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quantitative ethnography research**

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Pepperdine University
Graduate School of Education and Psychology

TRUST AND PSYCHOLOGICAL EMPOWERMENT IN GLOBAL VIRTUAL TEAMS:
QUANTITATIVE ETHNOGRAPHY RESEARCH

A dissertation submitted in partial satisfaction
of the requirements for the degree of
Doctor of Education in Organizational Leadership
by

Yujung Seol

August, 2023

Kent Rhodes, Ed.D. – Dissertation Chairperson

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DOCTOR OF EDUCATION

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DEDICATION

There are significant dedicators to this doctoral Journey who have supported me in everyday life and who deserve far more recognition than I can convey here. I dedicate this dissertation to the most important person, my husband, Yonghwan Jhin. I appreciate you being my best friend and providing me with a comfortable spiritual space where I could always recharge. Thanks to your love, support, and understanding, I continue to try and persevere through this challenging journey, representing an essential chapter in my life. The accomplishment could not have been accomplished without your unwavering love and support.

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ABSTRACT

Although global virtual teams are becoming more commonplace because of their many benefits, they are also challenged by a lack of interpersonal and emotional trust between team members. Based on this problem, this study adopted a quantitative ethnographic methodology to explore team members' perceptions of the relationship between trust and psychological empowerment components, such as the meaning of work, competence, self-determination, and impact, in global virtual teams. In addition, this study examined how the team members' perceptions of trust and psychological empowerment differ based on their attributes. To achieve this research purpose, the researcher collected data via semi-structured interviews with 16 employees in global virtual teams of five consulting firms headquartered in the U.S. and South Korea. This study utilized the Epistemic Network Analysis (ENA) as an analysis tool to investigate the perception patterns of participants. As a result, the study found that trust is primarily linked to competence, responsible behavior, and communication between employees. In contrast, competence is related to communication, recognition, self-determination, and impact on the team or society. Furthermore, the study found the differences in employees' perceptions according to characteristics—age, gender, nationality, working period, and role—excluding the expertise realm. The findings could aid organizations in developing strategies for global virtual teams and contribute to developing academic fields related to psychological empowerment and trust. More research is needed on segmented global virtual team types, cultural diversity, and team leadership.

Keywords: trust, psychological empowerment, global virtual team, epistemic network analysis

Chapter 1: Introduction

Overview

The first chapter begins this study and corresponds to the cornerstone. It starts with explaining the practical and academic background that led to the study. Subsequently, it outlined the fundamental challenges faced by the global virtual team and described the purpose and significance of this study. In addition, it included an explanation of the theories that may serve as the foundation for this research and a description of the concepts that appeared in this study. Then, the researcher highlighted the study's scope, limitations, and underlying assumptions. Finally, the researcher described a summary of this chapter. In other words, through this chapter, readers will understand why this research is significant, the goal and expectations of the study, and the academic field in which this research resides.

Background

Many companies transitioned to new organizational structures in response to changes in their environments, such as the decentralization and globalization of work processes, flexible working, and increased usage of technology, and rethought vertical integration and the hierarchical delegation of authority (Dulebohn & Hoch, 2017; Grenier & Metes, 1995). Virtual team models have emerged to increase productivity by using technologies that allow groups and individuals possessing different specialties to collaborate from disparate physical locations, time zones, and organizational structures (Ale Ebrahim et al., 2009; Aubert & Kelsey, 2003; Cascio, 2000; Dulebohn & Hoch, 2017; Lipnack & Stamps, 2000). A virtual team refers to smaller units operating within a virtual organization or a traditional company (Lee M. R., 2021) and sometimes from different organizations (Gibson & Grushina, 2021). Since the advent of the COVID-19 pandemic and lockdowns, forcing people to work from home, most of the blue- and

white-collar global workforce participated in virtual teams and continue to do so today. For instance, university faculty members hold department meetings over Zoom that develop and implement curricula. Virtual customer service agents answer questions, take reservations, and ignore customers' complaints from terminals through their home offices, having access to cloud-based servers monitored by other remote workers. A global virtual team comprises people who work together to achieve shared goals worldwide, as implied by the term "global."

As such, a global virtual team adds another attribute: employees from various nationalities work in different time zones worldwide (Gibson & Grushina, 2021; Maznevski & Chudoba, 2000). Global virtual team members are more diverse in age, gender, ethnicity, expertise, and tenure than localized virtual teams (Lee & Kim, 2018). Jackson et al. (1995) distinguished between two kinds of diversity in a team: task-related qualities and fundamental qualities. Task-related qualities include tenure, qualifications, education levels, and work experience, whereas essential attributes include gender, ethnicity, nationality, and age. Therefore, global virtual teams refer to groups of individuals with diverse qualities that collaborate to achieve common goals by using communication technologies across regional and organizational boundaries (Gibson & Grushina, 2021; Lee & Kim, 2018).

The researcher summarized three main advantages global virtual teams offer. First, the company is not responsible for maintaining the costs of the physical location from which the employee works, thereby minimizing operating costs significantly (Bailey & Kurland, 1999). It is especially beneficial when a team starts a short-term project where the results may not be initially known. As such, having a global virtual team can reduce the risk of the initial investment in rent, furniture, and most infrastructure costs. In addition, organizations can minimize all travel and overhead costs. Subsequently, global virtual teams can be more flexible

and respond quickly to unexpected events. For example, flexible teams are more likely to experiment with alternative strategies in response to environmental changes (Hunter, 2019). The formation and dissolution of virtual teams, typically knowledge-based with distributed competence, are flexible and can be adapted to the organization's needs (Jarvenpaa et al., 2004). Third, global virtual teams can leverage diverse professional talents from both within and outside the organization, and the integration of individual specialists from various fields is a crucial factor contributing to the improved productivity of virtual teams when compared to traditional team models (Dorr et al., 2011; Lojeski & Reilly, 2020).

Research Context

This study examined several employees working in global virtual teams within five consulting firms headquartered in the U.S. and South Korea. Global virtual teams not only benefit from a diverse range of autonomous and multinational workers but also need more face-to-face interactions, a limitation of management of team deliverables, and cross-cultural differences (Lee, M. R., 2021). Indeed, perceptions and expectations of work outcomes and communication between team members can differ significantly and result in disagreements over the administration of the global virtual team. This tension undermines trust, which is critical for effective collaboration and cooperation (Park & Ko, 2018).

Trust is a crucial component of team growth (Aubert & Kelsey, 2003; Breuer et al., 2016; Cummings & Bromiley, 1996; Lee & Kim, 2018; McAllister, 1995; Rousseau et al., 1998; Winograd et al., 2000; Zhao et al., 2022). Higher levels of trust are empirically shown to affect organizational members' perspectives and attitudes, improve cooperation, communication, teamwork, and job performance, and foster job satisfaction, loyalty, motivation, and

empowerment (Aubert & Kelsey, 2003; Cummings & Bromiley, 1996; De Jong et al., 2016; McAllister, 1995; Lee & Kim, 2018; Winograd et al., 2000; Zhao et al., 2022).

Trust in an organization is multi-faceted. Researchers have identified a complex network of interrelated factors to study, such as the fundamental psychological component of human interactions in a business setting. For example, Robinson (1996) categorized three types of trust: (a) organizational trust, (b) leader trust, and (c) peer trust, depending on the subject. On the one hand, organizational trust is impersonal and refers to members' confidence that the institution they belong to supports their success (Gilbert & Tang, 1998; Robinson, 1996). On the other hand, leader and peer trust are interpersonal trust and informed by actual interactions between members of the organization (Costigan et al., 1998; Mayer et al., 1995; Rotter, 1980). McAllister (1995) proposed distinguishing between two kinds of trust: cognitive and affective. Whereas cognitive trust is established through perceptions and knowledge of the other stakeholders' skills, experience, and background, affective trust is built on one's emotional closeness to others. Affective trust is linked to close, meaningful personal relationships, while cognitive trust is associated with more impersonal, task-based bonds (Dowell et al., 2015).

Another major topic, psychological empowerment, refers to team members' recognition that they have meaning, competence, determination, and influence on their work regardless of whether the members officially gain external authority (Spreitzer, 1995). The concept has attracted more attention as participatory management of organizational members has become more commonplace (Ergeneli et al., 2007). Psychological empowerment motivates team members to come to work, immerse themselves in it, and promote corporate innovation (Conger & Kanungo, 1988; Jung, 2021; Seibert et al., 2004). Psychological empowerment has been empirically demonstrated to have a positive effect on job performance and satisfaction,

organizational commitment, citizenship behavior, and productivity since it enables workers to satisfy the essential needs of autonomy and individual growth both traditionally and virtually (Bordin et al., 2006; Gumusluoglu & Ilsev., 2009; Hechanova et al., 2006; Kirkman & Rosen, 1999; Kirkman et al., 2004; Knol & Van Linge; 2009; Koberg et al., 1999; Liden et al., 2000; Randolph & Kemery, 2011; Seibert et al., 2011; Singh & Singh, 2019; Spreitzer, 1995).

Psychological empowerment could significantly influence trust development in an organization (Spreitzer, 1995). Existing studies provide the impetus for this approach. First, Dirks and De Jong (2022) summarized significant practical implications in the literature regarding trust formation in their meta-analysis of 42 research studies on workplace trust published between 1995 and 2021. Among several implications, what is relevant to this study is that firms' emphasis on employee engagement in decision-making and empowerment can be a means to develop employees' trust. For example, a few studies either explored how individuals can be motivated to act reliably towards other team members or organizations or investigated the cognitive variables that can encourage one's trust. (van der Werff et al., 2019; Weber & Bauman, 2019). Studies have shown that psychological empowerment is the most critical factor in fostering employees' intrinsic work motivation (Seibert et al., 2004; Spreitzer, 1995). Dirks and De Jong (2022) explained the concept of psychological empowerment as a significant influencer in developing trust. Second, Mishra and Morrissey (1990) proposed several factors to foster trust, such as active communication, empowerment, knowledge-sharing, and emotional interaction. Although this study is not recent, it is interpreted that psychological empowerment, a sub-factor of empowerment, could be an essential factor influencing trust formation.

Problem Statement

Global virtual teams face many challenges, characterized by short-term and interdependent relationships, digitized communication, and team members' diverse qualities and qualifications. This study examined three main issues: (a) the lack of interpersonal and emotional trust among team members; (b) a lack of research on crucial contributing factors for trust development, as well as a concentration on cognitive trust; and (c) a lack of studies comparing the perceptions of psychological empowerment across employees with different characteristics.

First, interpersonal and emotional virtual team members' trust is hampered by a lack of intimacy fostered by short-term relationships and technology-mediated communication (Beyerlein et al., 2015; Jones & Bowie, 1998), unacknowledged diversity in the cognitive and affective trust expectations within a culturally diverse team also hinders members' communication and trust within the team (Jehn, 1995; Lawrence, 1997). Since each team comprises people from various disciplines with interdependent relationships, members find building interpersonal and emotional trust challenging without sufficient prior experience (Jones & Bowie, 1998).

Second, numerous studies addressing the trust issue of organizations have focused mainly on the role of trust in an organization and the positive outcome factors of trust (Cummings & Bromiley, 1996; De Jong et al., 2016; Lee & Kim, 2018; Zhao et al., 2022). On the contrary, recent studies on the influencing factors affecting trust development still need to be included (Hart et al., 1986; Mishra & Morrissey, 1990). In addition, studies on trust within the virtual team mainly focused on employee relational and emotional trust (Aubert & Kelsey, 2003; Flavian et al., 2018; Jarvenpaa et al., 1998). Similarly, studies addressing the relationship between trust and psychological empowerment also focus on trust with managers or

interpersonal trust between employees (Alajmi, 2017; Barton & Barton, 2011; Ergeneli et al., 2007; Liu & Ren, 2022; Spreitzer & Mishra, 1999).

Third, there needs to be more research to uncover how employees perceive psychological empowerment based on their characteristics. Since the work by Spreitzer (2008), which demonstrates the equal composition link between psychological empowerment components, relatively few studies have studied the interaction between psychological empowerment components. Although a few researchers have partially explored the relationship between each component in recent years (Allan et al., 2016; Autin et al., 2022), the number of studies was highly restricted, and the content needed to cover all the components. Moreover, according to Spreitzer (2008), there is no discernible difference between how individuals feel psychological empowerment based on their attributes. Few studies compare perceptions of psychological empowerment based on employee characteristics.

Purpose of Research

This study aimed to explore how four psychological empowerment components—meaning of work, competence, self-determination, and impact—as proposed by Spreitzer (1995) are related to employees' cognitive trust based on their competence and sincerity (McAllister, 1995) and organizational trust (An, 2011; Robinson, 1996; Rousseau et al., 1998) to fill the gaps between pieces of literature dealing with trust and psychological empowerment (Dirks & de Jong, 2022). Furthermore, the purpose of this study is also to examine how the team members' perceptions of trust and psychological empowerment differ based on their attributes—age, gender, nationality, expertise realm, and working period on the team (Allan et al., 2016; Austin et al., 2022). Thus, this study was designed to address the following research questions.

- RQ1: How do team members perceive the relationship between trust and psychological empowerment components—meaning, competence, self-determination, and impact—in global virtual teams?
- RQ2: How do members' perceptions differ regarding trust and psychological empowerment based on their characteristics—age, gender, nationality, expertise realm, and working period on the team—within global virtual teams?

To address these research questions effectively, this study applied Quantitative Ethnography (QE) and Epistemic Network Analysis (ENA) as a tool to analyze qualitative data quantitatively by examining the relational patterns of meaningful constructs in data gathered by semi-structured interviews with participants.

Significance of the Research

This study's findings could significantly contribute to theoretical and practical advancement in understanding trust and psychological empowerment within global virtual teams. The findings could fill a gap in the literature on trust development, the relationship between psychological empowerment variables and trust, and psychological empowerment in the virtual setting. This study's results could fill a gap in the literature on comparative research about how members of virtual teams worldwide differ in their perceptions of trust and psychological empowerment concerning their demographic characteristics.

This research could also contribute to developing practical alternatives that facilitate trust between employees in global virtual teams. With limited face-to-face interaction, it is challenging to establish interpersonal and emotional trust using the same methods as in a traditional, shared workspace. Taking into account the constraints of a virtual environment, the findings of the present study can help organizational leaders not only understand employees'

perceptions of cognitive trust and psychological empowerment but also apply solutions based on the characteristics of employees to foster trust between colleagues and support the development of employees' psychological empowerment.

Research Frameworks

This study was organized based on three overarching frameworks: (a) the cognitive model of empowerment (Thomas & Velthouse, 1990) as a theoretical framework, (b) the psychological empowerment (Spreitzer, 1995) as a conceptual framework, and (c) epistemic frame theory as an analytical framework for this study (Shaffer, 2006). This study's theoretical framework, the cognitive model of empowerment, focused on the cognitive formation process of empowerment as seen by individual employees and the interaction between these various factors. Since this study intends to investigate how individuals in a global virtual team view the relationship between psychological empowerment and trust, the cognitive flow between these two essential research variables is best examined via the lens of this model. In addition, the researcher used Spreitzer's (1995) four psychological empowerment components, meaning, competence, self-determination, and impact, to conduct a literature review and develop interview questions, as Spreitzer's psychological empowerment concept is the most frequently cited academic field. Lastly, the epistemic framework theory assumes that people perceive and interpret a situation within a system or frame that is systematically connected between meaningful elements, which are grasped in their discourse (Shaffer, 2017). Thus, the ENA is the most suitable analysis framework for this study because this study attempts to analyze and model how employees' perception is structured to recognize the relationship between the core elements of this study through interviews within the global virtual team.

Theoretical Framework

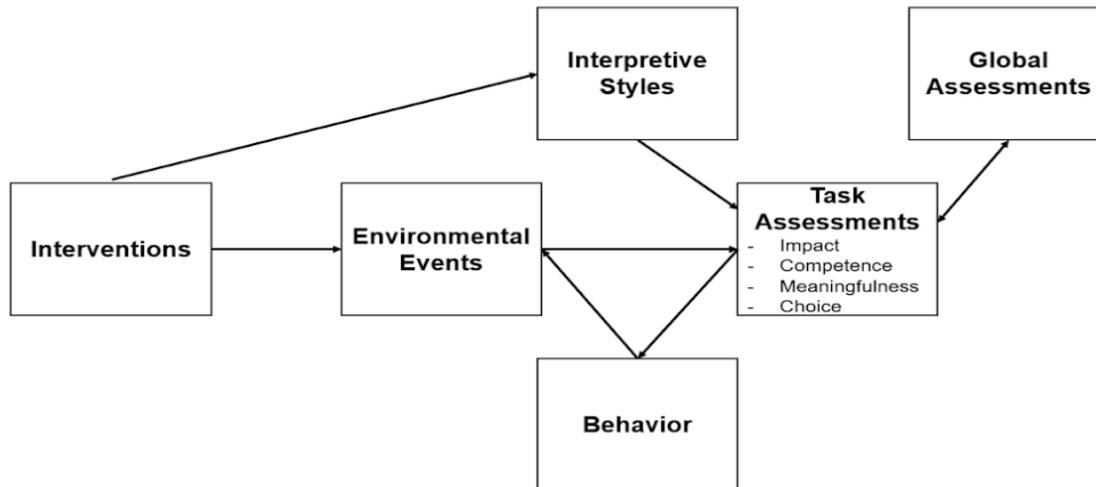
Concept of the Cognitive Model of Empowerment. The theoretical framework guiding this study is the cognitive empowerment model (Thomas & Velthouse, 1990). The cognitive model of empowerment is a theory that emphasizes intrinsic task motivation as a critical cognitive element and the mental structure of how workers in an organization see their tasks. Thomas and Velthouse (1990) propose that by recognizing ‘power’ as energy, empowerment generates employees’ intrinsic task motivation. They argued that empowerment is fostered by cognitive variables, meaning, competence, choice, and impact (termed task assessments) concerning task achievement. Thomas and Velthouse use this mental process to explain how individual employees can interpret this empowerment as their distinguishing trait (i.e., interpretive styles) and are affected by their existing experiences and beliefs (i.e., global assessments).

Elements of the Cognitive Model of Empowerment and the Relationship Between Them. Thomas and Velthouse (1990) identify six components that comprise the cognitive process of empowerment: (a) environmental events, (b) task assessments, (c) behavior, (d) global assessment, (e) interpretive styles, and (f) intervention. *Environmental events* are data sources that influence the outcome of worker behavior. Additionally, Thomas and Velthouse classified environmental events into four categories and described numerous types of change. For example, structural events refer to social, economic, and political changes. Interpersonal events refer to relational events between persons; corporate events refer to organizational structure and policy changes, such as work environment and duties; and personal events refer to the evolution of one’s thinking and circumstance. Therefore, Thomas and Velthouse concluded that individuals feel empowered while actively responding to environmental changes.

Tasks assessments refer to how an individual considers their performance on a specific job based on four criteria: (a) impact, (b) competence, (c) meaningfulness, and (d) choice. Task assessments have been demonstrated to affect team members' motivation for task completion (Eylon & Bamberger, 2000). It is highly related to the components of psychological empowerment (Spreitzer, 1995).

Behavior describes activities, efforts, and decisions on a specific task or initiative acting in response to environmental challenges in the face of setbacks. It encompasses explicit actions, such as goal-setting, attempting to find multiple solutions to an issue, and communicating with others about their needs or preferences. *Global assessment* is an abstract concept and refers to generalized beliefs informed by an individual's past experiences or social and cultural norms. These beliefs are associated with an individual's overall assessment of their control and influence over their surroundings. According to this theory, an individual's sense of empowerment can be improved by generating positive global assessments.

Interpretive styles represent the distinguishing trait with which individual employees handle case interpretation. For example, self-identified perfectionists are more likely to evaluate their performance as a failure than others (Jung, 2021). *Interventions* are various attempts to indirectly influence environmental events and task assessment (Thomas & Velthouse, 1990). Examples of interventions include training programs for developing knowledge, recognition of individuals' accomplishments and performance, supportive networking between colleagues, and participation opportunities to engage the organization's operation or communities. The links between these elements are crucial to the theory and are best represented by a diagram which can be seen in Figure 1.

Figure 1*The Cognitive Model of Empowerment*

The theory revolves around a continuous loop of three elements: environmental events, task assessments, and behavior (Eylon & Bamberger, 2000). Environmental variables influence task assessments and behavior, which, in turn, influence environments. The holistic circulatory framework influences how individuals interpret tasks based on their attributes or tendencies, interpretative styles, and prior experiences with beliefs about the organization. The cognitive empowerment model understands the internal motivation for team collaboration as dependent on how each member evaluates the task based on its significance, their confidence that they can handle it, and their perceived decision-making scope and influence. Employees who are empowered will more actively and progressively implement work. Both internal factors, analogous to personalities and prior experiences, and external factors, such as education and compensation, impact the evaluation process.

