or spatial arrangements of employees, could have impacted the results. Communication patterns are influenced by frequency of interaction due to spatial variables.

Coworkers who are closer in proximity interact more frequently and collaborate more often than those who are more distant (Zahn, 1991). While proximity could impact communication patterns, and ultimately trust between departments, since the data were aggregated and analyzed at the library level, it is expected that any individual department differences contributed to all the measures in a way that distributed any differences due to proximity.

Hierarchical roles in the library as defined by academic rank and expected behaviors associated with academic rank could impact the ways in which individuals perceive their communication competence and mindfulness in communication. It could be that differences in communication and organizational trust are a product of academic status. Since the responses to the survey questions were not associated with academic rank or employment role, there was no way to examine this possibility within this study. This may be an important factor to examine in future research.

Staff turnover can also be a factor that impacts levels of trust in the workplace. As employees change roles, or come and go, the interpersonal dynamics and relationships tend to shift as well. These changes could impact the levels of organizational trust. Examining the data about years of employment at the library revealed a distribution that did not appear to indicate evidence of significant staff turnover since 59.3% of employees have been employed by the library for at least seven years, and only 5% have been employed by the library for less than one year.

Changes in the personnel structure within an organization tends to have a disruptive effect on “business as normal” in organizations with employees reporting negative effects on job security, organizational commitment, and psychological well-being (Probst, 2003). The postsecondary academic library where this research was conducted underwent organizational

restructuring in the spring of 2020. The departments were rearranged, both within the physical space in the library, and with new teams and personnel distributions. These changes could have had impacts on the levels of organizational trust reported in this research. However, it is also possible that by redistributing the organizational structure, differences in levels of trust due to entrenched views within departments could have been disrupted in ways that mediated the impact those views may have had. Ultimately, since no data related to communication and trust had been collected prior to spring of 2020, there is no way to determine the impact of organizational restructuring on the data.

Research conducted during 2020 and 2021 was subject to a unique set of circumstances that were different than in previous years due to the COVID-19 pandemic. There is no doubt that COVID-19 and its accompanying disruptions to the expected procedures and interactions within postsecondary education have been substantial (Blankenberger & Williams, 2020). Changes in the way individuals communicated over course of the pandemic when university campuses were closed (since March 2020) may have impacted the perceptions that individuals held about their communication competency and skill levels, as well as perceptions of organizational trust. Since this research was conducted in October of 2020, changes to the interactions of library employees due to restrictions from COVID-19 including increased time in online meetings, less person-to-person interaction, and wearing facemasks that partially obscure non-verbal facial communication, could have impacted results obtained in the postsecondary academic library where this research was conducted. The potential impacts of COVID-19 changes in communication and interaction patterns points to the importance of validating the results obtained after restrictions and closures from the COVID-19 pandemic are lifted.

### ***Generalizability***

This study is limited in its scope due to its focus on a single postsecondary academic library in a large suburban private university. Additionally, the research population was quite homogenous so results may be a characteristic of the homogeneity of the population and results in a more diverse population may be different. Perceptions of communication competence or workplace trust may be shaped by differences in cultural expectations and experiences.

Further, to increase the likelihood of participation of library employees in research relating to levels of trust within the library, no demographic data were collected that could be connected to survey responses. While this was an advantage for maintaining confidentiality of responses, it also meant that there was no mechanism in the data to examine response patterns by demographic group, employment role, or other characteristic. It is possible that response patterns of a subset or group of employees could be driving the results obtained. One additional limitation that must be considered when reviewing and using the results of this research is the likelihood that the results are not generalizable beyond the setting where this research was conducted. There was no attempt made to randomly select participants since the intent of this research was not to explore causal relationships, but rather to determine whether components of communication competency and mindfulness in communication of non-student library faculty and staff were statistically significant predictors of levels of trust in coworkers, supervisors, and in the library as an organization.

### **Implications for Future Research**

As noted above, it will be important for future research to repeat the study in settings outside of a single postsecondary academic library to see if the findings are the result of the research setting, or if they are generalizable across postsecondary academic library settings. It

may also be of use to repeat the study in postsecondary academic environments beyond library settings to see how components of communication competency and mindfulness in communication predict levels of trust in those settings. Additionally, collection of demographic information of participants would allow for a more detailed analysis of factors that could impact response patterns and results. Further, once the pandemic-related restrictions are past, it may be of interest for further research to examine the communication and trust data to explore impacts of COVID-19 related changes on these measures.