Conceptual Framework

This study intends to examine the perceptions of employees working in a global virtual team on psychological empowerment. Thus, as a conceptual framework for this research, the researcher utilized Spreitzer's (1995) idea of psychological empowerment. The psychological empowerment proposed by Spreitzer is a motivational structure comprised of four components: (a) meaning of work, (b) competence, (c) self-determination, and (d) impact. "Meaning of work" is the significance assigned to tasks based on the members' ideals and standards (Brief & Nord, 1990; Hackman & Oldham, 1980). *Competence* is an individual's confidence in their ability to skillfully and knowledgeably performance of a task (Bandura, 1989). *Self-determination* is the perception that members have the autonomy and independence to choose and carry out their actions throughout task performance (Ryan & Deci, 2002, 2017). Finally, *impact* refers to the worker's confidence that their work performance can affect themselves and the entire organization (Ashforth, 1989; Martinko & Gardner, 1982). Workers are considered to feel psychological empowerment when they sense these four factors. This study comprised these four concepts in a comprehensive framework throughout the literature review and helped develop the related interview questions, which answered the main research questions.

Analytical Framework

Shaffer (2006) proposed the epistemic frame theory to explain how an individual's epistemology, knowledge, abilities, experience, and beliefs structure their thinking. This theory assumes people employ a structured perceptual frame when reacting to the world and engaging in activities like problem-solving, task performance, and knowledge acquisition in a community or a culture (Murphy et al., 2012). The word *Frames* means the sum of the ways of thinking in which people's personal and social experiences and values impact their perspectives (Phillips et

al., 2021; Shaffer, 2017). ENA is a discourse analytical software tool developed by Shaffer (2006) to model the relationship structure between cognitive elements and to measure the strength of the relationship between aspects in these networks (Shaffer et al., 2016) based on the epistemic frame theory. Discourse pattern analysis is a valuable tool for identifying and representing an individual's unique pattern of perceptual organization (Bressler et al., 2019). For example, suppose someone discussed the fear of a new person together with recognition from their supervisor frequently in a temporal context when they explained the circumstances surrounding their first day on the job. In that case, it is inferred that these two ideas are deeply related to the person's perception.

Moreover, ENA specializes in comparing network models through summarized statistical data. Therefore, it is widely used to address various quantitative and qualitative research questions that seek to find relevant and meaningful patterns between elements in the data. As a result, ENA and epistemic frame theory serve as the analytical framework for this study to analyze interviews to learn about participants' conceptual frameworks and how they think.

Definition of Key Terms

The following section provides a synthesis of definitions used throughout the study, informed by the literature review in Chapter 2.

- *Organizational trust*: The members' unilateral confidence and faith that the organization supports, believes, and helps its members (Gilbert & Tang, 1998; Robinson, 1996).
- *Cognitive trust*: Cognitive trust is informed by perceptions and knowledge of the other person's competence, sincerity, and accomplishment (McAllister, 1995).

- *Psychological empowerment*: Psychological empowerment describes the process of cultivating intrinsic motivation such that an individual can perform a specific task effectively by recognizing their work as meaningful, being competent, making decisions autonomously, and having a significant bearing on the effectiveness of the organization (Spreitzer, 1995; Spreitzer, 2008).
- *Meaning of work*: Meaning of work refers to reflection on the value or purpose of the task by connecting it to personal values, beliefs, and attitudes within the organization (Spreitzer, 1995).
- *Competence*: Competence is the belief and confidence in one's skillful and knowledgeable performance of a task in the workplace (Spreitzer, 1995). Competence is derived from three subfactors of self-efficacy—self-confidence in certain situations, task difficulty preferences, and self-regulatory efficacy (Bandura, 1989).
- *Self-determination*: Self-determination refers to autonomy and independence that can voluntarily determine work behavior and work methods—work style, speed, and level of effort (Spreitzer, 1995). In addition, the basic psychological requirements constituting self-determination are competence, autonomy, and relatedness (Ryan & Deci, 2002).
- *Impact*: Impact refers to the individual's perceptions of their ability to affect the strategic, managerial, and practical processes and results of their work (Spreitzer, 1995).

Delimitations

This research has two delimitations. First, the scope of the research subjects was limited to companies in Korea and the U.S. with significant gaps in national cultural characteristics. The

reason was to ensure the diversity of research subjects so that research problems could be investigated from various angles (Palinkas et al., 2015). Employees in a company have different ways of thinking and attitudes toward work depending on the national cultural characteristics in which the company is located (Mueller & Clarke, 1998). Therefore, the researcher studied the U.S. and Korea, showing the most apparent differences in individualism versus collectivism, power gap, and uncertainty avoidance (Hofstede, 1984).

Second, the scope of the study was restricted to consulting industry firms. The researcher considered the consulting industry's characteristics and the influence of COVID-19 on consulting firms. The consulting industry is characterized by consultants in each professional area providing professional services, and consulting provides temporary and short-term services (Pereira et al., 2017). This feature is in line with the characteristics of the global virtual team. In addition, consulting companies' understanding of the global virtual team increased due to the rapid increase in consulting service demands for digital transformation innovation by consulting companies to create a non-face-to-face work environment after COVID-19 (Kamning, 2021).

Assumptions

Two main assumptions were guided in this research. First, language is fundamental since it relies not only on facts and data but also on the individual's social context and personal perspective, all of which are critical to the study (Brown et al., 1983). Social and cultural interactions reflect their settings based on language use and interpretation (Lee S. B., 2020). Instead of relying on a single word's meaning in isolation, finding a linking point with a regularly used word and understanding its context is essential. The qualitative examination of the team's thought processes revealed cognitive linkages among the elements, and the co-occurrence of these elements reflected these relationships.

In addition, this study implies that establishing and maintaining emotional trust among virtual team members is challenging. Face-to-face communication is the most effective approach for individuals to feel emotional trust in others. However, the lack of emotional and personal connection between virtual team employees is unavoidable due to the physical distance and electronic communication (Morrison-Smith & Ruiz, 2020). Team members need more opportunities to share personal information or establish personal intimacy in virtual teams since they are typically assembled for specific tasks exclusively. In other words, it is acknowledged that emotional trust between employees is inevitably lacking due to the unchangeable nature of the virtual team. Thus, there is an assumption that, for the success of the global virtual team, a strategic approach to enhancing cognitive trust based on skills and accomplishments should be implemented. In addition, this study implies that cognitive trust can be a more significant element in enhancing long-term work performance (Dowell et al., 2015) and that cognitive trust can also influence emotional trust (Johnson & Grayson, 2005).

Chapter Summary

A global virtual team has several benefits, such as lower operational costs, maximized flexibility, and increased productivity. It is possible because this leverages the expertise of groups and individuals through technology-supported communication regardless of their location or time zone. Although there are multiple benefits of global virtual teams, their work setting also has challenges, such as the need for more interpersonal and emotional trust between organizational members. Thus, this quantitative ethnography study examined the connection between trust and psychological empowerment components—meaning of work, competence, self-determination, and impact—that employees perceive within several global virtual teams of five consulting firms in the U.S. and South Korea. This study also explored how the team

members' perceptions of trust and psychological empowerment differ based on their attributes—age, gender, nationality, expertise realm, and working period on the team. This study employed three overarching frameworks: (a) the cognitive model of empowerment (Thomas & Velthouse, 1990) as a theoretical framework, (b) the psychological empowerment (Spreitzer, 1995) as a conceptual framework, and (c) the epistemic frame theory as an analytical framework for this study (Shaffer, 2006). Hopefully, this research could help fill a gap between literature dealing with important influencing factors for trust development and comparing the degree of perception based on employees' characteristics. In addition, this research could contribute to developing practical alternatives for trust development in global virtual teams.

Chapter 2: Literature Review

Overview

This study explored the employees' perception in the global virtual team on the connection between trust and psychological empowerment and how members' thoughts on trust and psychological empowerment components differ based on their characteristics. This second chapter covers the extant literature on trust, psychological empowerment, and their respective relationships in depth in working places. First, it describes the literature on trust's history, definition, various types, antecedents, and outcomes to inform our investigation of trust in a virtual context and its relationship to psychological empowerment. Next, it examines psychological empowerment's history, definition, antecedents, and consequences, focusing on the workplace. Each of the four components of psychological empowerment, namely the meaning of work, competence, self-determination, and impact, is discussed at length.

Trust

History

Deutsch (1958) first established an academic definition of trust (An, 2011), but significant studies on this concept (Mayer et al., 1995; McAllister, 1995; Rousseau et al., 1998) were published during the 1990s. Dirks and De Jong (2022) presented a systematic review of the literature on workplace trust in two distinct waves from 1995 to 2021, outlining each wave's growth stage. The first wave is characterized by research projects that conceptualize trust as a characteristic of social relationships, and from 1995 to 2007, many studies attempted to define trust and develop a cohesive and comprehensive theory (Mayer et al., 1995; McAllister, 1995; Rousseau et al., 1998). Since 2007, what Dirks and De Jong (2022) describe as the second wave of research has extended beyond conceptual definitions to not only incorporate additional

mechanisms and boundary constraints but also regroup and question the previous wave's underlying assumptions, such as the role of trust in management, definitions of trust, and theoretical development indicating why trust operates. The trust development process, alternatives to trust, and attempts to connect diverse domains have been focal points in empirical research in the past 15 years. For example, the perspective of trust was shifted from the perspective of the trustor to the standpoint of the trusted person, increasing the scope of inquiry. While the research area from the perspective of trust concentrates on the risk-taking acceptance of a trusted item (Mayer et al., 1995), the research area from the perspective of a trusted person encompasses accountability, empowerment, and performance. (Gill et al., 2019; Lau et al., 2014).

The focus on trust has also evolved considerably depending on the academic discipline. From a psychological standpoint, trust focuses on an individual's perception, cognitive processes, and emotions, with the anticipation that the trusted party will act in ways that are significant to the innocent party (Mayer et al., 1995). From a sociological perspective, trust occurs primarily in various relationships (Lewis & Weigert, 1985). This perspective views trust as a collective attribute based on the interpersonal relationships of individuals present as members of society, as opposed to an isolated and independent individual.

Definitions of Trust

Trust can be understood as an attitude, belief, and behavior. Koys and DeCotis (1991) defined trust as the employees' expectation that their supervisor will communicate truthfully about sensitive or personal matters. Cook and Wall (1980) described trust as believing a "trusted" person will act and tell others with good intentions. However, Deutsch's (1958) landmark definition focuses instead on trust as behavior that satisfies an expectation when there

is an anticipation that something will occur in the context of uncertainty. Despite these differences, trust studies emphasize two critical factors: positive expectation and acceptance of vulnerability. For example,

Trust is the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action necessary to the trustor, irrespective of the ability to monitor or control that other party. (Mayer et al., 1995, p. 712)

Likewise, Robinson (1996) defined trust as the anticipation and belief that the future behaviors of others may be favorable or at least not malevolent. Lastly, according to Rousseau et al. (1998), trust is an emotional condition represented by openness to risk-taking in anticipation of a positive outcome regarding the trustee's behavior.

Classifications of Trust

Studies categorize trust in various ways. To explain general trust-related phenomena, Mayer et al. (1995) proposed a trust integration model that includes the concepts of trustworthiness as an attribute of the trust object, the propensity to trust as an attribute of the trust subject, and trust as risk-taking behavior. In trust at the workplace, McAllister (1995) proposed that trust can be either cognitive, based on the other person's ability and work experience, or affective, depending on the other person's feelings and personal intimacy. Doney and Cannon (1997) posited two kinds of trust between industrial partners: credibility and benevolence. In the corporate environment, credibility refers to the ability-based aim to fulfill a commitment to the other party. In contrast, benevolence refers to the perceived likelihood that a party will keep a promise at its own expense. These categorizations prioritize the distinctions between beliefs or attitudes about the trust relationship.

Trust in the workplace can also be classified according to the object of the trust relationship: organizational trust, leader trust, and peer trust (McAllister, 1995; Robinson, 1996).

Scholars have diversely understood the concept of organizational trust. Some researchers have investigated organizational trust as confidence in department heads or board directors (Daley & Vasu, 1998; Scott, 1980). However, organizational trust is impersonal and distinguished from the two forms of interpersonal trust in the workplace. Organizational trust is a unilateral and general belief that members of an organization have in each other, and the organization, such as confidence and support, supervisory and peer trust is based on individuals' specific interactions and interpersonal relationships (Costigan et al., 1998; Gilbert & Tang, 1998; Robinson, 1996; Tan & Tan, 2000). From this point of view, Robinson (1996) defined organizational trust as members' confidence and faith in organization-level elements that are not dependent on practical encounters. Gilbert and Tang (1998) described organizational trust as an impersonal institutional trust, a perception including support and confidence in the organization to which one belongs. Tan and Tan (2000) defined organizational trust as the overall evaluation and confidence that the organization will help its employees in various ways.

Regarding leader trust, trust toward the leader is the expectation that the leader will deal with the subordinate's vital needs regardless of the leader's preferences or ability (Mayer et al., 1995). Based on this expectation, associates can have the willingness to tolerate leaders' behavior. Some researchers defined leader trust as the degree of trust and loyalty to a subordinate's boss in a boss-to-manager relationship (Podsakoff et al., 1990). Thus, when workers believe their boss will treat them fairly and perceive them as open, considerate, consistent, and highly capable, employees feel confident toward the boss (Kirkpatrick & Locke, 1991). Peer trust is also interpersonal trust based on actual encounters between organization members. Rotter (1980) defined peer trust as the behavior of members of an organization who act with positive expectations of their peers, taking risks to collaborate based on their ability,

morality, and benevolence. Among this literature, this study limited the concept of trust to cognitive trust, as McAllister (1995) explained, and organizational trust that Robinson (1996) described.

Antecedents and Consequences of Trust

Three antecedents contribute to trust development in an organization: trustor qualities, trustee traits, and organizational factors (Dirks & De Jong, 2022). Trustor characteristics include the propensity to trust. A person's trustworthiness can be defined as their intrinsic inclination to believe the best in those around them (Mayer et al., 1995). Trust is an innate characteristic of individuals (Rotter, 1980); that is, the extent to which an individual trusts others is shaped by experiences throughout the early stages of personality development, which determines how well they work later in life.

Next, regarding trustee qualities, individuals will perceive trust when they get favorable impressions of another's benevolence, ability, and integrity (Mayer et al., 1995). A trustee's benevolence refers to their willingness to care for another person out of altruism rather than for personal gain. The trust of a trustee is usually linked to various skills and qualifications. Trustees' integrity is their capacity to uphold a set of principles that have been established.

Lastly, organizational characteristics include perceived organizational support, national culture (Lu et al., 2017), and team performance (De Jong et al., 2016). According to research by Mishra and Morrissey (1990), this comprises open communication, member engagement in decision-making, knowledge-sharing, and authentic sharing of thoughts and feelings.

Regarding consequences, the fact that trust improves employees' attitudes and the organization's effectiveness has already been approved through many studies, as follows. For instance, the trust results increased employees' perceptions including cooperative behavior,

communication, and teamwork (Aubert & Kelsey, 2003; Cummings & Bromiley, 1996; De Jong et al., 2016; McAllister, 1995), and organizational effectiveness, including increased organization performance, job satisfaction, commitment, motivation, and psychological empowerment (Lee & Kim, 2018; Winograd et al., 2000; Zhao et al., 2022).

Trust in Global Virtual Teams

It is possible that tried-and-true methods of gaining someone's trust will not work in the digital domain. The depth of communication within a team can suffer, for instance, when members cannot connect on a personal level and express themselves through body language. Thus, trust becomes an essential issue in this virtual environment to be addressed because it is an excellent tool for bringing teammates closer together and feeling intimacy. The confidence that team members will do their assigned tasks on time and at a satisfactory standard is another benefit of trusting team members (Jarvenpaa et al., 1998). It allows efficient knowledge sharing among team members (Kim & Jung, 2012).

Furthermore, the manager strongly desires to develop trust between workers since it lowers the expenses related to monitoring and controlling. Because many methods previously used to monitor and regulate partners are absent in virtual teams, these remote members must rely heavily on trust. Researchers have stressed the importance of trusting one another while managing interdependent tasks in a virtual setting, considering the difficulties posed by formal and informal controls (Aubert & Kelsey, 2003; Jarvenpaa et al., 1998).

The Relationship Between Trust and Psychological Empowerment

Psychological empowerment and trust can be seen as having an interdependent relationship. Psychological empowerment affects the formation of trust (Kim & Jung, 2012; Liu & Ren, 2022), and establishing trust is a crucial foundation for the development of psychological

empowerment (Alajmi, 2017; Barton & Barton., 2011; Ergeneli et al., 2007; Jung, 2018).

Nevertheless, the researcher found that most of the research that studied the relationship between trust and psychological empowerment focused on relational and emotional trust in the leader or manager in the organization. In addition, only some studies focused on the research environment of the global virtual team. Therefore, through this literature review, it was possible to confirm the gap between related literature and the position of this research.

Recent studies investigated ways employees develop trust through their manager's influence which showed psychological empowerment. For example, the psychological empowerment employees feel mediates between perceived trust in leaders and work performance (Liu & Ren, 2022). Employees can affect change if they feel trusted through psychological empowerment. Likewise, Kim and Jung (2012) discovered that psychological empowerment influenced trust significantly. In particular, among the sub-components of psychological empowerment, meaning of work, self-determination, and influence positively affected trust. However, these studies focus on relational and emotional trust in supervisors and colleagues.

Trust can impact psychological empowerment. For instance, Alajmi (2017) analyzed the connection between organizational and supervisory trust and the employees' sense of psychological empowerment in Kuwait. It took the form of a survey with 450 questions. According to the study's findings, both organizational and supervisory trust positively and significantly enhance psychological empowerment and are related to it. This research is relevant as literature connected to this research because the constructs are nearly similar and relatively recent. Still, the research context was limited to a single country, and the research subject was a traditional corporation.

Furthermore, in a study focusing on organizational leaders, Barton and Barton (2011) examined managers' trust in the organization and employees. This study found that trust in organizational leaders is a crucial psychological state affecting the empowerment process's success. The state has been linked to managers' experiences of psychological empowerment. In this regard, above mentioned studies on trust as an influencing factor of psychological empowerment focus on relational trust in leaders or managers in the organization.

Psychological Empowerment

History

Empowerment has different connotations in various fields, such as politics, society, education, and environmental studies. Still, it has an ordinary sense of transferring power or moving groups or organizations to enhance authority (Kanter, 1983). In an early study led by Kanter (1983), organizational structures and practices were regarded as empowerment measures from the management perspective. Attention was mainly focused on distributing authority, such as sharing, granting, and delegating authority with members. Through this power distribution, members actively promoted their work and managed to produce results.

However, after Murrell (1984) raised how to create and expand empowerment within the organization, empowerment began to be discussed earnestly in organizational behavior (Liden et al., 2000). Therefore, the factors of authority allocation were viewed as contextual antecedents that affect psychological empowerment but are not the empowerment itself (Seibert et al., 2004; Spreitzer, 2008; Thomas & Velthouse, 1990).

Then, Conger and Kanungo (1988) recognized empowerment as a motivational factor and described psychological empowerment as an individual's attitude toward work rather than empowerment from top to bottom within the organization. Conger and Kanungo focused on

strengthening self-efficacy when they looked at psychological empowerment. After that, Thomas and Velthouse (1990) developed cognitive motivation theories to organize a more synthetic theoretical framework for psychological empowerment. With that, Spreitzer (1995) pioneered developing a measurement instrument of psychological empowerment, demonstrating four components: meaning of work, self-determination, competence, and impact. Recent studies on psychological empowerment have been undertaken at multiple levels of the area, from the person to the team to the organization (Chen et al., 2007; Malik et al., 2021; Muduli & Pandya, 2018).

Division of Empowerment

Two perspectives on empowerment predominate a structural approach and a motivational or psychological approach (Conger & Kanungo, 1988). Taking a structural view of empowerment accounts for empowerment through a change of organizational structure, management systems, and policies (Kanter, 1983; Siegall & Gardner, 2000). Therefore, structural empowerment refers to top-down mechanisms focusing on whether power is delegated to lower-level members (Conger & Kanungo, 1988). For example, structural empowerment entails power distribution, sharing, and delegation of authority to lower-level employees of the organizational hierarchy. Specific measures include decentralization of organizational structure, reducing the corporate hierarchy, introducing autonomous management teams, and delegating decision authority from the organizational hierarchy to lower ranks (Spreitzer, 2008).

The psychological (or motivational) approach entails understanding empowerment as an intrinsic motivation for organizational members (Conger & Kanungo, 1988; Seibert et al., 2004; Spreitzer, 1995). Many researchers argued that explaining empowerment solely with a structural approach is insufficient for comprehension (Spreitzer, 1995; Thomas & Velthouse, 1990). This belief derives from the notion that members do not believe they are empowered simply by

sharing and delegating authority. They may experience empowerment through subjective perception even if they have not been delegated authority. This approach argues that intrinsic motivation should be induced through empowerment, and the psychological process of motivation induction should be valued. From a psychological approach, empowerment refers to a process in which employees believe they can deal with their tasks and complete their work activities autonomously (Conger & Kanungo, 1988). To sum up, managerial techniques centered on delegating powers are at the heart of empowerment (Leach et al., 2003). However, psychological empowerment focuses on individual intrinsic motivation that drives people.