Future research could also further investigate the functioning of the measurement instruments used for this study. Item Response Theory analysis could be helpful for investigating why some items within the instruments functioned poorly and could provide ideas for further development and refining of instruments. With the lack of instruments available for measurement of trust and communication within postsecondary educational environments, development of a targeted instrument could be another valuable contribution to the field.

The findings of this research that demonstrate that predictive relationships exist between perceptions of *mindfulness in communication of coworkers*, *mindfulness in communication of supervisors*, and self-perceptions of communication *responsiveness* on levels of trust within the postsecondary academic library workplace. However, it is unknown whether the relationships described through this research are specific to the population or setting where the research was conducted, or if those findings are generalizable to other postsecondary educational settings. The limitations described above illustrate the necessity of further research to increase understanding of factors that predict levels of trust within postsecondary educational settings.

The existence of predictive relationships between communication and trust in postsecondary academic environments suggests that mindfulness in communication and



individual communication responsiveness may be influential levers for effecting change in levels of trust in the workplace. This illuminates potential targets for exploring possible causal associations between mindfulness in communication and levels of organizational trust in postsecondary academic environments. If causal relationships exist, mindfulness in communication could be a novel and valuable target for professional learning and skill development to positively impact levels of organizational trust. Further exploration could examine the impact of professional learning and coaching of mindfulness in communication and communication responsiveness to determine if efforts to improve the levels of these factors among staff and faculty in the postsecondary library results in improvement in levels of workplace trust, with the appurtenant benefits of increased levels of employee satisfaction and morale, decreased staff turnover, and increased attainment of desired organizational outcomes, that occur in high-trust environments.

### **Implications for Practitioners**

The results of this study are of benefit to administrators, leadership teams, and human resource managers within postsecondary academic libraries. This research identifies *mindfulness in communication of coworkers*, *mindfulness in communication of supervisors*, and *responsiveness* as factors that predict levels of trust in coworkers and supervisors within the postsecondary academic library. These factors may have value as teachable skillsets that could be targeted for professional learning to improve levels of trust in the workplace. The findings of this research should guide further efforts to establish the impact of changes in perceptions of mindfulness in communication and perceptions of responsiveness in communication on levels of trust within the library.

## Conclusion

This research took place in a postsecondary academic library in a large suburban private university. Study participants included 116 non-student library employees which was 77.3% of the total research population.

This study built off findings from a 2019 study conducted within the library that identified employee perceptions of problematic levels of trust and communication interactions that were of concern to determine whether predictive relationships exist between measures of competent and mindful communication and levels of organizational trust among coworkers, with supervisors, and with the organization. Existence of predictive relationships between components of communication competence and mindfulness in communication with levels of organizational trust could provide important targets for further research exploring possible causal associations between the variables. If causal relationships exist, mindfulness in communication could be a novel and valuable target for professional learning and skill development to positively impact levels of organizational trust.

Despite the importance of interpersonal communication and organizational trust in educational settings, very little published research was located conducted on these topics in postsecondary educational settings. Mindfulness in communication has been identified as a factor that influences levels of trust within organizations (Good et al., 2015; Reb et al., 2014; Stedham & Skaar, 2019), but research examining relationships between mindfulness in communication and levels of organizational trust in postsecondary educational settings was not located.

No validated measurement tools related to the constructs of this research in postsecondary educational environments--let alone postsecondary academic libraries--were

identified. Thus, part of the focus of this research was identification and adaptation of existing instruments to provide the necessary information to achieve the aims of this research. Using results of confirmatory factor analyses and applying theoretically justifiable modifications (such as deletion of non-discriminatory items or allowing theoretically related residuals to covary) satisfactory model fit was obtained for each instrument included in this research. This suggests that the survey data collected using the instruments included in the survey can be used with confidence within this postsecondary academic library environment, and that they may be useful in other postsecondary academic library research.

Structural equation modeling revealed that self-reported levels of communication *responsiveness* and perceived levels of *mindfulness in communication of coworkers* were important predictors of levels of *trust in coworkers*. The only factor that predicted levels of *trust in supervisor* was *mindfulness in communication of supervisor*, and none of the factors predicted *trust in the organization* at a p-value of less than 0.05. Perceptions of mindfulness in communication among coworkers and with supervisors are meaningful predictors of levels of trust in coworkers and supervisors in the postsecondary academic library.

Further research is necessary to increase understanding of relationships between communication and trust in postsecondary academic environments. If causal relationships exist, mindfulness in communication could be a novel and valuable target for professional learning and skill development which could positively impact levels of organizational trust, potentially resulting in increased levels of employee satisfaction and morale, decreased staff turnover, and increased attainment of desired organizational outcomes.