Definitions of Psychological Empowerment

Conger and Kanungo (1988) defined psychological empowerment as the overall process in which an individual feels and acts as if they have power in essential aspects of their life or work, focusing on self-efficacy. According to their account, psychological empowerment encourages self-efficacy both within and amongst members of an organization by pointing out factors that breed powerlessness and eliminating them through official and informal methods of disseminating efficacy knowledge. Since then, psychological studies have actively conceptualized empowerment as a collection of many characteristics. After that, psychological empowerment is defined not as a static or general concept but as a cognitive and continuous concept with levels or degrees (Thomas & Velthouse, 1990). Therefore, Thomas and Velthouse (1990) looked for other factors that could enhance internal job motivation in addition to the self-efficacy presented by Conger and Kanungo (1988) and approached empowerment more multi-dimensional. Thomas and Velthouse (1990) argued that empowerment determines the intrinsic task motivation of employees, and empowerment is formed by cognitive variables (called task assessment). The cognitive variables are impact, competence, meaningfulness, and choice.

Spreitzer (1995) conceptualized task assessment in Thomas and Velthouse (1990) to psychological empowerment components. Spreitzer (1995) defined psychological empowerment as a belief in having intrinsic motivation for work based on the perception of the work role and relationship given to individuals within the organization. Specifically, psychological empowerment refers to the process of enhancing intrinsic motivation such that an individual is capable of performing a specific task effectively by recognizing they are performing meaningful work, have competence, can make a decision autonomously, and have a significant impact on the performance or the organization (Spreitzer, 1995, 2008). Along these lines, Spreitzer (1995) defined four components of psychological empowerment: meaning, competence, self-determination, and impact. Additionally, he developed a tool to measure these four components. This study adopts Spreitzer's definition of psychological empowerment, informed primarily by research in organizational behavior.

In addition, various studies have analyzed psychological empowerment in various fields in multiple dimensions (Menon, 2002; Short & Reinhart, 1992; Zimmerman, 1995). Menon (2002) defined psychological empowerment as a combination of three dimensions: perceived control, perceived competence, and goal internalization for goal achievement in health. Short and Reinhart (1992) focused on teacher empowerment and subdivided psychological empowerment into six dimensions: decision-making, professional growth, status, self-efficacy, autonomy, and impact. Compared to the studies above, Zimmerman (1995) defined psychological empowerment from a slightly different perspective. For example, He divided empowerment into personal, relational, and behavioral dimensions. Empowerment at the personal level is said to control an individual's social and political environment, empowerment at the relational level is said to be the social context within the community, and empowerment at the behavioral level is

participating in organizational activities and gatherings. Among them, the personal domain comprises self-efficacy, perceived control, motivational control, and competence in a particular topic, which are similar concepts to psychological empowerment.

Antecedents and Consequences of Psychological Empowerment

Antecedents. Contextual factors include structural empowerment (Maynard et al., 2012; Seibert et al., 2011), performance management practices (Liao et al., 2009; Seibert et al., 2011; Spreitzer, 1995), socio-political support (Liden et al., 2000; Logan & Ganster, 2007; Maynard et al., 2012; Randolph & Kemery, 2011; Seibert et al., 2011), leadership (Dust et al., 2014; Ergeneli et al., 2007; Schermuly & Meyer, 2016; Seibert et al., 2011; Spreitzer, 2008), and job and personal characteristics (Kraemer et al., 1999; Seibert et al., 2011; Spreitzer, 1996; Wallach & Mueller, 2006). *Structural empowerment* refers to transferring power and authority from management to employees (Maynard et al., 2012). According to the meta-analytic evidence offered by Seibert et al. (2011), a model that defines the origins and outcomes of psychological empowerment is greatly influenced by structural empowerment.

Subsequently, performance management practices include information sharing, decentralization, compensation systems, and participatory decision-making (Liao et al., 2009; Seibert et al., 2011; Spreitzer, 1995). The increase in information and control resulting from high-performance management practices increases the understanding of how individuals align with organization-level goals and strategies, resulting in a more meaningful perception of their work. Additionally, more information about organizational situations or tasks improves employees' self-determination and workability about what actions they should take.

As for socio-political support, multiple studies have demonstrated that socio-political support that provides material, social, and psychological resources in the workplace positively

affects psychological empowerment (Liden et al., 2000; Randolph & Kemery, 2011; Seibert et al., 2011). Social support from colleagues or organizations enables members of an organization to view themselves as valuable and acknowledged (Maynard et al., 2012), thereby enhancing their sense of purpose in their work. In addition, Seibert et al. (2011) indicate that social support gives a person the impression that they are determining their work objectives and strategies independently and positively impacts the development of individual work skills. Similarly, Logan and Ganster (2007) undertook an empowerment intervention for half of a project manager's sample, including increased access to information, resources, and decision-making autonomy. The results demonstrated a substantial favorable relationship between supervisory support and structural empowerment.

Leadership also plays a vital role in psychological empowerment (Spreitzer, 2008). Many studies have emerged, yielding evidence for the positive relationship between various leader behaviors and psychological empowerment. Representatively, transformative leadership (Dust et al., 2014), leader-member exchange relationship (Schermuly & Meyer, 2016), and trust relationship with bosses (Ergeneli et al., 2007) were studied as leading variables.

Kraemer et al. (1999) explained the relationship between three job characteristics and four dimensions of psychological empowerment. They described job characteristics, including job meaning, autonomy, and feedback. They noted that job meaning is associated with the task meaning dimension, job autonomy is linked to self, and feedback is related to promoting more competence and influence. Additionally, role overload hurts psychological empowerment (Spreitzer, 1996; Wallach & Mueller, 2006). Diverse opportunities, such as increased competency through challenging tasks or improved work situations, allow members to perceive

themselves as significant within the organization, resulting in growing influence (Seibert et al., 2011).

Personal characteristics were also considered significant factors affecting psychological empowerment. Thomas and Velthouse (1990) stated that individual difference factors affect subjective task evaluation and empowerment perception. First, Seibert et al. (2011) found that individuals with high self-evaluation, a combination of self-efficacy, self-control, self-esteem, and emotional stability, had higher levels of psychological empowerment. Likewise, Hon and Rensvold (2006) discovered that the urge for accomplishment was highly related to all four characteristics of empowerment. Those with more needs had more significant degrees of self-determination and influence and believed themselves more powerful even while occupying lower positions in the organizational hierarchy. Additionally, mental and physical components are essential for empowerment. Happiness and contentment positively correlate with autonomy (Pradhan et al., 2017).

Consequences. Psychological empowerment is generally studied to have a positive effect on job performance, job satisfaction, job productivity, organizational citizenship behavior, organizational commitment, and other work aspects (Bordin et al., 2006; Hazel et al., 2016; Kirkman & Rosen, 1999; Knol & Van Linge; 2009; Liden et al., 2000; Seibert et al., 2011; Singh & Singh, 2019; Spreitzer, 1995) as it enables workers to satisfy the individual growth in the work performance process.

First, regarding job performance, employees recognize that the organization has provided them with great psychological support. As a result, they focus more on their work with a sense of responsibility and strive to solve problems enterprisingly (Chen et al., 2007). As a result, they are more engaged in completing their tasks or resolving issues and generate more excellent

outcomes by presenting novel ideas or problem-solving strategies (Liden et al., 2000; Spreitzer, 1995).

Second, job satisfaction refers to an individual's favorable attitude toward their job and the positive psychological feelings of an individual toward their job life (Hechanova et al., 2006). Numerous studies have found that persons and teams who feel psychological empowerment report high levels of job satisfaction (Bordin et al., 2006; Hechanova et al., 2006; Kirkman & Rosen, 1999; Liden et al., 2000; Seibert et al., 2004; Singh & Singh, 2019). The more psychologically empowered employees feel, the better their job satisfaction and motivation to actively handle their job. Job satisfaction will inevitably increase if the expectation for work is clear and there is work autonomy.

Third, organizational commitment represents identification, commitment, unity, and attachment to the organization to which one belongs, with solid trust in the organization's values and a willingness to devote considerable effort to the organization (Bordin et al., 2006; Joo & Shim, 2010). Several studies have determined that psychological empowerment has a positive impact on organizational commitment as well (Bordin et al., 2006; Hazel et al., 2016; Joo & Shim, 2010; Liden et al., 2000; Randolph, & Kemery, 2011; Seibert et al., 2011; Spreitzer, 1995). Since the acquisition of meaning through psychological empowerment involves suitability with one's work role and personal value, it positively affects emotional organization commitment. Moreover, competence, self-determination, and influence breed higher organizational commitment as individuals express their values and interests through work (Liden et al., 2000; Spreitzer, 1995).

Fourth, the meta-analysis research found a relationship between psychological empowerment and organizational citizenship behavior (Seibert et al., 2011). This analysis found

that individuals who experienced high psychological empowerment significantly impacted positive organizational citizenship behaviors. Cho (2008) analyzed the relationship between empowerment and internal and external work performance by dividing it into in-role performance and organizational citizenship behavior and reported that empowerment directly affects both.

In addition, several studies have found that psychological empowerment significantly affects numerous other factors, such as innovation capabilities (Knol & Linge, 2009), creativity (Gumusluoglu & Ilsev, 2009), work productivity (Koberg et al., 1999), job stress (Seibert et al., 2011; Spreitzer, 2008), and turnover intention (Koberg et al., 1999). Concerning job stress, some researchers recognize empowerment as a kind of work increase; they argue that it is a stressor to increase individual members' responsibility without an increase in position or salary (Spreitzer, 2008). However, in contrast, some argue that psychological empowerment relieves job stress (Seibert et al., 2011).

Component One: Meaning of Work

The following literature is based on the four elements of psychological empowerment presented by Spreitzer (1995) that serve as the basis for the framework. In addition, each element's concepts and components were summarized by linking and synthesizing multiple other studies.

Concept. Several scholars assert that, until recently, there was no commonly accepted definition of the meaning of work and that theoretical ambiguity existed (Lee S., 2015; Steger et al., 2012). According to Steger et al. (2012), an examination of worldwide literature on the meaning of work demonstrates that there is still epistemological ambiguity in constructing the meaning of the component and a need for coherence in how it is defined in the literature.

Similarly, Lee (2015) asserted that the numerous approaches to meaning in work demonstrate no robust theory of meaning in work. This theoretical uncertainty makes it challenging to identify the concept's main essentials. When using the term in the literature, "meaning" and "meaningful" are frequently employed interchangeably, leading to conceptual confusion. Therefore, Rosso et al. (2010) used the concept of the meaning of work to illustrate the distinction between meaning and meaningfulness.

The meaning of work can be classified into two perspectives. Brief and Nord (1990) and Rosso et al. (2010) described the concept as individual beliefs, attitudes, and values related to work activities. In contrast, Hackman and Oldham (1980) and Wrzesniewski et al. (2003) defined it as the degree of the experienced meaningfulness and significant value of the work with a sense of purpose.

Based on these two central studies (Brief & Nord, 1990; Hackman & Oldham, 1980) as the basic framework, Spreitzer (1995) defined meaning as reflecting the value of the purpose or goal of the task performed by an individual by connecting it to personal ideals, value systems, beliefs, and attitudes within the organization. In the interim, he determined meaning in work by evaluating whether work was significant, whether work was meaningful, and whether work activities were meaningful personally. In other words, Spreitzer regarded it as containing both the notion of the significance of work and the concept of suitability for work activities and personal values.

Components. Scholars have explained the elements that make up the meaning of work slightly differently. Therefore, the researcher set up the categories offered by Lee (2015) and Brief and Nord (1990) and classified the existing pieces of literature based on them.

To begin with, through a concept analysis of 28 studies, Lee (2015) found the four essential characteristics of meaning in work: (a) positive emotions experienced at work, (b) work as a component of life that contributes to a meaningful existence, (c) meaning from work itself, and (d) meaningful purpose and goals of work. Positive emotions experienced at work are subjectively pleasant experiences like meaningfulness, a sense of value, and self-fulfillment if employees have “meaning in work” (Clark, 1995; Rosso et al., 2010). The meaning derived from work reflects work values and orientation (Baxter & Bowers, 1985; Hackman & Oldham, 1980; Wrześniewski et al., 2003). Meaningful purpose of work refers to what individuals want at work and what goals they can achieve (Lee S., 2015; Rosso et al., 2010). According to Martela and Pessi (2018), the meaning of work contains a self-realizing meaning as a reflection of who individuals are, which extends beyond their self-interests to the larger good. Lastly, work as a component of meaningful living reflects three elements: (a) work’s relevance to life, (b) a part of a more significant path toward a meaningful existence, and (c) enhanced links between work and one’s true self (Baxter & Bowers, 1985; Rosso et al., 2010).

Next, from the perspective of suitability between work activities and personal values or beliefs, there are three main areas of inquiry into the self as a source of work meaning: values, motivations, and beliefs about work. First, work values have been identified as the desired and expected outcomes that individuals believe they should be able to achieve by working (Brief & Nord, 1990). Individual differences in work values reflect the impact of societal norms, interpersonal relationships, and job experiences (Rosso et al., 2010). According to Schwartz (1992), values are beliefs and cognitive constructions related to feelings that serve as criteria to select or prioritize actions, people, and events. The relevant values guide individuals toward action or attitude. Second, motivation refers to how enthusiastic employees feel while

accomplishing their goals (Oldham, 1976). Scholars who study the significance of work in people's lives argue that people report higher levels of personal meaning when they feel their jobs are a good fit with who they are as a person (Hackman & Oldham, 1980; Shamir, 1991). Subsequently, studies of ideas, and specific beliefs about the role or purpose of work, investigate how an individual might influence the meaning of their occupation (Shamir, 1991).

Component Two: Competence

Concept. To understand the concept of competence, one must first comprehend self-efficacy, which serves as its foundation. Self-efficacy and perceived competence need to be better differentiated in the existing literature. Spreitzer (1995) named competence as one of the components of psychological empowerment, reflecting the concept and meaning of self-efficacy (Bandura, 1989). Self-efficacy was first defined by psychologist Albert Bandura in 1977 as the confidence an individual has in their abilities to accomplish a goal and complete a task successfully. Self-efficacy has been broken down into three aspects by Bandura: magnitude, strength, and generality. Whereas magnitude describes how challenging it is to change one's behavior, strength reveals how confident one is in one's ability to carry out a given action. Self-efficacy beliefs are said to be generalized to the extent that they are favorably associated with specific behaviors or long periods. These dimensions are termed general self-efficacy. After that, more specifically, Bandura defined self-efficacy as a person's confidence in their capacity to plan and carry out the steps they know would be required to achieve desired results. Through this, Bandura focused more on self-efficacy in the workplace rather than his previous study.

The concept of self-efficacy is based on Bandura's (1989, 1997) social cognitive theory (SCT) framework. SCT presumes that self-beliefs are fundamental to exercising control and action, wherein individuals are both products and makers of their surroundings. In SCT, the

action does not result from internal or external motivation in isolated situations. Still, it results from the amalgamation of interactions between individuals' environmental and behavioral variables. Personal, behavioral, and ecological influences, among others, act in a bidirectional manner to determine human behavior. According to social cognitive theory, individuals are both the result of the environment and the creator of the domain (Wood & Bandura, 1989).

Wood and Bandura (1989) extended the definition of self-efficacy by adding motivation and behavior. They defined perceived self-efficacy as a belief in one's ability to motivate, mobilize cognitive resources, and implement processes to respond appropriately to a given situation. In like manner, Stajkovic and Luthans (1998) also referred to motivational, cognitive, and behavioral components in defining self-efficacy. Thus, they defined self-efficacy as confidence in an employee's ability, which refers to all the motivation, cognitive resources, and ability to act to complete a given task.

According to Bandura (1997), self-efficacy is created from four primary sources of knowledge that serve as guides for enhancing efficacy beliefs: (a) enactive mastery experiences that indicate abilities, (b) vicarious experiences that modify efficacy beliefs through the transmission of proficiencies and comparison with the accomplishments of others, (c) verbal persuasion and related types of social impacts that imply one maintains specific capabilities, and (d) psychological and affective feeling from which individuals assess their abilities, strengths, and weaknesses.

To be more specific, first, mastery experiences relate to prior performance interpretations. Second, individuals have vicarious experiences by observing the activities of others and then determining the consequences of those acts. The social impact of others also influences individuals' perceptions of self-efficacy and is intimately connected to social support and

feedback loops. Lastly, somatic measures of personal effects benefit physical accomplishments, health functionality, and coping with stress (Bandura, 1997). Depending on the shape of a particular impact, it may function through one or more of these effective information sources (Bandura, 1989, 1997).

On the other hand, studies on competence relatively focused on individuals within the organization rather than general individuals' competence (Rama & Sarada, 2017; Spencer & Spencer, 2008). Organizational, job/role and individual competencies can be distinguished. Competence, as a component constituting psychological empowerment, is part of job/role competencies and relates to a person's belief that they are a productive or effective member of their organization's work and function (Rama & Sarada, 2017).

Competence, first raised as a variable for employees to predict successful work performance, includes employee motivation, attitude, skills, knowledge, and task behavior (Spencer & Spencer, 2008). Competence describes an individual's innate qualities that contribute to their success at work and the skills necessary to carry out the essential duties of their employment (Lucia & Lepsinger, 1999). Competence was also defined by Spreitzer (1995) as a belief and confidence in one's ability to perform a task skillfully and competently in working places. Spreitzer stressed the difference between competence and self-esteem because it emphasizes the specific efficacy of the task role rather than a general sense of efficacy. Similarly, Thomas and Velthouse (1990) defined competence as an individual's belief in whether one can perform a given task skillfully with the skills one has.

Components. Sub-elements vary slightly from study to study. However, studies appear to have common factors, including confidence, task difficulty, skill, and generalization. Specifically, Spreitzer (1995) said competence could be composed of confidence in one's ability

to do one's job, belief in one's capability to perform work activities, and proficiency in the skills required for one's work. Bandura (1989) explained three sub-factors of self-efficacy in the workplace: self-confidence in specific situations, task difficulty preferences in selecting challenging tasks, and self-regulatory efficacy about beliefs about how well self-regulation can be performed during the action. On the other hand, Endler et al. (2001) measured self-efficacy with three separate indicators, each of which significantly impacts outcomes. These indicators are the degree of task complexity with which individuals perceive they can cope, the degree to which they believe they can deal with work of such complexity, and the capacity to generalize and apply their skills from one domain to another.

Lunenburg (2011) interpreted self-efficacy slightly differently than previous classifications in three aspects. One aspect is to believe that even if there is a significant amount or difficulty of work, individuals can handle it independently. The second aspect refers to the degree to which an individual believes they are strong or weak. Finally, the third aspect means the degree to which these beliefs are maintained in various situations.

Component Three: Self-Determination

Concept. While competence is associated with mastered behavior, self-determination is the individual's choice to initiate or regulate behavior (Deci et al., 1989). It is the degree to which an individual can autonomously determine the start of work and the process, method, and work speed independently (Spector, 1986). Based on these two studies (Deci et al., 1989; Spector, 1986). Spreitzer (1995) defined self-determination as the degree to which people perceive themselves to have autonomy and control to make and execute their own decisions. When there is high self-determination, organizational members can voluntarily determine work-related behaviors and choose a work method for achieving goals. Work method means work

modality, speed, and effort. If people recognize that they can freely decide their actions and steps or choose the means for achieving their task, they can feel self-determination. Similarly, Thomas and Velthouse (1990) presented a choice that is the most similar component to self-determination, which means an individual's perception of determining job behavior by their own decision.

To understand the concept of self-determination in the workplace, it is essential to understand the self-determination theory that is the basis of this definition. According to Deci and Ryan (1985)'s self-determination theory, individual behavior is regulated according to the degree of autonomy or self-determination. It can be categorized as intrinsic and external motivation according to the level of control. In addition, Ryan and Deci (2000) highlighted satisfaction and experience with autonomy, competence, and relationship as basic psychological needs that affect self-determination. They explained that the more these three needs are satisfied, the more intrinsic motivation is induced.

To be more specific, self-determination theory is a macro theory consisting of a total of four mini-theories (Deci et al., 2017; Ryan & Deci, 2002): (a) Cognitive Evaluation Theory, (b) Organismic Integration Theory, (c) Causality Orientation Theory, and (d) Basic Psychological Needs Theory. First, the Cognitive Evaluation Theory describes social and environmental factors that promote or inhibit intrinsic motivation. Intrinsic motivation grows when an individual is in the appropriate social and environmental conditions. In other words, humans naturally develop internal motives when their basic needs of competence, autonomy, and relatedness are satisfied in the social environment. Second, the Organic Integration Theory asserts that even if an action is initiated for external reasons, the cause of the action may gradually be internalized by the individual and change into autonomous behavior, that is, self-determination behavior (Ryan,

1982). Third, the Causality Orientation Theory is a theory that explains the effect of personality on motivation. It was developed to explain relatively stable individual differences in the individual's inner dimension, namely, the individual's motivational orientation toward the social world (Ryan & Deci, 2002). This theory assumes that the autonomy, competence, control, or inability experienced in performing a particular behavior develops into a causal tendency.

Fourth, the Basic Psychological Needs Theory argues that humans need to function psychologically well, just as nutrients are necessary for living organisms to survive (Ryan & Deci, 2000).

Components. Based on the basic psychological needs theory (Ryan & Deci, 2002), self-determination is a large-scale framework for understanding what motivates humans, encompassing psychological needs and the continuum of external and internal behavior regulation (Allan et al., 2016; Ryan & Deci, 2002). The degree to which these three psychological needs, competence, autonomy, and relatedness, are satisfied and behavior becomes more internally motivated determines one's level of self-determination (Deci & Ryan, 2013; Deci, 2004; Ryan & Deci, 2017; Vallerand, 2000).