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## APPENDIX A

**Request for Participation**

Email to be sent to non-student employees prior to survey:

Hello {employee name},

Last year the Harold B. Lee Library completed an assessment of gender equity issues among non-student employees. After reviewing the results, we felt a follow-up assessment of communication and organizational trust in our organization would be appropriate.

We intend to study how library employees may improve their communication with each other and build trust as they do so. The study has received IRB approval and is being used by an Educational Inquiry, Measurement, and Evaluation graduate candidate, Rebecca Peterson, as the basis for her doctoral dissertation.

Shortly, you'll receive a survey. I strongly encourage your participation in this study, which will both benefit the library and support Rebecca's doctoral dissertation. You may complete the survey on the clock and all who complete the survey will receive a \$10 deposit to their CougarCash account.

Thank you,

Rick Anderson,  
University Librarian

## APPENDIX B

### Implied Consent

My name is Rebecca Peterson. I am a graduate student at Brigham Young University, and I am conducting this research under the supervision of Professor Pamela Hallam, from the McKay School of Education. You are being invited to participate in this research study of communication and organizational trust because you are a non-student employee in the Lee Library. I am interested in finding out if perceptions about communication are related to levels of trust within the workplace.

Your participation in this study will require the completion of an online survey. This survey should take approximately 15-18 minutes of your time. No personally identifiable information will be collected with the research survey, and your participation will be completely anonymous. You will not be contacted again in the future. You will receive \$10.00 of Cougar Cash for completing the survey and you may complete this survey during your workday (while on the clock). Cougar Cash compensation information will be collected via a separate survey. None of the contact information collected in the secondary survey for awarding the Cougar Cash will be connected in any way to your research survey response. This survey involves minimal risk to you; some questions may cause discomfort. You do not have to answer any question that you do not want to answer for any reason, but we hope that you will fully respond to the survey. Reminder emails will be sent to non-responders. You do not have to be in this study if you do not want to be. If you do not wish to participate, please respond to the first survey question and indicate that you do not wish to participate so that reminder emails will not be sent to you. We will be happy to answer any questions you have about this study.

The benefits may include helping to increase knowledge about how perceptions of communication are related to organizational trust in postsecondary educational settings. This information may help communication and trust building within the Lee Library.

If you have further questions about this project or if you have a research-related problem you may contact me, Rebecca Peterson, at [rebeccajbpeterson@gmail.com](mailto:rebeccajbpeterson@gmail.com) or my advisor, Pamela Hallam, at [pam\\_hallam@byu.edu](mailto:pam_hallam@byu.edu).

If you have any questions about your rights as a research participant, you may contact the BYU Human Research Protections Program at [jrb@byu.edu](mailto:jrb@byu.edu) or (801) 422-1461. The BYU Human Research Protections Program is a group of people who review research studies to protect the rights and welfare of research participants.

Choosing the yes response below implies your consent to participate. If you choose to participate, please complete the survey by October 2, 2020. Thank you!

## APPENDIX C

**Letter of Support**

HAROLD B. LEE LIBRARY



September 4, 2020

IRB Review Board  
A-285 ASB  
Campus Mail

To Whom It May Concern:

This letter indicates my support of the "Communication and Organizational Trust within the Lee Library" study. This study will assist library leadership to identify practices and procedures that we expect will help to improve communication and organizational trust among all library employees.

To assist the study, I am committing library financial and personnel resources for data collection and analysis.

Respectfully,

A handwritten signature in black ink, appearing to read "Rick Anderson", with a large, sweeping flourish at the end.

Rick Anderson  
University Librarian



## APPENDIX D

**Institutional Review Board Approval Letter****Memorandum**

To: Pamela Hallam  
 Department: BYU - EDUC - Educational Leadership & Foundations  
 From: Sandee Aina, MPA, Associate Director  
 Wayne Larsen, MAcc, IRB Administrator  
 Date: September 17, 2020  
 IRB#: IRB2020-372

Title: What Did You Say? Investigating the Relationship of Self-Perceived Communication Competence and Mindfulness in Communication with Levels of Organizational Trust in a Postsecondary Academic Library

Brigham Young University's IRB has approved the research study referenced in the subject heading as exempt level, category 2. This study does not require an annual continuing review. Each year near the anniversary of the approval date, you will receive an email reminding you of your obligations as a researcher and to check on the status of the study. You will receive this email each year until you close the study.

The study is approved as of 09/17/2020. Please reference your assigned IRB identification number in any correspondence with the IRB.