Regarding the three fundamental psychological needs, autonomy is the notion that humans perceive that they are responsible for their activities, are the objects of those actions, and have independent control over them (Deci & Ryan, 2013). In other words, individuals act according to their interests and integrated values. Ryan (1982) argued that competence could only be appropriately exercised when autonomy is guaranteed, explaining that it is the most crucial element among the three basic needs. From the self-determination theory perspective, people can feel autonomy if they perform autonomously even if they are demanded by others (Ryan & Deci, 2002). In this sense, people could feel autonomous motivation as intrinsic and

extrinsic motivating forces (Deci, 2004). Intrinsic motivation involves someone engaging in a particular activity for personal satisfaction and enjoyment. In contrast, external motivation refers to someone acting solely to obtain an external reward or to avoid an adverse outcome (Ryan & Deci, 2017).

Additionally, when individuals have many opportunities to use their abilities and skills in relationships with others as members of society, they recognize the need for competence (Ryan & Deci, 2002). This desire for competence allows individuals to maintain and develop their skills and abilities through various activities. Deci et al. (2017) explained that positive feedback and support are necessary for moving toward competence needs and promoting the internalization of motivation and incentivization to regulate externally synchronized behavior. For example, suppose employees in an organization use their abilities to conduct tasks and receive positive reviews and support from people around them. In that case, the employees are inherently motivated to follow the work ordered by their boss or the system required by the company.

Finally, relatedness is the perception that individuals exchange interests with others they feel. Ryan and Deci (2002) suggested that relatedness is integrally related to intrinsic motivation with a desire for competence and autonomy. However, the authors also stated that relatedness plays a peripheral role in enhancing intrinsic motivation compared to competence and autonomy. The desire for a relationship plays a decisive role in enhancing the internalization of external factors. When forced to act by others, an individual will not try to act quickly because the behavior is unattractive. However, if the other person is meaningful, the action can begin. For example, if an employee has a positive and stable relationship with the boss, the employee will be more likely to act according to the boss's instructions.

Component Four: Impact

Concept. Spreitzer (1995) defined impact based on the research of Ashforth (1989) and Martinko and Gardner (1982). Impact refers to the individual's perceptions of their ability to affect their work's strategic, managerial, and practical processes and results. It also reflects the time to which one perceives the significance of their organization. Spreitzer (1995) and Martinko and Gardner (1982) explained that impact is the opposite of learned helplessness. Individuals in an organization lose their presence and do not experience psychological empowerment if they cannot participate in organizational decision-making or exercise authority over the organization or their work (Spreitzer, 1995; Thomas & Velthouse, 1990; Zimmerman, 1990).

As mentioned previously, Ashforth (1989), one of the background studies for Spreitzer (1995), demonstrated the concept of powerlessness rather than the expression of impact. In contrast, Martinko and Gardner (1982) demonstrated the concept of learned helplessness rather than the expression of impact. The impact is a term Spreitzer (1995) used in psychological empowerment, but it has never been used as a theoretical concept. Thus, understanding powerlessness and learned helplessness is essential in this study to understand the impact academically.

Powerlessness is a lack of autonomy and participation (Ashforth, 1989). Autonomy refers to the individual's freedom to be their own master within predetermined work domains. A lack of participation refers to the extent to which a person has input or influence over strategic, administrative, and operational choices. To further elucidate, the expectation that people's actions cannot produce the desired results or reinforcements is powerlessness (Dowding, 1996). Moreover, powerlessness may be defined as the absence of strength or force. People who experience powerlessness may experience a lack of control and have no way to reclaim it.

Notably, it is interpreted that Spreitzer (1995) defined an impact by focusing on participation rather than autonomy.

Learned helplessness, the second concept, is similar to losing control. American psychologists Maier and Seligman (1976) initiated research on learned helplessness, and in the 1980s, psychologists continued to study learned helplessness in animals, such as dogs and mice. They claim that helplessness can be induced in these animals when faced with a situation over which they have no control and encounter multiple failures; as a result, they lose the will to solve the problem and give up. Because they have been expanded to include humans, these experiments are used in many fields, including education and business administration. Several studies have demonstrated that humans are no exception (Seligman & Csikszentmihalyi, 2014).

Regarding the concept of learned helplessness, academia has reached a consensus. Maier and Seligman (1976) defined learned helplessness as being incapable of transforming the negative consequences of one's actions into a favorable situation, regardless of how hard one tries. In other words, an organism learns helplessness when it cannot control the events on its own after experiencing multiple failures and when it expects and realizes that its actions or efforts will not change its problems in the future. Greer and Wethered (1984) also assert that it is a phenomenon where one readily abandons expectations and actions for problem-solving after repeatedly observing that nothing can be accomplished through willpower and effort. Similarly, Peterson et al. (1993) defined learned human helplessness as a negative psychological state in which a person experiences failure in multiple attempts toward a goal and then gives up because he believes he will never achieve it. Although the control component was not explicitly mentioned, it is possible that the component that does not affect the outcome regardless of the

effort expended could be interpreted as control. In conclusion, numerous scholars tend to emphasize a lack of control, abandonment of problem-solving, and repeated failures.

Based on these concepts and definitions, Martinko and Gardner (1982) presented a model that describes passive and maladaptive behavior in the organization and the process by which an individual becomes lethargic, focusing on learned helplessness within the organization. Many issues within an organization, particularly those connected to performance, result from employees' assumptions that their actions have minimal impact on the situation's outcome. Within companies, passive and maladaptive conduct can often be explained by the concept of learned helplessness. The fundamental idea is that certain aspects of formal organizations unintentionally condition employee failure. This conditioned response persists even after improvements to the context make it possible for employees to succeed.

Components. To describe the impact's components, the researcher analyzed the details of learned helplessness. The concept of learned helplessness is built upon a foundation of contingency, cognitive processes, and behavioral responses (Peterson et al., 1993). *Contingency* refers to the objective link between a person's actions and the results they subsequently experience (Alloy, 1982). Unpredictability, or a random relationship between an individual's actions and results, is the most crucial factor in this scenario because it cannot be controlled.

Cognition is how a person perceives, explains, and concludes a situation. This process will go through several different stages. To begin, the person in question must understand the circumstance. Next, the individual describes what he has observed. For example, an individual might observe that one's lack of knowledge or unlucky circumstances could have contributed to their failure. The individual will then use his perception and explanation to construct anticipation of the future. The *behavior* refers to the effects of (non)contingency that can be observed and the

individual's thoughts and beliefs regarding the topic. Research on helplessness typically involves observing a person in a situation distinct from the one where they were initially put in a position where they could not exert control and gauging their level of passivity or activity in response to the situation. Because of how the three-part theory has been explained, the phrase learned helplessness is now used in three different contexts: non-contingency, the anticipation of helplessness, and passive action (Overmier, 2002).

The Relationship between the Four Components of Psychological Empowerment

Thomas and Velthouse (1990) explained that it is true that each element is combined to form and represent psychological empowerment. However, it cannot be said that there is no psychological empowerment just because one of the elements is missing. For example, if a single factor-related employee feels little, the overall psychological empowerment may be reduced, but it does not disappear (Thomas & Velthouse, 1990). However, when Spreitzer (1995) developed the concept of psychological empowerment and its four components, he argued that the four components form a holistic psychological empowerment paradigm. Specifically, Spreitzer said parts do not come together to form a whole but rather a state of integration with complete structure and identity.

Furthermore, by reflecting on these characteristics, Spreitzer (1995) described four components that are not construct-equivalent. For example, no matter how talented employees may be, they do not feel psychologically empowered if they do not feel the work is valuable and meaningful. Also, if employees cannot decide on their efforts and directions for their work, no matter how meaningful and important the work is, they will not feel psychologically empowered. However, Spreitzer explained the relationship between each element and real psychological empowerment but did not compare each element separately.

Recently, in this way, some studies have been conducted to separate each element and examine the influence relationship (Allan et al., 2016; Austin et al., 2022; Kraemer et al., 1999). Austin et al. (2022) studied the relationship between self-determination and meaningful work. The result of the study indicated that making decisions about work on their own becomes the fundamental premise that employees feel that work is meaningful. For example, when an individual challenges and gets a good job, they feel the autonomy of choosing a job, which affects the value they feel about their chosen job. Similarly, Allan et al. (2016) emphasized the significant relationships between self-determination motivation factors and meaningful work. Additionally, Allan et al. found that when employees have strong self-control over their work, it affects the importance of work and the value of personal work in a positive direction.

Competence and impact dimensions were the most significantly connected to management performance. The empowerment characteristics of meaning and, to a lesser extent, competence drive a strong and persistent association with work satisfaction. Kraemer et al. (1999) distinguished the four elements of psychological empowerment and studied how there was a difference in the degree of influence due to the relationship with some other factors. As a result, he said that the meaning of work and the ability of employees to recognize it strongly influence the goal of growing his career and that self-determination and his influence on work significantly influence organizational commitment. Spreitzer (2008) introduced the findings regarding the different empowerment dimensions to which different elements of organizational citizenship behaviors are related. The meaning dimension is highly associated with courtesy; the competence dimension is associated with conscientiousness and sportsmanship; the self-determination dimension is associated with altruism; and the impact factor is associated with conscientiousness.

Gaps in the Literature

Through this literature review, it was possible to discover several academic gaps in related literature and the position of this research. Firstly, numerous existing studies addressing the trust issue of organizations have focused mainly on the role of trust in an organization and the positive outcome factors of trust (Cummings & Bromiley, 1996; De Jong et al., 2016; Lee & Kim, 2018; Zhao et al., 2022), on the contrary, recent studies on the influencing factors affecting trust development are lacking (Hart et al., 1986; Mishra & Morrissey, 1990). In addition, studies on trust within the virtual team mainly focused on employee relational and emotional trust (Aubert & Kelsey, 2003; Flavian et al., 2018; Jarvenpaa et al., 1998). Similarly, studies addressing the relationship between trust and psychological empowerment also focus on trust in the bosses or interpersonal trust between employees (Alajmi, 2017; Barton & Barton, 2011; Ergeneli et al., 2007; Liu & Ren, 2022; Spreitzer & Mishra, 1999).

When it comes to academic gaps in psychological empowerment studies, there needs to be more research to uncover a difference in how employees perceive psychological empowerment based on their characteristics. Moreover, since Spreitzer's (2008) work demonstrates the equal composition link between psychological empowerment components, relatively few studies have studied the interaction between psychological empowerment components. Although a few researchers have partially explored the relationship between each component in recent years (Allan et al., 2016; Austin et al., 2022), the number of studies was highly restricted, and the content needed to cover all the components. Lastly, conducted psychological empowerment studies are limited in the global virtual environment.

After considering that, this study planned to bring up the idea that psychological empowerment would be an essential factor influencing trust development. In particular, among

various types of trust, the study focused on cognitive and organizational trust based on the assumption that these two types can influence the development of affective or emotional trust. In addition, this research dealt with the psychological empowerment of virtual team employees to explore whether there is a difference in recognizing psychological empowerment according to the characteristics of employees and to examine the relationship between components of psychological empowerment by adding trust.

Chapter Summary

This literature review played an essential role in finding this study's position in the literature related to trust and psychological empowerment. First, in the trust-related study, the researcher looked at the flow of research on trust within the global virtual team and studied the relationship between psychological empowerment while investigating in-depth history, definition, type, antecedent, and consequence factors. Trust was an important topic in research on global virtual teams. However, much of the literature emphasized the significance of trust in improving team performance and team members' communication, and research on strategic alternatives for trust development seemed insufficient. Similarly, the researcher has found that most studies on the relationship between trust and psychological empowerment have focused on relational and emotional trust in bosses or leaders within traditional organizations.

Second, this chapter reviewed the main concepts and studies on psychological empowerment and the four main components of psychological empowerment that inform the present study's research design. After digging deep into each element's fundamental theories, the researcher found that they were elements with similar characteristics, not separately. Nevertheless, there was a lack of research on the relationship between these elements, and it was found that there were few studies on the differences in recognizing these elements depending on

the attributes of individuals. Thus, QE is the most appropriate research method to explore team members' in-depth cognitive processes and beliefs regarding the relationship between trust and psychological empowerment and to guarantee an objective research outcome via statistical analysis (Shaffer, 2017).

Chapter 3: Research Methodology

Overview

This study aimed to explore team members' perceptions of the relationship between trust and psychological empowerment components while working in global virtual teams and examine how members' recognitions of trust and psychological empowerment components differ based on team member characteristics. To achieve the overall purpose of this research, QE was applied as a research method, and the researcher used ENA as an analysis tool. Chapter 3 provides the research methodology, data sources, data collection tactics and specific processes, analysis techniques, and ethics. Next, it discusses salient ethical considerations and strategies to ensure academic rigor.

Research Design

QE is a novel methodological technique that integrates quantitative and qualitative research methodologies to overcome the constraints of traditional methods (Shaffer, 2017). QE provides a more coherent mixed methods approach to understanding human behavior (Wu et al., 2019) using statistics and in-depth ethnographic methodology. Hence, QE includes collecting and coding data from a qualitative approach and analyzing qualitative data in a quantitative research manner. For example, qualitative data is collected through interviews and semantic codes are extracted and statistically calculated to find how often these semantic codes are referred to and linked promptly. As a result, it benefits researchers with a more precise and comprehensive description by analyzing qualitative data quantitatively and displaying network graphics for people and groups (Shaffer et al., 2016). Creswell and Clark (2017) identify the four broad categories of mixed methods design distinguished by the following characteristics. QE falls into the fourth category of integration strategies (Shaffer et al., 2016; Wu et al., 2019).

- The degree to which the two strands interact, namely qualitative and quantitative.
- The level of consideration for method priority.
- The timing or sequence of data collection and interpretation.
- Integration strategies at multiple stages—data collection, analysis, and interpretation.

The researcher determined that this QE was best for addressing these study questions for three reasons. The first is that QE, similar to mixed methods, could compensate for the shortcomings of qualitative and quantitative research and boost its advantages. The second reason was that the researcher could establish a connection between this study's theoretical framework, the cognitive model of empowerment (Thomas & Velthouse, 1990), the underpinning theory of this approach, and the epistemic frames theory (Shaffer, 2017). The third was due to the numerous benefits of ENA, a QE research analysis tool. Specifically, acquiring extracted study results in a network graph that had been visually represented was feasible. The following paragraph elaborates on each of these three factors respectively.

Firstly, QE was an appropriate research design for this study because it can overcome qualitative and quantitative research's shortcomings and maximize its advantages. Getting to the bottom of how humans give things meaning or interpret the significance of events or experiences in their world, a qualitative study is an appropriate method (Creswell & Creswell, 2017; Merriam & Tisdell, 2015). Although qualitative methodologies are excellent at grasping human thinking in depth and on a broad scale, interpreting their results depends on the researcher's subjective judgment. On the other hand, quantitative methodologies can confirm theories or hypotheses by including quantitatively measurable aspects of research questions or hypotheses (Caracelli & Greene, 1993). Even though quantitative statistical analysis can ensure the impartiality of research results, focusing exclusively on quantitatively measurable aspects of a social

phenomenon might produce superficial research outcomes. Thus, the QE approach was the most appropriate for exploring employees' in-depth cognitive processes and views regarding the relationship between trust and psychological empowerment and obtaining statistically valid research results.

Next, the researcher identified a connection between the theoretical framework of this study and the QE methodology. The theoretical framework for this study is 'the cognitive model of empowerment (Thomas & Velthouse, 1990).' This theory explains the flow of cognitive consciousness that feels empowered and motivated to work. The four criteria for judging a task (termed task assessments or interpreted four components of psychological empowerment) are influenced by individual traits (termed interpretive styles) and individual beliefs based on personal existing experiences and knowledge (termed global assessment). The influence relationship between task assessments, interpretive styles, and global assessment is the basic framework of this study. The researcher determined that the degree to which members feel more or less trust in the global virtual team may change based on the individual's qualities and that the individual's repeated experience with and knowledge of the other person contributes to their perception of trust. The relationship or network between various factors recognized by individuals in this theory shares many similarities with QE's analytical instrument, ENA's background theory, and epistemic frames theory (Shaffer, 2017). The epistemic framework theory assumes that people perceive and interpret a situation within a frame systematically connected between meaningful elements. Thus, QE was the appropriate approach, and ENA was the most suitable analysis tool for this study because this study attempted to analyze and model how employees' perception is structured to recognize the relationship between the core elements—trust and psychological empowerment—through interviews.

The third reason the researcher selected the QE was due to the advantages of ENA that visualized research results in the form of networks can be obtained. As a standard tool of QE research designs, ENA is a technique for network analysis that measures the co-occurrence of codes and models the structure of links among coded data (Shaffer, 2017). Moreover, ENA is an analytical tool specifically developed by the University of Wisconsin-Madison with the support of the National Science Foundation (DRL-1661036, DRL-1713110, DRL-2100320) to conduct network analysis and interpreting data by specifying and comparing a variety of group categories based on participant characteristics. Weighted, dynamic node-link networks represent co-occurrences (Bressler et al., 2019; Sullivan et al., 2018). ENA allows for displaying multiple variables within a single model, and researchers use ENA to evaluate discourse visually and quantitatively to make meaningful comparisons between groups (Shaffer, 2017; Shaffer & Ruis, 2017).

In this regard, the research design comprised a four-step process: (a) gathering data via semi-structured interviews, (b) developing a codebook via qualitative coding of transcripts and conducting binary coding of all lines, (c) converting the co-occurrences of codes into adjacency matrices through ENA, and (d) analyzing and interpreting the ENA network models.

Sources of Data

Setting

This study used interview data for employees working in the global virtual team, which consists of employees of various nationalities working separately in various regions and communicating in a virtual space with a shared goal. The population of this study was the following five consulting companies headquartered in the U.S. and Korea having global virtual teams:

- Company A, a technology and management consulting firm in the U.S.,
- Company B, a non-profit firm supporting the digital transformation of local communities in the U.S.,
- Company C, a global accounting firm's Korea business unit,
- Company D, a business launching advisory firm in Korea, and
- Company E is a business consulting corporation focusing on learning and leadership in the U.S.

These companies have in common that they offer business consulting services to corporations or governments and operate a global virtual team with people of different nationalities.

To maximize the diversity of the research subjects, it was planned to include all typical or average organizations, as determined by the researcher. Palinkas et al. (2015) explained that maximum variation sampling lets researchers explore topics from multiple perspectives and identify common patterns in different situations to ensure the results' credibility, transferability, and confidence. In this sense, the researcher decided to include companies based in countries with distinctive cultural traits, such as the U.S. and South Korea, were selected as research subjects. The company's culture to which the international virtual team belonged could affect the team members' thinking. Employees in a company have diverse ways of thinking and attitudes about work, reflecting the cultural characteristics of the country in which the company is located (Mueller & Clarke, 1998). Therefore, the researcher reduced the scope by focusing on the firm's headquarters. The U.S. and South Korea, countries that displayed differences in national culture, were selected based on the classification of national cultural characteristics presented by Hofstede (1984). Hofstede (1984) indicated the criteria of individualism versus collectivism, power gap, and uncertainty avoidance. A society with solid individualism is loosely bound

between individuals, and a society with strong collectivism is cohesive within groups (Hofstede et al., 1991). Individualism and collectivist cultural differences are distinguished by whether the characteristics of the self are independent or interdependent with others, what is prioritized when colliding between individual goals and organizational goals, and whether the leading cause of social behavior is individual attitudes or collective norms (Triandis, 2018). Next, the power gap is the degree to which powerless members anticipate and accept inequality in power in a country's social norms or organizations (Hofstede et al., 1991). Finally, uncertainty avoidance refers to the degree to which a cultured member feels threatened by an uncertain or unknown situation (House et al., 2004). In a society with a stronger tendency to avoid uncertainty, there is a greater desire to establish rules or not try new methods for fear of adventure or failure. Based on these criteria, the U.S. has a relatively individualistic, low power gap, and low uncertainty avoidance cultural characteristics. In contrast, Korea has a collectivistic, high-power gap, and high uncertainty avoidance cultural characteristics (Hofstede, 1984).

Next, this study focused on companies in the corporate consulting industry. This is because the characteristics of consulting companies' work and the changes in consulting companies due to the influence of COVID-19 are highly related to the global virtual team. Consultants in consulting companies provide professional services with each expertise realm and temporary and short-term services (Pereira et al., 2017). These characteristics are in line with the characteristics of the global virtual team. In addition, to respond to the non-face-to-face work environment after COVID-19, all industrial affairs became drivers of business model innovation. With these changes, consulting companies' services had to change (Kamning, 2021). For example, more customer companies are requesting consulting for digital transformation

roadmap, including operating virtual teams. Therefore, consulting companies have a higher understanding of the operation of the global virtual team than those of other industries.

Sampling

This study employed purposeful sampling, a non-probable method that extracts the most representative units by research purpose or subjective judgment into units to be observed (Maxwell, 2012; Merriam & Tisdell, 2015). This method does not attempt to select a sample to represent the entire population but rather a subset of the population. It works best when the population can be free of scope, time, or expense, when there are insufficient participants, or when the researcher has a great deal of background information about the research issue (Etikan et al., 2016). In addition, purposive sampling shows several benefits that cost is substantially reasonable and recruiting available respondents is relatively easy.