Continued approval is conditional upon your compliance with the following requirements:

1. A copy of the approved informed consent statement can be found in iRIS. No other consent statement should be used. Each research subject must be provided with a copy or a way to access the consent statement.
2. Any modifications to the approved protocol must be submitted, reviewed, and approved by the IRB before modifications are incorporated in the study.
3. All recruiting tools must be submitted and approved by the IRB prior to use.
4. Instructions to access approved documents, submit modifications, report adverse events, can be found on the IRB website, iRIS guide: [http://orca.byu.edu/irb/iRIS/story\\_html5.html](http://orca.byu.edu/irb/iRIS/story_html5.html)
5. All non-serious unanticipated problems should be reported to the IRB within 2 weeks of the first awareness of the problem by the PI. Prompt reporting is important, as unanticipated problems often require some modification of study procedures, protocols, and/or informed consent processes. Such modifications require the review and approval of the IRB. Please refer to the IRB website for more information.

## APPENDIX E

**Survey Instrument****Section 1: SocioCommunicative Orientation Scale (Richmond & McCroskey, 1990)**

**INSTRUCTIONS:** The questionnaire below lists twenty personality characteristics. Please indicate the degree to which you believe each of these characteristics applies to you while interacting with others by marking whether you (5) strongly agree that it applies, (4) agree that it applies, (3) are undecided, (2) disagree that it applies, or (1) strongly disagree that it applies. There are no right or wrong answers. Work quickly; record your first impression.

- \_\_\_\_\_ 1. helpful
- \_\_\_\_\_ 2. defends own beliefs
- \_\_\_\_\_ 3. independent
- \_\_\_\_\_ 4. responsive to others
- \_\_\_\_\_ 5. forceful
- \_\_\_\_\_ 6. has strong personality
- \_\_\_\_\_ 7. sympathetic
- \_\_\_\_\_ 8. compassionate
- \_\_\_\_\_ 9. assertive
- \_\_\_\_\_ 10. sensitive to the needs of others
- \_\_\_\_\_ 11. dominant
- \_\_\_\_\_ 12. sincere
- \_\_\_\_\_ 13. gentle
- \_\_\_\_\_ 14. willing to take a stand
- \_\_\_\_\_ 15. warm
- \_\_\_\_\_ 16. tender
- \_\_\_\_\_ 17. friendly
- \_\_\_\_\_ 18. acts as a leader
- \_\_\_\_\_ 19. aggressive
- \_\_\_\_\_ 20. competitive

**Section 2: Cognitive Flexibility Scale (Martin & Rubin, 1995)**

**INSTRUCTIONS:** The following statements deal with your beliefs and feelings about your own behavior. Read each statement and respond by selecting the answer that best represents your agreement with each statement. Strongly agree (6), agree, slightly agree, slightly disagree, disagree, strongly disagree (1). There are no right or wrong answers.

- 1. I can communicate an idea in many different ways.
- 2. I avoid new and unusual situations.
- 3. I feel like I never get to make decisions.
- 4. I can find workable solutions to seemingly unsolvable problems.
- 5. I seldom have choices when deciding how to behave.
- 6. I am willing to work at creative solutions to problems
- 7. In any given situation, I am able to act appropriately.

8. My behavior is a result of conscious decisions that I make.
9. I have many possible ways of behaving in any given situation.
10. I have difficulty using my knowledge on a given topic in real life situations.
11. I am willing to listen and consider alternatives for handling a problem.
12. I have the self-confidence necessary to try different ways of behaving.

### Section 3: Mindfulness in Communication Scale (Arendt et al., 2019)

\*Adapted to include Mindfulness in Communication of Self and Mindfulness of Communication of Coworkers

**INSTRUCTIONS:** The following statements deal with your beliefs and feelings about mindful communication in the workplace. Read each statement and respond by selecting the answer that best represents your agreement with each statement. Strongly agree (6), agree, slightly agree, slightly disagree, disagree, strongly disagree (1). There are no right or wrong answers.

#### Self \*

1. I give my full attention to coworkers when they are speaking.
2. In conversations, I am impatient.
3. I am only half-listening when my coworkers are talking.
4. In conversations I first listen to what my coworkers have to say before forming my own opinion.
5. Before my coworkers have finished talking, I have already formed my own opinion.
6. I have preconceived opinions about many topics and hold on to my opinions.
7. I stay calm even in tense situations.
8. I get easily worked up.
9. When I do not like something, emotions can easily boil over.

#### Coworkers \*

1. I have my coworkers' full attention when I am speaking.
2. In conversations, my coworkers are impatient.
3. My coworkers are only half-listening when I am talking.
4. In conversations my coworkers first listen to what I have to say before forming their own opinions.
5. Before I have finished talking, my coworkers have already formed their own opinions.
6. My coworkers have preconceived opinions about many topics and hold on to their opinions.
7. My coworkers stay calm even in tense situations.
8. My coworkers get easily worked up.
9. When my coworkers do not like something, emotions can easily boil over.