Criteria of Inclusion. Participants were eligible for recruitment if they met the following four inclusion criteria:

- people who work within a global virtual team consisting of geographically separated individuals that conduct a specific project via technology-based communication,
- people who have worked within the team for more than six months at the time of the interview,
- people who defined specific responsibilities and roles in that team, and
- people who are more than 18 years old.

The first condition was an essential requirement for a participant to be able to provide data about their experience working on a global virtual team. This second criterion defined a minimum time length of service to ensure that the participant has had enough time to become familiar with the atmosphere and history of their workplace (Ananthram et al., 2018; Jackson-Boothby, 2021).

The third condition was essential to addressing the research question of this study because participants must have experience not only being in the team but also being involved in projects involving participants with their distinct roles. The fourth condition was included because research should be conducted on adults.

Regarding the sample size, the research aimed to recruit 15 to 25 participants to obtain a minimum of three per organization. An indicator of an adequate sample size for qualitative research is saturation, the most prevalent criterion for determining a purposive sample size (Morse, 2015). According to Hennink et al. (2017), deductive coding was possible in one interview because of conducting code saturation with 25 interviews. Inductive coding generated 91% of all new codes in nine interviews and 98% in 16 interviews. Based on the result of the study, the researcher determined the sample size range from a minimum of 15 to a maximum of 25 to adequately compare differences in perception of important constructs based on individual characteristics. Moreover, the minimum number of employees for each company was set at three to include, as equitably as possible, the employees of the five companies, as mentioned earlier.

Sample

The researcher leveraged her professional network to contact one of the team members working at the global virtual team by email and then request them to forward the email to the other team members by introducing this research as a flyer concept. Throughout the recruitment process, it was promoted to approximately 25 individuals, of whom 16 sent emails expressing interest in the study and volunteering to participate in the interview. In conclusion, 16 participants were included in this study, three from four different companies and four from a single company.

Data Collection Strategies and Procedures

Data Collection Method

Open-ended, semi-structured interviews were the study's primary method for data gathering, chosen for the depth and breadth of the information they could provide (Creswell & Creswell, 2017). Furthermore, previous research showed that interviews are feasible for qualitative research on virtual teams (Bosch-Sijtsema, 2007; Maduka et al., 2018).

In particular, semi-structured interviews allow participants to provide extra details when they see fit to answer the question that the researcher may not have identified beforehand while maintaining a consistent framework that makes it easy to collect the data to the extent that it does not deviate significantly from the research question (Merriam & Tisdell, 2015). Participants' insights would be more brutal to access via a rigidly organized interview, whereas an unstructured interview would require more time to conduct and categorize (Patton, 2002). As a result, this study applied in-depth interview results and organized interview transcripts through semi-structured interviews to ensure the data's credibility by using the participants' own words in the final report.

Interview Protocol

Structure. The interview protocol is the researcher's plan for the interview and the questioning structure (Creswell & Poth, 2018). The researcher not only adhered to the interview protocol during the interview but also asked follow-up questions if needed. The interview protocol comprised four sections:

- introduction, including greeting, interviewer introduction, and research purpose,
- background questions, including age, gender, nationality, expertise realm, and working period on the team,

- interview questions of trust, psychological empowerment, and
- conclusion.

Interview Questions. Seventeen interview questions were finally developed to capture participants' in-depth thoughts and feelings with various experiences regarding trust and psychological empowerment. The interview began with five questions asking the participant's basic background information such as age, gender, nationality, expertise realm, and working period on the team. The remaining 12 interview questions focused on organizational trust, cognitive trust, work meaning, competence, self-determination, and impact. In addition, the researcher asked supplementary questions about why, what, or how they thought or felt if participants did not share their initial answers in more detail.

Each interview question was developed using existing study definitions and previously verified questionnaires. And then, the researcher assembled three expert panels to check the validity of the instrument's content. Three fellow doctoral students at the Pepperdine University Graduate School of Education and Psychology were expert panels to evaluate these questions as objective observers. They evaluated the interview questions from a qualitative viewpoint on their appropriateness for measuring the constructs, clarity, and understanding. The interview questions were modified again based on their feedback.

The following are the specifics. First, organizational trust is the members' unilateral confidence and faith that the organization supports, believes, and helps its members in many ways (Gilbert & Tang, 1998; Robinson, 1996). To understand the participants' thoughts, the researcher referenced the Organizational Trust Inventory Short Form, a tool developed by Cummings and Bromiley (1996).

- To what extent do you feel supported and trusted in your global virtual team?

- How dedicated does the team seem overall? How does that show up in the team?

Second, cognitive trust is related to one's perceptions and knowledge of the other person's competence, sincerity, and accomplishment (McAllister, 1995). The researcher used the Affect- and Cognition-based Trust Scale developed by McAllister (1995) to understand the participants' underlying thinking on cognitive trust toward their team members.

- To what extent do you trust team members to consistently accomplish tasks regarding skills, competence, and responsibility?
- Think of a time when the team has accomplished a task or project. How would you describe the thoughts/feelings generated by that success?

Third, the meaning of work includes reflection on the value or purpose of the task by connecting it to personal values, beliefs, and attitudes within the organization (Spreitzer, 1995). He determined the meaning of work by evaluating whether work itself was significant and whether work activities were meaningful individually based on these two major studies (e.g., Brief & Nord, 1990; Hackman & Oldham, 1980). Thus, the researcher referred to a tool for measuring psychological empowerment by Spreitzer (1995) and the Work and Meaning Inventory (WAMI), the measurement instrument on meaningful work developed by Steger et al. (2012) to comprehend the participants' views on the meaning of work.

- How important do you believe your work is in the team?
- To what extent, if any, is your work with the team personally meaningful to you?

Fourth, competence is the belief and confidence in one's skillful and knowledgeable performance of a task in the workplace (Spreitzer, 1995). The concept of competence is derived from Bandura's (1997) definition of self-efficacy in a working context. Bandura (1989) described three subfactors of self-efficacy: self-confidence in certain situations, task difficulty preferences

in selecting demanding activities, and self-regulatory efficacy about beliefs of how successfully self-regulation may be accomplished during the action. In this regard, the researcher made two interview questions referring to Spreitzer's (1995) instrument and Morris and Usher's (2011) semi-structured self-efficacy interview questionnaire.

- To what extent do you have confidence in your skill and ability to execute your job?
- Tell me about your experience with difficulties you have faced. How would you describe the thoughts/feelings generated by that experience?

Fifth, self-determination refers to autonomy and independence that can voluntarily determine work behavior, work method—modality, speed, and effort (Spreitzer, 1995). In addition, in the self-determination theory, the theoretical basis of this definition, the basic psychological requirements constituting self-determination are competence, autonomy, and relatedness (Ryan & Deci, 2002, 2017). Competence is excluded because it has already been asked above as a component of psychological empowerment. The researcher developed two interview questions by being informed of the questionnaire of Spreitzer's (1995) tool and the Work-Related Basic Need Satisfaction Scale-Adapted developed by Chiniara and Bentein (2016).

- To what extent do you have the autonomy to determine your work style, speed, and team effort level?
- Think of a time when you worked independently and were acknowledged by your team members. How would you describe the thoughts/feelings generated by that experience?

Lastly, Spreitzer (1995) defined impact as individuals' perceptions of their ability to affect the strategic, managerial, and practical processes and results of their work and explained

that it is the opposite concept of learned helplessness and powerlessness in the work context based on the research of Ashforth (1989) and Martinko and Gardner (1982). Powerlessness is a lack of autonomy and participation (Ashforth, 1989). Learned helplessness is similar to the loss of control, which indicates a state in which individuals believe they are not able to turn a negative result into a positive one and that they have no control power over the issue, no matter how hard they try (Greer & Wethered, 1984; Maier & Seligman, 1976; Peterson et al., 1993). The researcher developed two interview questions using Spreitzer's (1995) and Ashforth's (1989) measurement tools. Table 1 shows the research and related interview questions.

- Tell me about a time when you influenced the team. How would you describe the thoughts/feelings generated by that experience?
- Think of a time when your team members positively respond to your opinions and suggestions. How would you describe the thoughts/feelings generated by that experience?

Table 1

Research Questions and Corresponding Interview Questions

Research Questions	Key Constructs	Interview Questions
RQ1. How do team members perceive the relationship between trust and psychological empowerment components—meaning, competence, self-determination, and impact—in global virtual teams?	Organizational Trust	IQ6. To what extent do you feel supported and trusted in your global virtual team? IQ7. How dedicated does the team seem overall? How does that show up in the team?
	Cognitive Trust	IQ8. To what extent do you trust the team members to consistently accomplish tasks successfully in terms of skills, competence, and responsibility? IQ9. Think of a time when the team has successfully accomplished a task or project. How would you describe the thoughts/feelings generated by that success?

Research Questions	Key Constructs	Interview Questions
	Meaning of Work	IQ10. How important do you believe your work is in the team? IQ11. To what extent, if any, is your work with the team personally meaningful to you?
	Competence	IQ12. To what extent do you have confidence in your skill and ability to execute your job? IQ13. Tell me about your experience with difficulties you have faced. How would you describe the thoughts/feelings generated by that experience?
	Self-Determination	IQ14. To what extent do you feel you have the autonomy to determine your own work style, speed, and level of effort in the team? IQ15. Think of a time when you worked independently and were acknowledged by your team members in the end. How would you describe the thoughts/feelings generated by that experience?
	Impact	IQ16. Tell me about a time when you influenced the team. How would you describe the thoughts/feelings generated by that experience? IQ17. Think of a time when your team members positively respond to your opinions and suggestions. How would you describe the thoughts/feelings generated by that experience?
RQ2. How members' perceptions differ regarding trust and psychological empowerment based on their characteristics—age, gender, nationality, expertise realm, and working period on the team—within global virtual teams?	Age	IQ1. What is your age?
	Gender	IQ2. Which of the following best describes you? Male, Female, and Genderqueer/non-binary.
	Nationality	IQ3. What is your nationality?
	Expertise realm	IQ4. What is your expertise realm?

Research Questions	Key Constructs	Interview Questions
	Working period on the team	IQ5. How long have you been engaged in the current global virtual team?

Data Collection Procedures

The data collection procedure was arranged in chronological order and was primarily divided into interview preparation, conducting the interview, and after the interview. The first stage was preparing for the interview, including the consent procedure. As mentioned, the researcher first leveraged her professional network to recruit study participants by accessing members of different global virtual teams in five consulting companies. Following IRB approval, the researcher initially contacted five individuals working in separate global virtual teams from late January to early February 2023 via email, asking them to participate in an interview and to forward the email to the other team members as a flyer concept. The email included the interview guide and interview protocol that provides information about both the study's aims and interview method ahead of time to foster more relaxed interactions during the interview (Creswell & Poth, 2018). Hence, 16 participants who contacted the researcher by email to express their interest in participating in the study discussed scheduling interviews individually. Before the interview, the researcher obtained the informed consent form signed by the participants and provided participants the questions prior to their scheduled interview.

Semi-structured interviews of between 60 and 90 minutes were conducted in English between February and the first week of March 2023 using the Zoom platform. Interviews were video and audio-recorded and transcribed verbatim. The researcher not only adhered to the interview questions during the interview but also asked follow-up questions. The researcher offered further questions to generate more in-depth responses from the interviewees, such as

eliciting specific ideas about the experience described again or reasons for a particular viewpoint. In addition, stressing the confidentiality of this interview enabled interviewees to provide more candid and comfortable responses. The researcher elaborated on the main keyword if the respondent still needed to understand the objective.

The third stage was the confirmation of interview transcripts after the interview. After completing each interview, the researcher downloaded all transcripts, audio, and video recordings via Zoom. The researcher obtained automatically converting transcripts by uploading audio files through Otter.ai and compared these files with the contents of notes automatically stored through the Zoom platform. To follow that, the researcher edited transcription by cleaning up typos, meaningless repeated words, filler words, and sentence classification by semantic unit. This process was necessary to increase its readability of it. Afterward, around one week following the interview, the researcher shared the first amended transcripts with the interviewees to allow them to change the contents of the transcripts if they were written inconsistently with the respondent's intent. Through participants' checking of the transcripts, the data's accuracy and reliability could be boosted (Birt et al., 2016).

Data Process and Analysis

Data Analysis Approach

The data analysis findings will radically differ depending on the research's approach and the purpose (Creswell & Creswell, 2017). Before data analysis, it was necessary to review the study's characteristics. This study employed two approaches that appear to be opposed: (a) accessing data from the theory's constructs or (b) deriving meaningful constructs from data. One is that this study was founded on the conceptual framework of psychological empowerment (Spreitzer, 1995). In other words, based on this literature and theories, the four key constructs—

meaning, competence, self-determination, and impact—served as the basis for this study’s examination. Interview questions were also structured according to these fundamental concepts. The other is that data analysis in QE, the study’s methodology, was related to Discourse Analysis among qualitative research analysis approaches. Discourse Analysis focuses on language and studies how study subjects communicate (Gee, 1999). Instead of focusing on the definition of a word, it examines the subjective meaning of language in the discourse context. In other words, the goal was to comprehend the group or community to which the individual belongs by evaluating the usage and perception of language in discourse. Hence, through the interviews, the study’s primary purpose was to determine the frame of perception of employees working on the global virtual team regarding trust and psychological empowerment.

These two characteristics are in line with the following discussions: the distinction between small-d [d]iscourse and big-D [D]iscourse (Gee, 1999) and the distinction between inductive coding and deductive coding (Creswell & Creswell, 2017). First, Gee’s (1999) discourse theory distinguishes between small-d discourse, which refers to individuals’ actual actions and words, and big-D discourse, which refers to how a group of people behaves in the world. As a result, there are two concurrent processes: the process of constructing data from the [d]iscourse offered by specific communities and the process of comprehending theoretical understanding of the community in terms of the [D]iscourse (Shaffer & Ruis, 2021). [D]iscourse consists of big-C [C]odes, and small-c [c]odes are small semantic units and evidence that are revealed in the data used by researchers to discover big-C or primary constructs. Based on this approach, [c]odes were extracted semantic units from data, and [C]odes were theoretical constructs. Accordingly, the most challenging part was how well the researcher connected [c]odes and [C]odes.

Secondly, coding was crucial for reading facts and understanding the meanings or [c]odes that comprise an [d]iscourse. The coding method included inductive and deductive coding (Braun & Clarke, 2006; Creswell & Creswell, 2017). Inductive coding is appropriate for classifying data, labeling semantic units with a bottom-up approach, and observing new concepts and theories from raw data, removing any assumptions or preconceptions that researchers may already have. On the other hand, deductive coding refers to the researcher using several codes based on theory in the top-down method. Via research frame theory and research questions, these codes are already formulated. In other words, inductive approaches provide a broader analysis of the entire data body. In contrast, deductive approaches identify characteristics best illuminated or understood in a specific aspect of the data or within the context of existing theories or frames (Braun & Clarke, 2006).

As mentioned above, the deductive coding method seemed appropriate since there are already constructed theories and research questions. However, the methodology of this study focuses on finding the frame of perception— what and how to say in an interview—those employees in the global virtual team felt. This study also needed to apply inductive coding. Therefore, researchers had to constantly consider connecting these two approaches throughout the entire data analysis process. When extracting semantic units from data during data analysis, identifying codes, and constructing codebooks, it was essential to specify the lens through which to see and evaluate the data.

In conclusion, after six qualitative analysis steps, the researcher eventually developed a code and a codebook containing these two approaches. After that, the researcher conducted binary coding to check the existence of codes for each sentence unit. In the following paragraph, the researcher explained the conducted analysis process in more detail.

Data Analysis Procedure

Qualitative Analysis Phase. The qualitative data analysis involved six phases, including the development of codes and the codebook. Phases one through three were open coding, which can be viewed as inductive coding, phase four was thematic analysis coding, and phase five included the connection between themes and theory-connected constructs, which can be seen as deductive coding. A codebook was finally evaluated and developed in the sixth phase.

The first phase was to familiarize oneself with the data by reading it multiple times. In editing transcripts (i.e., typos, filler words, excessively repeated words, and sentence length alterations), the researcher was initially more concerned with editing sentences. After, the researcher reread the transcripts of all interviews by concentrating on what the interviewees were attempting to say to comprehend the broader context.

The second phase was open coding, extracting semantic units for code development. While rereading the material, the researcher used the note function to capture the significance of each highlighted portion of the transcripts using Word files. It was not written as a noun, but it was written in a line. In addition, the researcher attempted to examine the material from various angles to avoid overlooking any important details. For instance, the researcher examined the data from the perspective of who, why, what, and so on. The researcher pulled all important details, including whose idea it was, why their thought this way, what they were discussing, and how they were discussing it.

The third phase involved code extraction. Regarding the semantic units recovered in stage two, the researcher transcribed them independently on a PowerPoint slide by switching to words that describe the meaningful units. On other pages, frequently occurring semantic units

were listed. Semantic units were summarized throughout the process, and linked units were integrated. Finally, 56 initial codes were extracted, indicating the small semantic units.

The fourth phase involved the categorizing or structuring of codes. This phase was about functional categories and thematic analysis. The codes in PowerPoint were organized into ranges of qualities with related properties. Multiple instances of code classification were undertaken by varying the criterion for grouping ranges. For instance, it was categorized based on whether it was what I felt or what the other person felt or whether it was a code for describing feelings, a code for describing a fact, a cause, or an effect. In doing so, the researcher could comprehend the nature of these data in more depth. Throughout this process, the researcher began defining themes and reduced 56 codes into 20 codes by integrating them.

Next the fifth phase was linking between these classified codes and theoretical conceptions was determined. Initially, while considering what meaning the codes bonded into one categorization carry. The researcher discovered the alignment between core constructs and developed codes. With the exclusion of wholly unconnected classifications or codes and the integration and simplification of groupings required to be integrated, a code name was assigned. In addition, the relationship between the often-cited codes in the third stage was reevaluated so that the produced codes could accurately explain the complete data set.

The sixth phase was the final examination and development of the codebook. The code names were evaluated and modified once again. An attempt was made to connect the final developed code with semantic units in raw data, including determining whether the significant codes generated in step three could be explained. As a result, the researcher ultimately identified 10 themes as [C]odes: Organizational Trust, Cognitive Trust, Affective Trust, Meaning of Work, Competence, Self-determination, Impact, Responsibility, Recognition, and Communication.

Codebook Development Phase. Afterward, the researcher made the codebook, including code names, definitions, and examples (Shaffer, 2017) based on the qualitative analysis results. The study's conceptual framework included four psychological empowerment components, the meaning of work, competence, self-determination, and impact. Furthermore, three other constructs extracted through the literature review—Organizational trust (Gilbert & Tang, 1998; Robinson, 1996), Cognitive trust, and Affective trust (McAllister, 1995)—were included. In addition to that, the researcher identified three other codes—Responsibility, Recognition, and Communication.

Moreover, the definition of this codebook does not define the dictionary meaning of the codes but the researcher's claim. Therefore, Shaffer and Ruis (2021) claimed that a too-short or too-simple definition could be an invalid and ambiguous argument; therefore, the researcher should strive to create as solid definitions as feasible. As such, the researcher endeavored to elucidate small-c [c]odes in [C]ode's meaning as thoroughly as feasible. Finally, the example in this codebook demonstrated how to extract from transcripts a statement that effectively reveals these Codes, is not too short, and contains nothing else than the Code's context. In addition, another examiner, a doctoral student at GSEP, agreed that this codebook had a consensus as it was regularly discussed throughout the subsequent social moderation procedure. Table 2 shows the codebook which shows the codes that were found, the definitions of each code, and examples from the statements made by the participants during their interviews.

Table 2*Codebook*

Code	Definition	Examples
Organizational Trust	Referring to unilateral confidence in organizational elements including system and Astructure; Mentioning the feeling of being trusted or supported by a team or an organization.	“Our compensation calculation system is really transparent if my team on certain amount of profit, then I mean, the logic of calculating the compensation is open to all other team members. “The reason I feel trusted by the organization is that they allow me to do my work, what kind of my own pace and they trust me to kind of have the deliverables for them in my own "time”
Cognitive Trust	Referring to trust or respect explicitly toward the team members based on their ability, performance, and sincerity; Referring to an interdependence team members’ dynamic in terms of the execution of a task	“It's almost entirely the formal, a how I trust my colleagues and I trust my colleagues because of their competence and their ability to perform.” “They have to rely on each other, you have to know how these that’s, it's like the music in your mind, like a conductor, you get different types of instruments, and you have to be listening to the notes or the jive and on and on.”

Code	Definition	Examples
Affective Trust	Referring to trust or respect by using words about emotional intimacy or support with other team members; Referring to the feeling of unity or togetherness	<p>“So we trusted each other as best as we could, we acted as friends, because we knew the workload was so intense.”</p> <p>“There's definitely a moment of more stronger sense of bonding at the end, just be. You've done something together, and it was good, so I that's definitely a moment that brings a team together, or at least, has brought my teams closer.”</p>
Meaning of Work	Referring to the value or purpose of the task; Referring to the reflection to connect a meaning of the task to personal life, beliefs, and attitudes	<p>“And that could potentially be lifesaving sometimes in terms of making relationships with one another, but also like warning them of natural disasters that might affect them since the Philippines is so prone to that.”</p> <p>“It actually required kind to be more to grow personally to expand my horizon, this really helped me too in terms of that personal aspect”</p>

Code	Definition	Examples
Competence	Expressing the feeling of self-efficacy to perform a task skillfully and competently, including knowledge, problem-solving ability, and adaptability; Referring to the person's ability, noticeable performance, and knowledge.	<p>“When I do that, I do a lot on communication skills, and I do a lot on the interpersonal skills and also, I do a lot on kind of analytic skills, and presentation skills.”</p> <p>“Personally, I think all of my team members are very competent, they all know what they're doing”</p>
Self-determination	Referring to autonomy and independence that can regulate self-behavior or determine work methods	<p>“As I produce more work in do a better job, they give me more autonomy and more freedom with my schedule.”</p> <p>“But yeah, definitely happy and definitely motivated me to do more like better work moving forward, like take what I learned from that project and try to apply it to like the other project to do.”</p>
Impact	Referring to contributions to a team or society in terms of processes or results of the work; Referring to the influence mutually in behavior, attitudes, and perceptions among team members.	<p>“I think I feel rewarded by that because I think, even outside of work, I do want to be helpful to other people and like society.”</p> <p>“Well, influence regarding work or just energy in general cross a fine line for me, because I feel like personality is contagious.”</p>

Code	Definition	Examples
Responsibility	Referring to punctuality, responsiveness, and dedication; Referring to attitudes to take responsibility for consequences of a behavior.	<p>“So I think keeping your promise, and then get things done on time are the biggest factors.”</p> <p>“This country has different holidays and stuff she's always available 24/7.”</p>
Recognition	Referring to intangible acknowledgment, compliments, and encouragement; Referring to tangible rewards and incentives.	<p>“She sends out a weekly email where she celebrates different people and like, actually calls out their name and then randomly in our Slack channel, she'll be like, hey, everybody, like, just type in something you're grateful for okay.”</p> <p>“Do you just see the drama Casino? One guy says I don't trust people, I trust money, I think it is similar, it means the incentive that the team can provide to team members, it is really also important.”</p>

Code	Definition	Examples
Communication	Referring to conversation among team members, including candid sharing of opinions, positive interaction, and lighthearted small talk; Mentioning language skill as a means of communication.	<p>“Because when I talked to my senior manager about like our work, or any issues I'm having, the way he describes the problem and like the procedures, he seems a little bit more passionate about, like explaining it to me.”</p> <p>“Most important factor in trusting my team member is definitely like communication ability, and that can be a huge, that can be it's part of literally language, so language skills.”</p>

Binary Coding Phase. Here, coding refers to dividing actual data into semantic units and checking the existence of codes for each unit. The final codebook was completed through qualitative coding methods, as seen from the above process. The codes in the codebook served to label segmented data units. (Shaffer & Ruis, 2021). In quantitative ethnography, coding data is crucial because it shows the underlying meaning within a data set and links between facts and interpretation. Coding is the step-in data analysis whereby code occurrences in a dataset are located. According to Shaffer and Ruis (2021), the method of practical coding is similar to labeling, and researchers should label with the following five considerations in mind:

1. Researchers should assign code based on context rather than the word.
2. Researchers should consider that code is a meaningful category in the theoretical framework.

3. Researchers should need specific evidence to claim to be a code.
4. Researchers should segment data and assign codes.
5. Researchers should note that code is produced from finite data.

The researchers considered each sentence as an utterance for coding purposes. A total of 5,155 sentences were collected through interviews. The researcher divided data into sentence units in a spreadsheet format. In addition to that, the researcher added six elements—Age, Gender, Nationality, Expert realm, Working Period, and Role—as metadata in the Excel sheet to contribute to comparing the model of each group. Also, the researcher added an interview ID referring to the participants and Interview Topic included in each interview question in the dataset, which was used in the analysis tool, ENA.

The researcher applied binary [C]ode representation (Shaffer & Ruis, 2021), which means that every sentence was assigned a code of either (1) or (0) depending on the presence of a code manually. Hence, for example, in some sentences where numerous codes are present, codes are marked with a 1, while in others where no codes are present, all codes are marked with a 0. As a result, the researcher completed coding all the sentences and thoroughly reviewed them more than twice to determine whether there was any mistake or whether it was a sentence that contained the meaning of the code.

One of the most critical processes in coding is social moderation. Several QE researchers used social moderation to address the reliability and validity of qualitative coding (Espino et al., 2019; Kaliisa et al., 2021). Social moderation means multiple raters code all lines of data and then discuss all the areas where ratings differ until an agreement is reached (Shaffer & Ruis, 2021). Therefore, the researcher recruited another rater, a fellow doctoral student at the Pepperdine University Graduate School of Education and Psychology, to conduct binary coding

and discuss coding results. Afterward, two researchers coded the same data set separately and then discussed whether their codes were consistent with arriving at a unified result.

Analysis Tool

This investigation utilized ENA to analyze qualitative data statistically and provide visualized network models (Shaffer, 2017). ENA models relational patterns between codes by showing network graphs based on the weighted connections and how often pairs of codes occur within data. In a network model obtained through ENA, nodes represent codes, and lines connecting nodes represent the relationship between codes. The more frequently the relationship appears in the data, the thicker the line is. Additionally, ENA specializes in a comparative analysis between different results in a set of networks (Shaffer & Ruis, 2017).

More specifically, the ENA tool's fundamental feature is that it allows researchers to visually and quantitatively evaluate different networks based on the weighted structure of links (Sullivan et al., 2018). The raw data that went into building each network's connection is also viewable through the interface. As a result, ENA can be and has been applied to a wide range of qualitative and quantitative research subjects (Shaffer, 2017; Shaffer et al., 2016), despite ENA's origins in modeling cognitive networks scalability, making it applicable to modeling connection patterns in any system (Shaffer & Ruis, 2017; Sullivan et al., 2018). The results of the ENA are presented as two connected graphs that display the final ENA models (Shaffer et al., 2016). In its initial form, the data seems like a two-dimensional scatter plot with individual points representing the units of analysis. The second is a weighted network graph, where the codes themselves serve as nodes, and the connections between them illustrate how often specific pairs of codes occur (Shaffer et al., 2016).

The ENA algorithm uses a moving window to simulate the co-occurrence of codes between a given line of data and a set number of prior lines within the same topic of discussion (Bressler et al., 2019; Lee S. B., 2020). Each pair of codes is treated as a separate dimension. The relationship between them can be represented in a dynamic window and as a binary to signify the presence or absence of a connection within the specified time context. The ENA method generates an n-dimensional vector for each data line. The weighted density is calculated in ENA by taking the square root of the total of the squares representing the associations between the various elements in a particular study. In short, the ENA algorithm provides a metric for the relevance of the network's associations, concentrating on a dense area in the graph's center so that it can reflect the epistemic frame (Shaffer, 2017).

ENA uses the concept of units, conversation, and stanza windows as parameters for analyzing data (Shaffer, 2017). Unit refers to the entire utterance used for modeling network construction; conversation is a grouping of lines or items of data that can be associated with the purpose of interpretation within each unit; stanza window denotes a method of accumulating code co-occurrences in more temporal context within a conversation (Zörgő & Peters, 2019). In this study, the units were set as Interview ID, reflecting individual participants; the conversation was set as Interview Topic, indicating core constructs; the stanza window was set as the five moving stanza windows for modeling for computing codes that coincide within one sentence and the preceding four sentences.

There are two reasons to choose a stanza window size of five here. First, when the researcher read the interview transcriptions multiple times and divided them into paragraphs, the first sentence of each paragraph was not necessarily correlated to the remaining paragraph content. If, in a discussion, the topic message was spoken in the first line and connected to the

first message until the end of the paragraph, respondents would consider selecting an infinite stanza window. However, in reality, their utterances are only sometimes connected to the first sentences of each question response to the other sentences. Second, the researcher referred to the stanza window length chosen by other studies that analyzed data using ENA (Fogel et al., 2021; Lee S. B., 2020).

Human Subjects Protections

This research obtained approval from Pepperdine University's Institutional Review Board (IRB). During conducting this study, it adhered to all ethical guidelines by IRB. Specifically, interviewees voluntarily participated in interviews and submitted the informed consent form with their signatures through email. During the consent process, participants were told about the objective of the study, its potential risks, potential benefits, alternatives, and their right to refuse or withdraw from the study.

In addition, the participants' anonymity was maintained throughout all research processes, including data collection, analysis, and research results. Personally, identifying information, such as names and addresses, was not gathered; interview manuscripts were managed numerically, with interviews one and two serving as examples. There was no mention of any identifying information in the final dissertation manuscripts.

After this, all collected electronic data was stored on the researcher's portable individual laptop that was strongly encrypted. For example, the laptop was password protected, and the screensaver times out every two minutes. Additionally, the researcher turned off the laptop before being transported or left unattended rather than using power-saving modes. When reading the data, the researcher checked it in private rather than public. Among the three automatically saved files—video, audio, and transcripts—via Zoom after each interview, video recording files

were deleted immediately after the interview, and audio recording files were only used to check whether the automatically formed transcript was entered correctly and deleted after achieving the purpose.

Furthermore, the researcher used Google Drive tied to personal accounts to protect shared participant data. For example, to minimize data errors, participants were only allowed access for seven days for verification, and a coding assistant was only allowed 20 days for social moderation. In addition, the assistant signed the confidentiality agreement form before sharing the data. The form included restricting sharing of Google account passwords, setting laptop passwords, powering off when moving, inspecting contents in personal space, and prohibiting downloads immediately after finishing the discussion on the data coding results.

Moreover, the interviews were conducted in a low-stress environment to minimize the risk to participants. The researcher made every effort to reduce respondent weariness during the interview process. Before the interview, participants were given sufficient time to familiarize themselves with the questions by providing a detailed interview guide and protocol. In addition, the researcher clarified that participants could stop interviewing at any time. The researcher also assured participants that their friendship with the teammate who initially introduced them to the interview would not suffer if they stopped participating.

Means to Ensure Study Validity and Reliability

Validity and reliability are crucial evaluation criteria for the quality of research. Validity relates to the extent to which the researcher accurately measured what the researcher aimed to measure. In contrast, reliability refers to the degree to which measurements appear consistent, even if the researcher or time changes (Creswell & Creswell, 2017). This study adopted primary measures to ensure its validity and reliability which were: (a) instrument validation via expert

review; (b) social moderation min analysis; and (c) objective perspective of the researcher in the interviews and analysis stages.

The first strategy was content-oriented validation of the interview protocol. The researcher assembled three expert panels to check the validity of the instrument's content. The experts evaluated the interview questions from a qualitative viewpoint appropriateness for measuring the constructs, clarity, and understanding.

The second tactic was social moderation. Another rater or expert, a doctoral student in the GSEP at Pepperdine University, conducted binary coding of all data lines and evaluated the codebook. The primary researcher and another rater reviewed and discussed the result of the coding to make an agreement entirely and to arrive at the interrater reliability results. Since consistency is based on how well the two raters agree (Lee S. B., 2020), the two raters reviewed all coded expressions to arrive at the interrater reliability results.

The third strategy was maintaining an objective perspective of the researcher. Since the researchers are the primary tool for collecting data, they must be self-aware and thoughtful about how their presence can affect the interviewee's responses (Lingard & Kennedy, 2010). Thus, the researcher considered putting aside her own biases and experience when conducting interviews and reading transcripts, instead trying to view things from the perspective of the studied people.

Chapter Summary

Chapter three discussed the research methodology, subjects, data collection process, and analysis procedure. QE was used to investigate patterns and differences in perceptions of research subjects regarding trust and psychological empowerment. After the approval of IRB, the researcher recruited 16 participants who worked in global virtual teams of consulting firms and conducted semi-structured interviews to collect the data using 17 interview questions. Afterward,

through six phases, the researcher developed meaningful codes and codebooks using inductive and deductive coding approaches. The researcher and another rater conducted binary coding per each sentence based on the codebook. Subsequently, the researcher analyzed the network graph of codes by using ENA. Throughout the study, IRB guidelines adhered to the rights of human subjects.

Chapter 4: Findings and Results

Overview

This study explored team members' perceptions of the relationship between trust and psychological empowerment components in global virtual teams, such as the meaning of work, competence, self-determination, and impact. Also, the study sought to examine the differences in their perceptions based on their attributes—age, gender, nationality, expertise realm, and working period. To achieve this purpose, the study adopted a quantitative ethnographic methodology. It used interview data with 16 participants in various global virtual teams of five consulting firms headquartered in the U.S. and South Korea. Afterward, the researcher conducted coding via the developed codebook in a qualitative manner and used the epistemic network analysis tool for analyzing and structuring the pattern based on the utterances of participants in the data.

Therefore, this chapter describes the analysis result, including various network models. The results are divided into four distinct sections. Referring to the descriptive result as a starting point, the overall network model, five topic models, and two group models by age, gender, nationality, expertise realm, and working period were produced and included in the results. Network models according to the role of the interviewees in the team were also extracted and compared. Subsequently, the chapter provides a quick summary of the findings.

Descriptive Result

This study analyzed 5,155 utterances from 16 interviews in February and March 2023. The participants' descriptive information was used to group the data by attributes, as shown in Table 3. The first reason for classifying two groups was to facilitate group-by-group comparisons, and the second was to protect the anonymity of the participants. The employees

who participated in the study could be easily identified if specific information was disclosed.

Age-wise, 12 participants under 40 accounted for 72.9% of the total sentences evaluated, while four participants over 40 accounted for 27.1%. Nine women spoke 54.8% of the sentences, while seven men spoke at the rate of 45.2%. Six Americans accounted for 46.3% of the total conversations, eight Koreans accounted for 42.8%, and two Asians accounted for 10.9%. The specialized fields were grouped into four categories: (a) management, (b) information technology (IT), (c) public policy, and (d) finance. Management accounted for 38.9% of the total number of conversation phrases. There were three people in each of the other three expertise realms, and the ratio of the data was 28.7%, 16.8%, and 15.6%. Five individuals with more than 10 years of experience contributed 31.9% of the total data, while 11 people with less than 10 years of experience contributed 68.1%. In addition, the researcher categorized managers and assistants according to their team roles. There were nine managers and 55.9% of the total sentences, compared to seven assistants and 44.1%.

Table 3.

Descriptive Summary of the Data

Division		All Utterances	
		Freq	%
All Participants		5,515	100.0
Age	Over Forty (<i>n</i> = 4)	1,396	27.1
	Under Forty (<i>n</i> =12)	3,759	72.9
Gender	Male (<i>n</i> = 7)	2,331	45.2
	Female (<i>n</i> = 9)	2,824	54.8
Nationality	American (<i>n</i> = 6)	2,387	46.3
	Korean (<i>n</i> = 8)	2,206	42.8
	Asian (<i>n</i> = 2)	562	10.9
Expertise Realm	Management (<i>n</i> = 7)	2,005	38.9
	IT (<i>n</i> = 3)	1,482	28.7
	Public Policy (<i>n</i> = 3)	864	16.8

Division		All Utterances	
		Freq	%
All Participants		5,515	100.0
Working Period	Finance (<i>n</i> = 3)	804	15.6
	Over Ten (<i>n</i> = 5)	1,646	31.9
	Under Ten (<i>n</i> = 11)	3,509	68.1
Role	Manager (<i>n</i> = 9)	2,881	55.9
	Assistant (<i>n</i> = 7)	2,274	44.1

Coding Result

The result of coding all utterances data based on interview topics is shown in Table 3. *Competence* was the most prevalent code in the entire dataset, accounting for 12.8%. Next, *Communication* scored 9.9%, followed by Cognitive Trust at 9.7%. When questioned about Trust, participants most frequently mentioned Cognitive Trust (16.6%), followed by Competence (10.7%), followed by Responsibility and Communication (10.3% and 9.9%, respectively), indicating significant findings.

When the researcher asked questions about the four components of psychological empowerment, it was no surprise that codes directly related to the topic would frequently arise; hence, other significant codes were studied. Regarding the meaning of work, Impact was noted the highest, accounting for 13.2% of the utterances, with Competence coming in second with 11.2%. When participants were questioned about the competence topic, Communication was mentioned the most, accounting for 14.8% of the utterances outside the topic's core code. Competence was the most often used term concerning Self-determination at 9.9%, followed by Responsibility and Recognition at 9.5% each. Communication was highlighted the most regarding impact, with 13.5% of all data. Secondly, Competence was mentioned frequently, accounting for 12.3%.

Table 4*Codes Frequencies of All Utterance by Interview Question Topics*

Topics	All Utterances (5,155)		Trust (1,911, 37.1%)		Meaning (612, 11.8%)		Competence (870, 16.9%)		Self-Determination (939, 18.2%)		Impact (823, 16.0%)	
	N	%	N	%	N	%	N	%	N	%	N	%
Organizational Trust	119	2.3	67	3.5	7	1.1	6	0.7	24	2.6	15	1.8
Cognitive Trust	502	9.7	317	16.6	49	8.0	21	2.4	65	6.9	50	6.1
Affective Trust	235	4.6	126	6.6	19	3.1	35	4.0	16	1.7	39	4.7
Meaning of Work	267	5.2	36	1.9	129	21.1	26	3.0	31	3.3	45	5.5
Competence	659	12.8	205	10.7	69	11.3	190	21.8	93	9.9	102	12.3
Self-determination	282	5.5	20	1.0	12	2.0	28	3.2	200	21.3	22	2.7
Impact	354	6.9	75	3.9	81	13.2	25	2.9	31	3.3	142	17.2
Responsibility	374	7.3	197	10.3	24	3.9	39	4.5	89	9.5	25	3.0
Recognition	300	5.8	66	3.5	19	3.1	51	5.9	89	9.5	19	2.3
Communication	512	9.9	183	9.6	43	7.0	129	14.8	46	4.9	111	13.5

ENA Network Models

The network models were derived from graph form consisting of nodes and lines showing how often meaningful codes were mentioned together in a temporal context. The codes represent a node, and the lines between the nodes represent a connection (Shaffer, 2017). The larger the node, the higher the frequency of code mentions, the thicker the line, and the stronger the connection. Consequently, using these ENA-obtained models, the researcher determined the main code and the significant relationship between the codes.

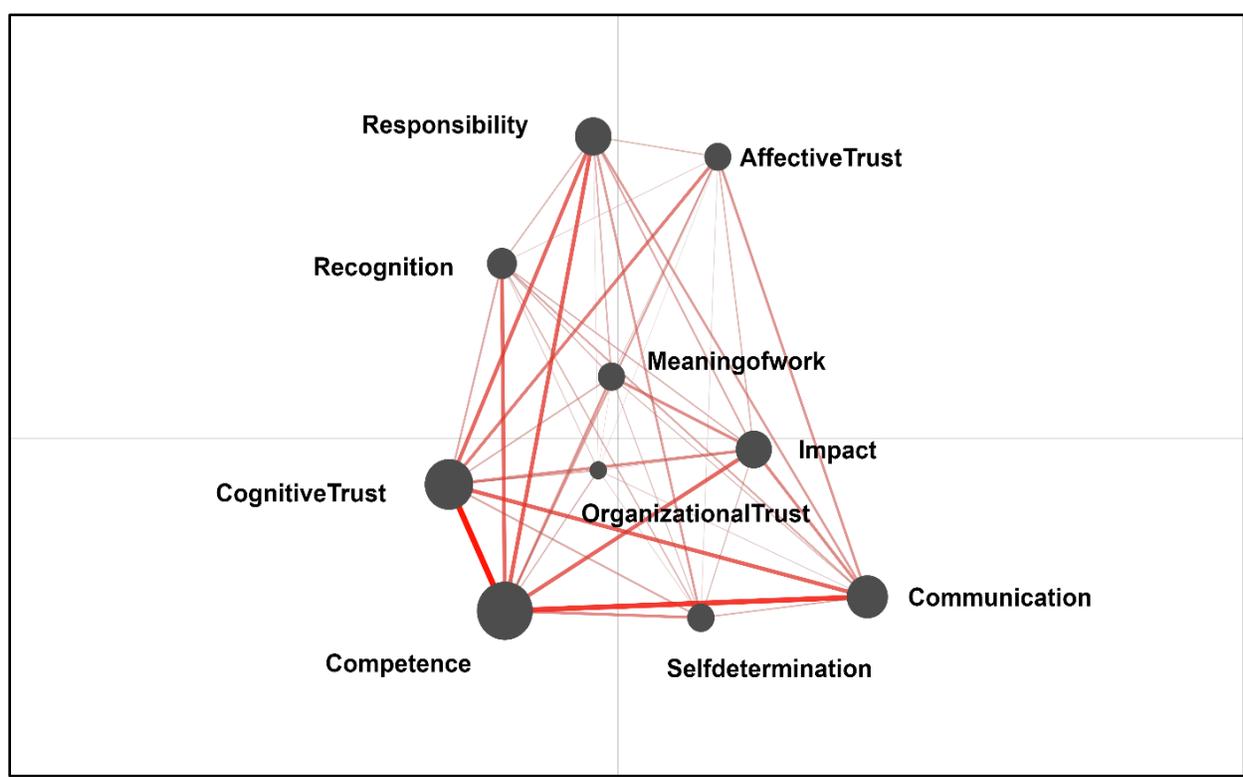
The Overall ENA Network Model

First, the researcher extracted network models using ENA to examine the pattern of the workers' complete statements. The overall ENA model generated can be seen in Figure 2. Just as the coding results analyzed in the first round, *Competence* was the most prevalent code, and *Competence* and *Cognitive Trust* were the lines demonstrating a strong association. Also, the link between *Competence* and *Communication* was robust. In other words, the association between *Competence*, *Cognitive trust*, and *Communication* was strong, followed by the relationship between responsibility, impact, and recognition centered on *Competence*. The model's X-axis represents variance (or SVD1) at the value of 0.25.