#### Supervisor

1. I have my supervisor's full attention when I am speaking.
2. In conversations, my supervisor is impatient.
3. My supervisor is only half-listening when I am talking.
4. In conversations my supervisor first listens to what I have to say before forming their own opinion.
5. Before I have finished talking, my supervisor has already formed their own opinion.
6. My supervisor has preconceived opinions about many topics and holds on to their opinions.
7. My supervisor stays calm even in tense situations.
8. My supervisor gets easily worked up.
9. When my supervisor does not like something, emotions can easily boil over.

#### Section 4: Workplace Trust Survey (Ferres & Travaglione, 2003)

**INSTRUCTIONS:** The following statements deal with your beliefs and feelings about trust in the workplace. Read each statement and respond by selecting the answer that best represents your agreement with each statement. Strongly agree (6), agree, slightly agree, slightly disagree, disagree, strongly disagree (1). There are no right or wrong answers.

##### Coworker

1. I feel I can trust my coworkers to do their jobs well.
2. I proceed with the knowledge that my coworkers are considerate of my interests.
3. I believe that my coworkers will support me if I have problems.
4. Most employees at this organization believe that coworkers are reliable.
5. I feel confident that my coworkers appreciate my good work.
6. I feel that my coworkers are truthful in their dealings with me.
7. I think that my coworkers act reliably from one moment to the next.
8. I will act on the foundation that my coworkers display ethical behavior.
9. Most employees at this organization believe that coworkers will be supportive if problems arise.
10. I believe that my coworkers give me all the information to assist me at work.
11. Employees at this organization generally feel that coworkers appreciate their good work.
12. I behave on the basis that my coworkers will not disclose personal information.

##### Supervisor

1. I feel that my supervisor listens to what I have to say.
2. I proceed on the basis that my supervisor will act in good faith.
3. I act on the basis that my supervisor displays integrity in his/her actions.
4. I think that my supervisor appreciates additional efforts I make.
5. I act knowing that my supervisor will keep his/her word.
6. I believe that my supervisor follows through promises with action.
7. I feel that my supervisor is available when needed.
8. I believe that my supervisor keeps personal discussions confidential.
9. I feel that my supervisor trusts his/her employees to work without excessive supervision.
10. Employees generally believe that management provides honest answers.
11. It is frequently acknowledged by employees of this organization that their immediate supervisors reward those who perform well.
12. Most people at this organization feel comfortable with their immediate supervisors.

##### Organization

1. There is a widely held belief that the library is moving forward for the better.
2. I have positive feelings about the future direction of the library.
3. I honestly express my opinion at the library with the knowledge that employee views are valued.
4. I think that the library offers a supportive environment.
5. I believe that the library recognizes and rewards employees' skills and abilities.
6. It is generally accepted that the library takes care of employee interests.
7. I perform knowing that the library will recognize my work.
8. I think that processes within the library are fair.
9. Employees commonly believe that they are treated fairly at the library.
10. I act on the basis that the library follows plans with action.
11. I feel that information can be shared openly within the library.

## Scoring the Instrument

### Section 1: SocioCommunicative Orientation Scale (Richmond & McCroskey, 1990)

Five-point Likert Scale: Strongly agree (5), agree, undecided, disagree, strongly disagree (1). For assertiveness score, add up responses to Items 2, 3, 5, 6, 9, 11, 14, 18, and 20. For responsiveness score, add up responses to Items 1, 4, 7, 8, 10, 12, 13, 15, 16, 17.

### Section 2: Cognitive Flexibility Scale (Martin & Rubin, 1995)

Six-point Likert Scale: Strongly agree (6), agree, slightly agree, slightly disagree, disagree, strongly disagree (1). Items 2, 3, 5, and 10 are reverse coded. Add up items for score, taking into consideration items that are reverse coded.

### Section 3: Mindfulness in Communication Scale (Arendt et al., 2019)

Six-point Likert Scale: Strongly agree (6), agree, slightly agree, slightly disagree, disagree, strongly disagree (1). Items 2, 3, 5, 6, 8, and 9 are reverse coded.

### Section 4: Workplace Trust Survey (Ferres & Travaglione, 2003)

Six-point Likert Scale: Strongly agree (6), agree, slightly agree, slightly disagree, disagree, strongly disagree (1). Set 1 Items 1 - 12 measure trust in coworkers. Set 2 Items 1 - 12 measure trust in supervisor. Set 3 Items 1 – 11 measure trust in organization.