In contrast, the Y-axis represents SVD2 at the value of 0.15. Pearson's and Spearman's goodness-of-fit are $x = 1$ and $y = 1$. According to these statistics, the visualization closely matches correlated plot points to corresponding network centroids, indicating intense goodness of fit.

Figure 2

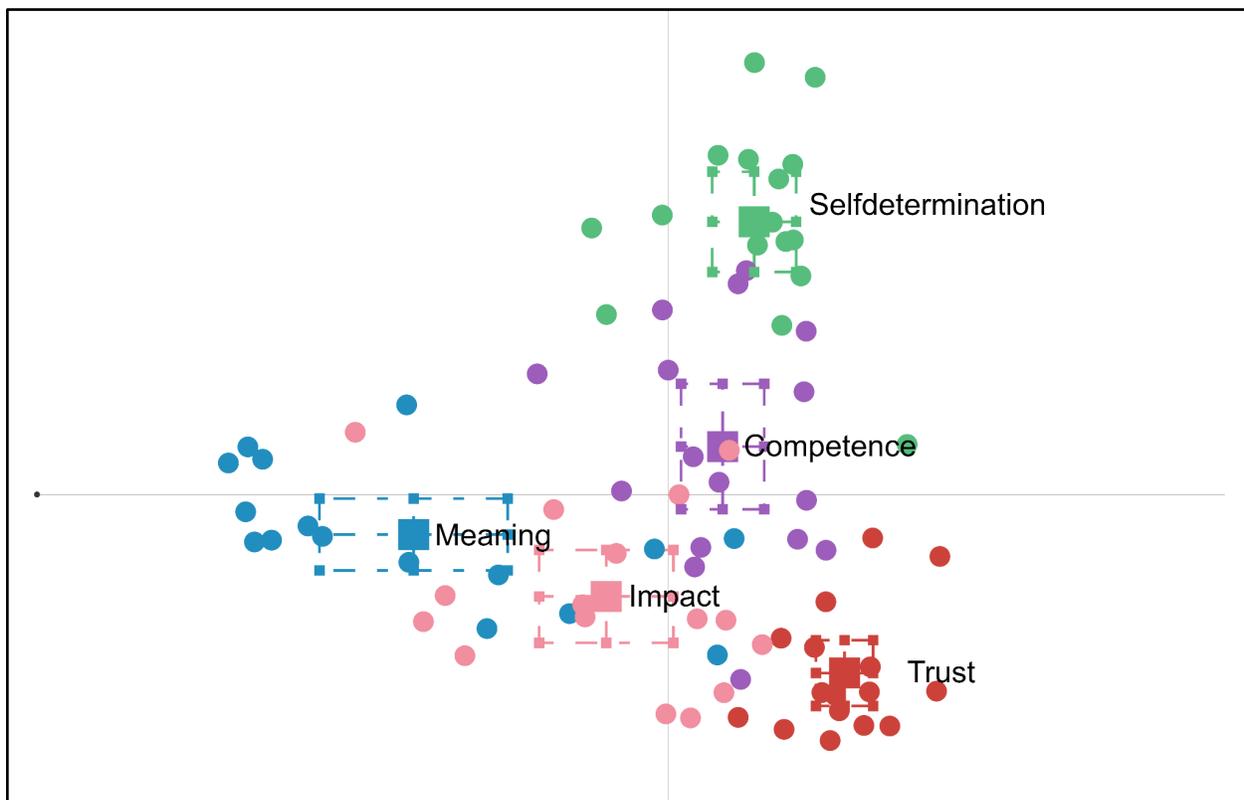
Network Graph for Units of All Interviews Aggregated by Interview ID



Next, the researcher extracted network models visualized for each of the five topics to identify the network of relationships with the codes for each topic. Figure 3 presents a visual representation of the mean data. Figure 3 depicts $x = 0.14$ and $y = 0.13$ as the variances for each model axis. According to Spearman, the goodness-of-fit is $x = 0.97$ and $y = 0.98$. The Pearson correlation coefficient for x and y is 0.98.

Figure 3

Comparison Plot for Question Topics Aggregated by Interview ID

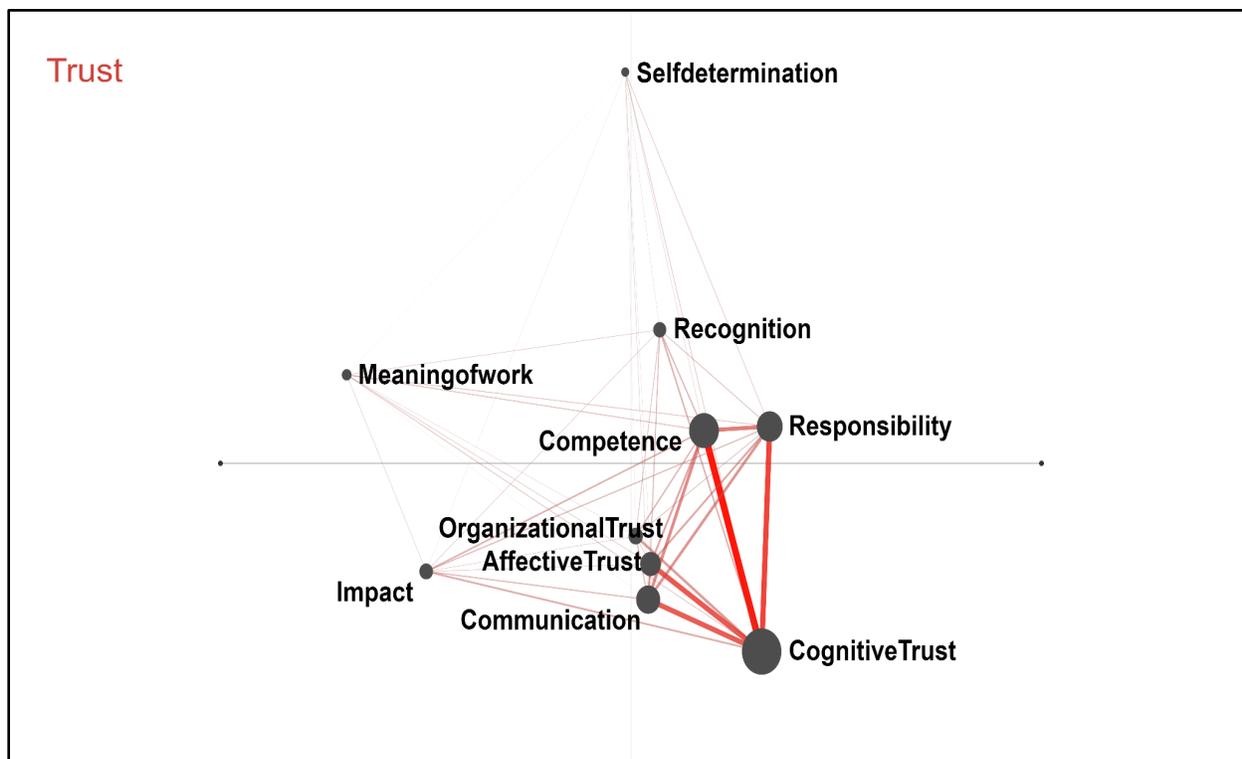


Trust

Cognitive Trust was the most significant code in the narrative of all participants' thoughts and feelings regarding the experience of trust. The association was strongest in *Competence*, *Responsibility*, *Affective Trust*, and *Communication*. Figure 4 demonstrates the ENA model of *Trust*.

Figure 4

Network Graph of Utterances Regarding Trust

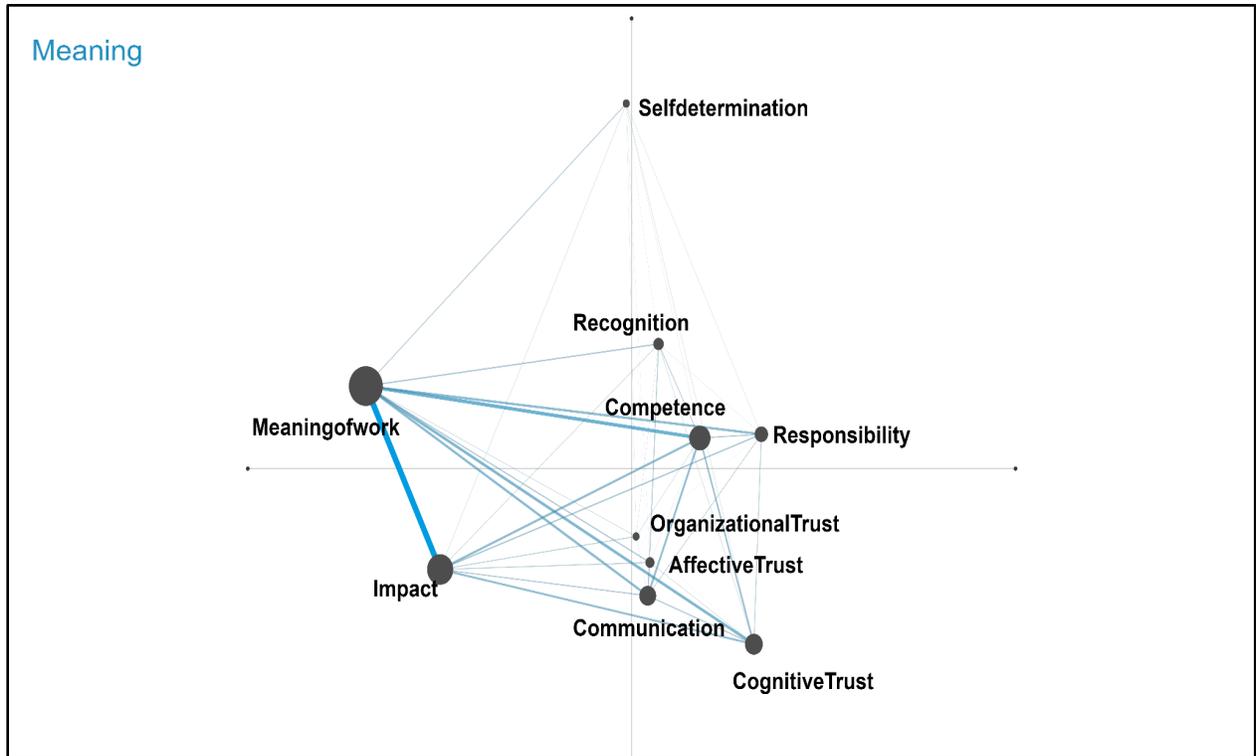


Meaning of Work

Participants' responses to questions regarding the meaning of work were collected separately, and an ENA model depicting the discourse pattern was derived from them. The researcher examined the following significant codes besides subject-specific codes, which were the most frequent core codes. The *Impact* was the code most closely associated with the *Meaning of Work*. This model's most prominent characteristic is that the relationship between these two codes is substantially darker than that between the other codes.

Figure 5

Network Graph of Utterances Regarding Meaning of Work

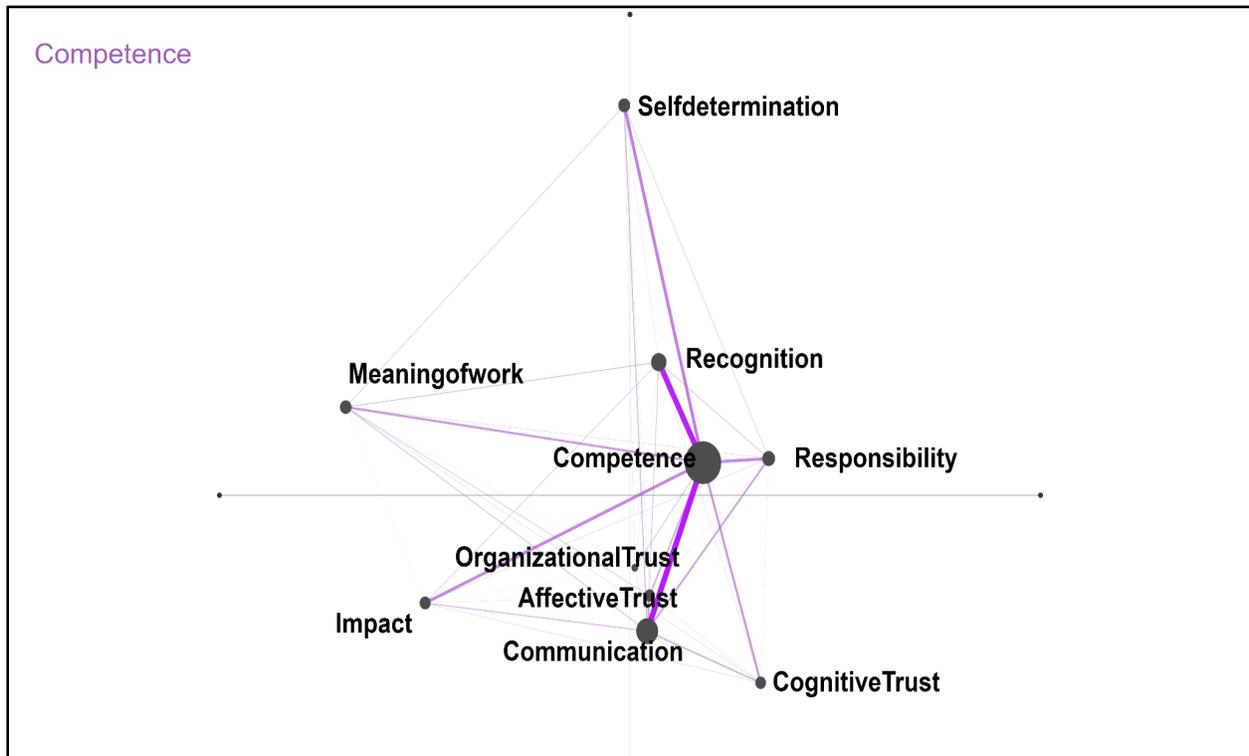


Competence

Subsequently, the network model of all the participants' utterances to the competency-related interview questions can be seen in Figure 6. The most significant correlation was *Competence* and *Communication*. The next most vital relationship is *Competence* and *Recognition*. In addition, the relationships between *Competence* and *Self-Determination* and *Competence* and *Impact* were substantially more robust than those between other codes.

Figure 6

Network Graph of Utterances Regarding Competence

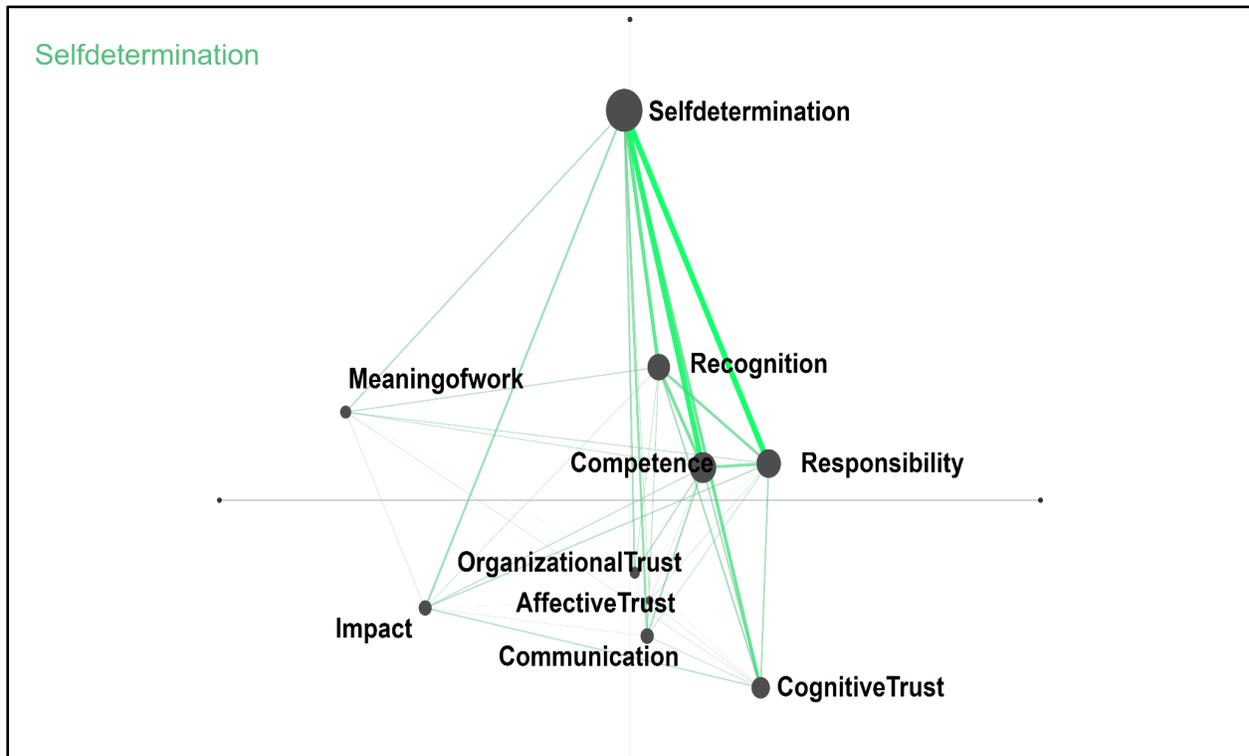


Self-Determination

In the network graph (Figure 7) depicting the pattern of responses relating to *Self-determination*, the association between *Self-determination* and *Responsibility* was the strongest, followed by the relationship between *Self-determination* and *Competence*.

Figure 7

Network Graph of Utterances Regarding Self-Determination

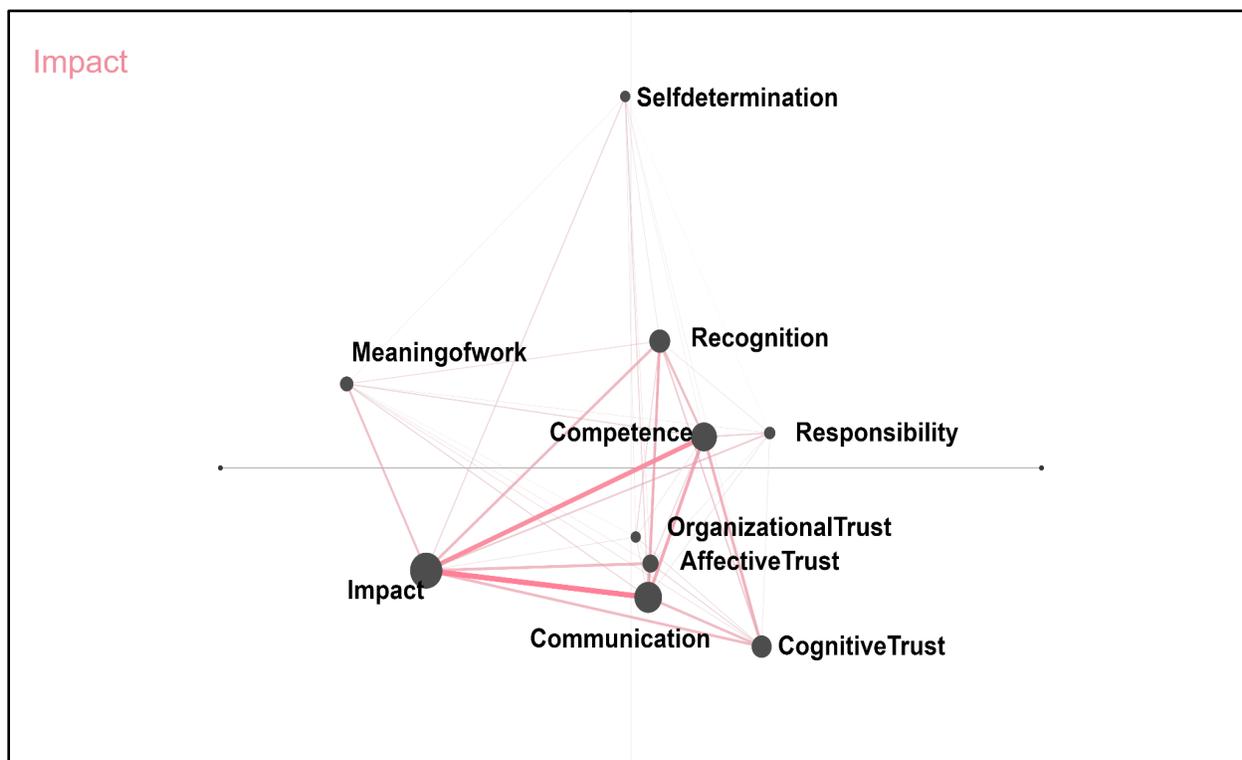


Impact

Figure 8 depicts the network graph built from the responses of all participants to the *Impact* question. Compared to other subject models, a range of codes appear relatively uniformly in this model. *Impact* and *Communication* were the most relevant, followed by a high association between *Impact* and *Competence*.

Figure 8

Network Graph of Utterances Regarding Impact



Relationship Between Trust and Psychological Empowerment

The relationship between trust and four psychological empowerment factors was comprehensively summarized based on the above-described overall and topic-specific ENA network graphs. The relationship diagram, represented by Figure 9, is not a model produced statistically through ENA but rather a model created by the researcher to assist them in summarizing and interpreting the results based on ENA models.

There were two reasons to draw up the relationship diagram. First, the entire ENA model was generated from the relationship between the most frequently stated and most relevant codes among the participant's total words. Therefore, it was determined that there needed to be more comprehensive. Second, the ENA models developed for each topic revealed which codes were most closely associated with the core topic code within each topic; however, it was deemed

necessary to draw all the linkages by combining the models. In conclusion, this relationship diagram helped in answering the first research question of this study and interpreting the result, which concerns employees' perceptions regarding the relationship between Trust and Psychological Empowerment.

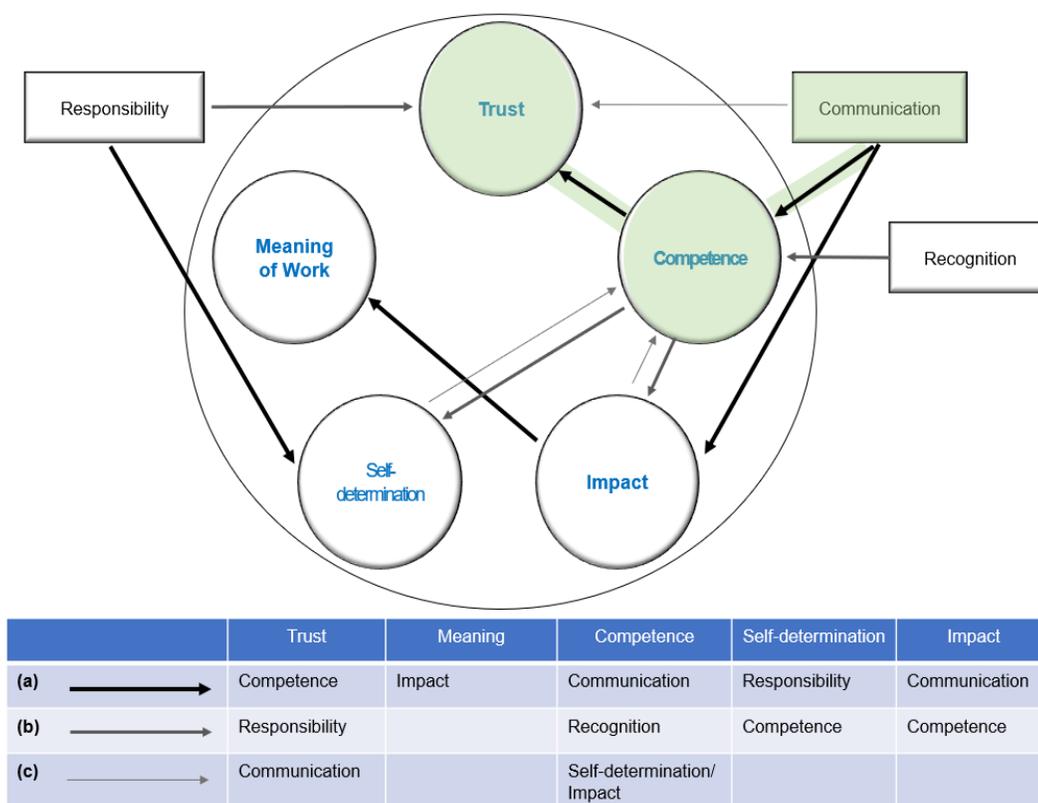
In Figure 9, Competence, Responsibility, and Communication are arranged according to each subject's relationship strength in the ENA model. In other words, (a) refers to the most vital relationship, (b) becomes the second most substantial relationship (c) becomes the third strongest. However, not all three of them were structured in each model; only those relationships that were sufficiently observable and significant were included. In addition, the direction of the arrow corresponds to the topic code in the ENA model for each topic. In contrast, the arrow's origin corresponds to the second most relevant topic code. In other words, it indicates a relationship with other codes that explain the subject code, which the arrow indicates. For example, in the Meaning of Work model, the arrow is the arrival point of the *Meaning of Work* topic code, and the starting point is the *Impact*, which shows the most significant association with the topic code.

Employees in a global virtual team at a consulting firm mentioned *Trust* by *Competence* in a recent temporal context. *Communication* was substantially related to two elements, as this connection diagram depicts. In addition, *Responsibility*, closely related to *Self-determination*, one of the factors that explain psychological empowerment, is the second-deepest related to *Trust* between employees. Regarding the relationship between psychological empowerment components, when employees talk about *Competence*, two components, *Self-determination* and *Impact*, are relatively often mentioned. *Communication*, which might be a behavioral element, is

also listed most frequently, followed by *Recognition*, which might be interpreted as an external influence.

Figure 9

Relationship Diagram of Trust and Psychological Empowerment



Comparison Between ENA Models by Each Group

The researcher grouped participants based on the collected descriptive information—age, gender, nationality, expertise realm, working period on the team, and role, and then extracted group-specific network models. The positioning of the network point (codes) in the ENA space is calculated and automatically decided as the place that minimizes the distance between the network's center point and the projected points for each analysis unit (Shaffer et al., 2016).

Age

The researcher examined if the conversational patterns of employees in the global virtual

team varied by age. The samples were separated into two groups, those over 40 and those under 40, and compared with a focus on the differences between the two age groups. The statistical difference between the two groups was evident, as was the contour of the visual graph (see Figure 10). Over Forty ($Mdn = -2.51, n = 4$) was statistically significantly different at the $\alpha=0.05$ level from Under Forty ($Mdn = 1.22, N = 12, U = 0, p = 0.00, r = 1.00$) along the X-axis (MR1), according to a Mann-Whitney test. Regarding Variance, the x-axis is 0.13, while the y-axis is 0.25. This model in Pearson's and Spearman's goodness of fit for x and y is 1.

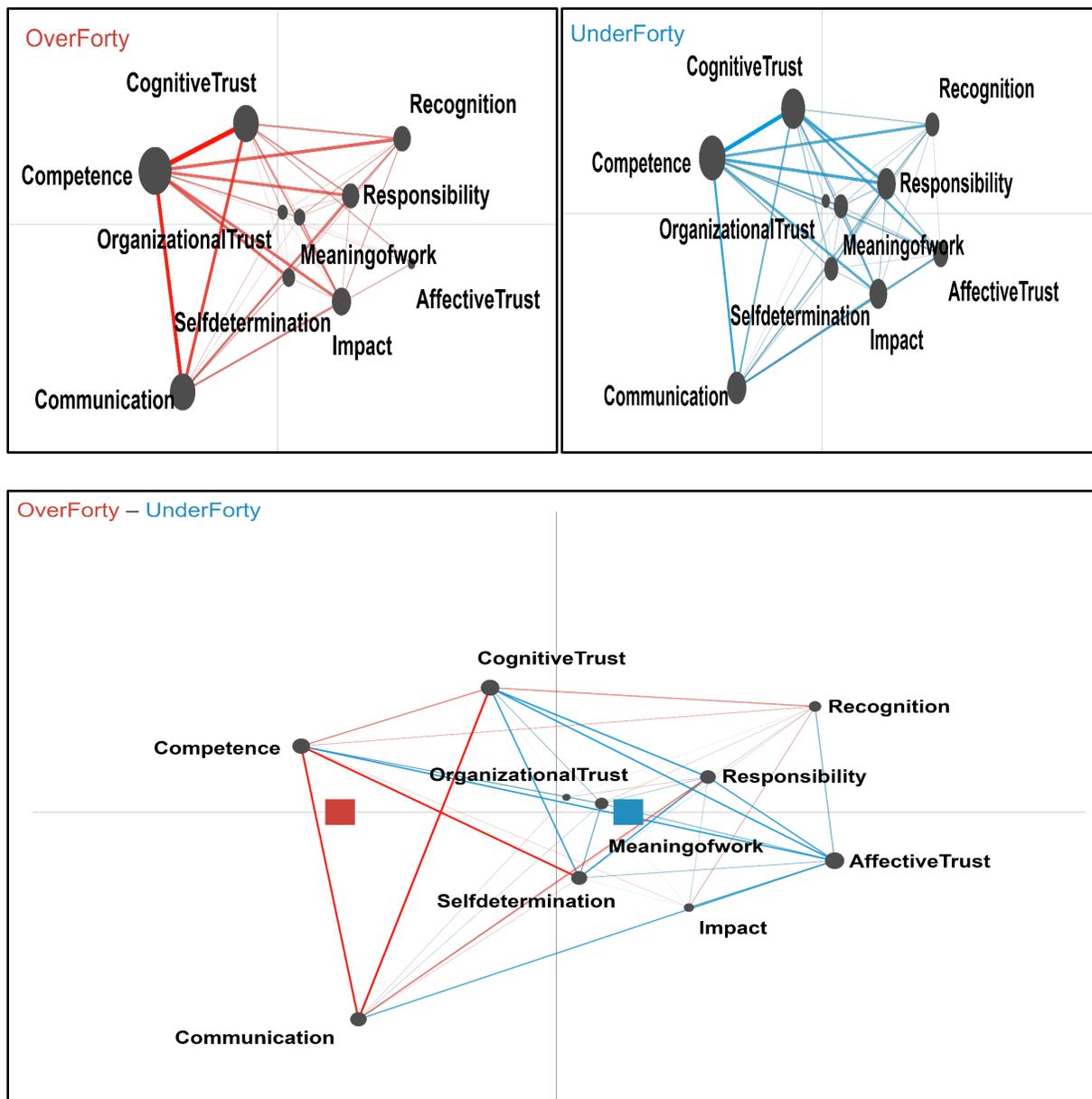
Competence is the largest node in over-40 and under-40 group models, and its connection with *Cognitive trust* is comparable. However, it can be observed that the relationship difference between codes is more significant in individuals aged 40 and older. The strongest is the triangle relationship between Cognitive Trust, Competence, and Communication. In addition, based on the vertical line, the model's center is leaned to the left, and the relationship between the primary codes and other codes was relatively weak. In contrast, the frequency difference between codes was significantly less in the model of the group of people under 40. The relationship lines between other codes were more diverse, indicating that the distribution between codes was spread. Specifically, it can be observed that the size of the Affective Trust code has grown relative to that of the group older than 40 and that the line between Affective Trust and Cognitive Trust and the relationship between Affective Trust and Communication has become relatively distinct. Compared to the group aged 40 or older, the center shifts to the right, indicating that it is closer to seven other codes than the main three, as mentioned earlier.

Moreover, when comparing these two models combined, it is evident at a glance that particularly the difference is substantial. The relationship between Competence and Self-determination and the relationship between Cognitive Trust and Communication was relatively

more emphasized in the group aged 40 or older than in the group under 40. In contrast, the group under 40 had a stronger relationship with other codes (i.e., Cognitive Trust and Communication) centered on Affective Trust.

Figure 10

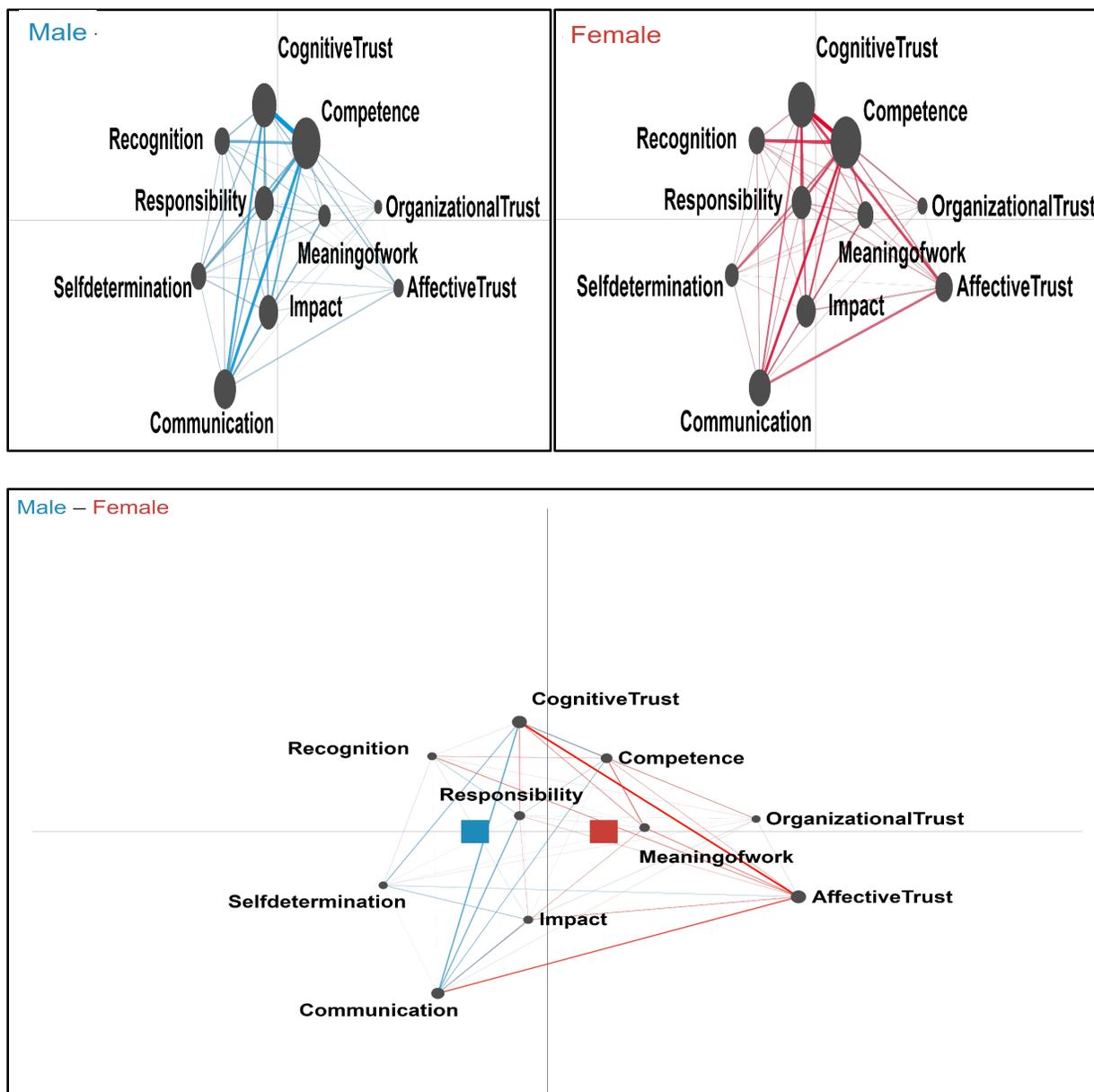
Network Graph for Statements by Age Groups



Gender

The following analysis examined the distinctions between male and female utterance patterns. The two groups showed a clear difference visually in the shape of the graph (see Figure 11) and statistically. A Mann-Whitney test revealed that males ($Mdn = -0.81, n = 7$) were statistically different from females ($Mdn = 0.67, n = 9, U = 62.00, p = 0.00, r = -0.97$) along the X axis (MR1) at the $alpha = 0.05$ level. Also, Figure 11 depicts $x = 0.11$ and $y = 0.25$ as the variances for each model axis. According to Spearman, the goodness-of-fit is $x = 0.98$ and $y = 1$. Pearson's goodness-of-fit is $x = 0.98$ and $y = 1$.

Competence is the core code for both male and female groups, and the strongest association was with Cognitive Trust, Competence, and Communication. Nevertheless, the disparity between these two groups may have significant implications. The female group had a bigger Affective Trust node than the male group, and the relationships between Affective Trust and Communication and Affective Trust and Cognitive Trust were more apparent. In addition, the link between Competence and Recognition was more evident among females than males.

Figure 11*Network Graph for Statements by Gender****Nationality***

The data were then divided into three groups based on the nationality of the participants: American, Korean, and Asian. The researcher focused on the differences between Korean and American utterance patterns. In the case of Asia, there were just two persons, but there were also

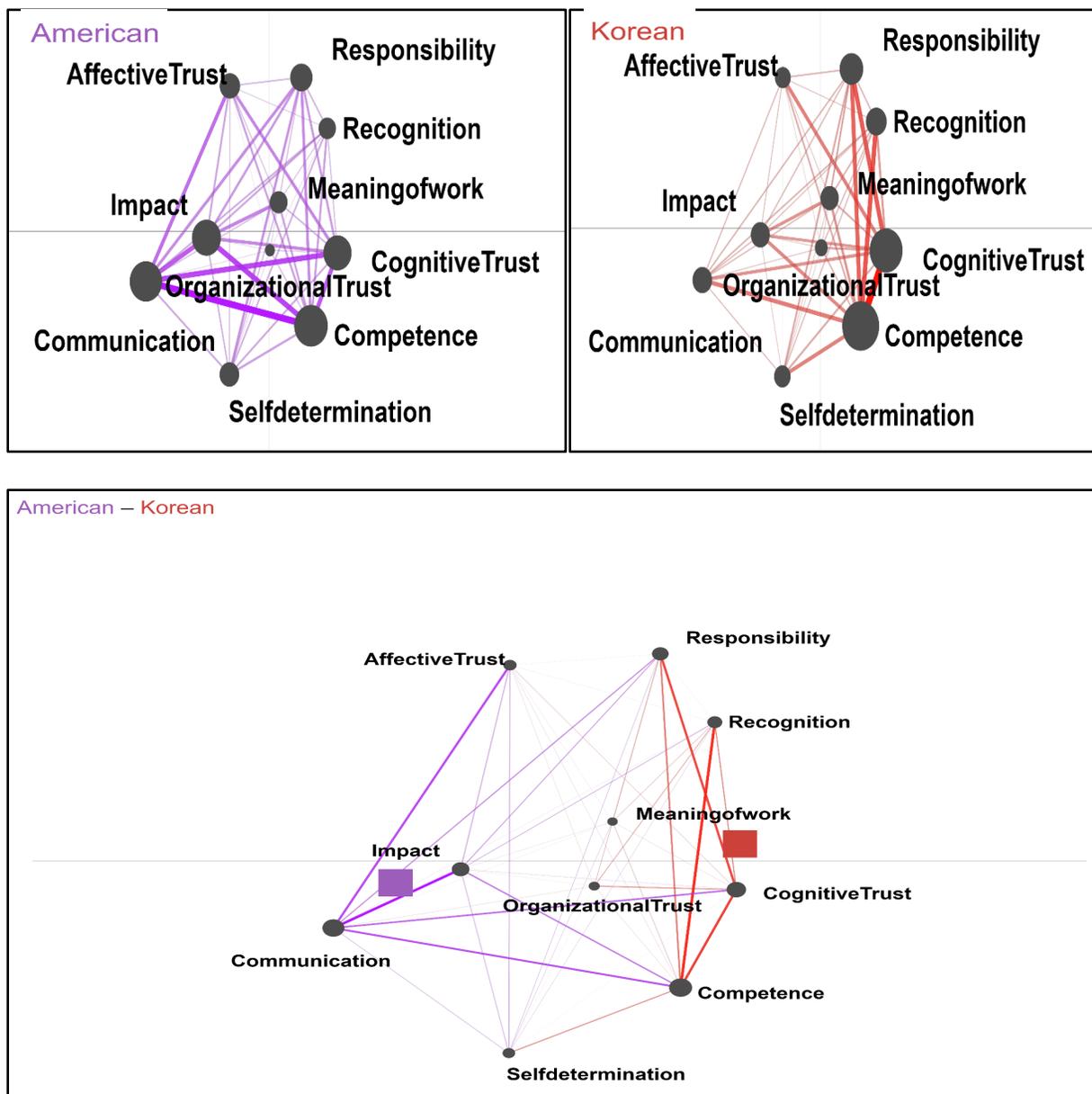
two other countries; thus, it was deemed unnecessary to analyze. Notably, among the comparisons between several groups based on various attributes, the contrast between the American and Korean groups was the most noticeable (Figure 12). The observed disparities in discourse between the Korean ($Mdn = 1.93, n = 8$) and American ($Mdn = -1.92, n = 6, U = 1.00, p = 0.00, r = 0.96$) groups were statistically significant along the X axis, according to a Mann-Whitney test. $x = 0.26$ and $y = 0.16$ represent the variation indicated by each model axis depicted in Figure 12, American versus Korean. Hence, x and y have a Pearson and Spearman goodness-of-fit value of 1.

In the American model graph, Communication is the central code, and the connection between this code and Competence is the strongest. Next, the relationship between Communication and Cognitive Trust and Communication and Impact became evident. In contrast, the Competence node is much larger than other points in the Korean network. In addition, Competence centered the strongest association between Cognitive Trust, Recognition, and Responsibility. However, it is more important to highlight that Cognitive Trust has the most substantial relationship to Communication in the American graph. In contrast, Cognitive Trust has the most vital connection to Responsibility in the Korean graph.

Considering the difference between these two models, the relationship between Communication and Impact and the relationship between Communication and Affective Trust emerged more frequently in the speech of Americans than Koreans. In contrast, the link between Competence and Recognition has emerged comparatively more frequently in the Korean group. The centroid of the American group is positioned on the left toward Communication, Impact, and Affective Trust. In contrast, the centroid of the Korean group is located on the right, with Competence, Recognition, and Responsibility.

Figure 12

Network Graph for Statements by Nationalities



Expertise Realm

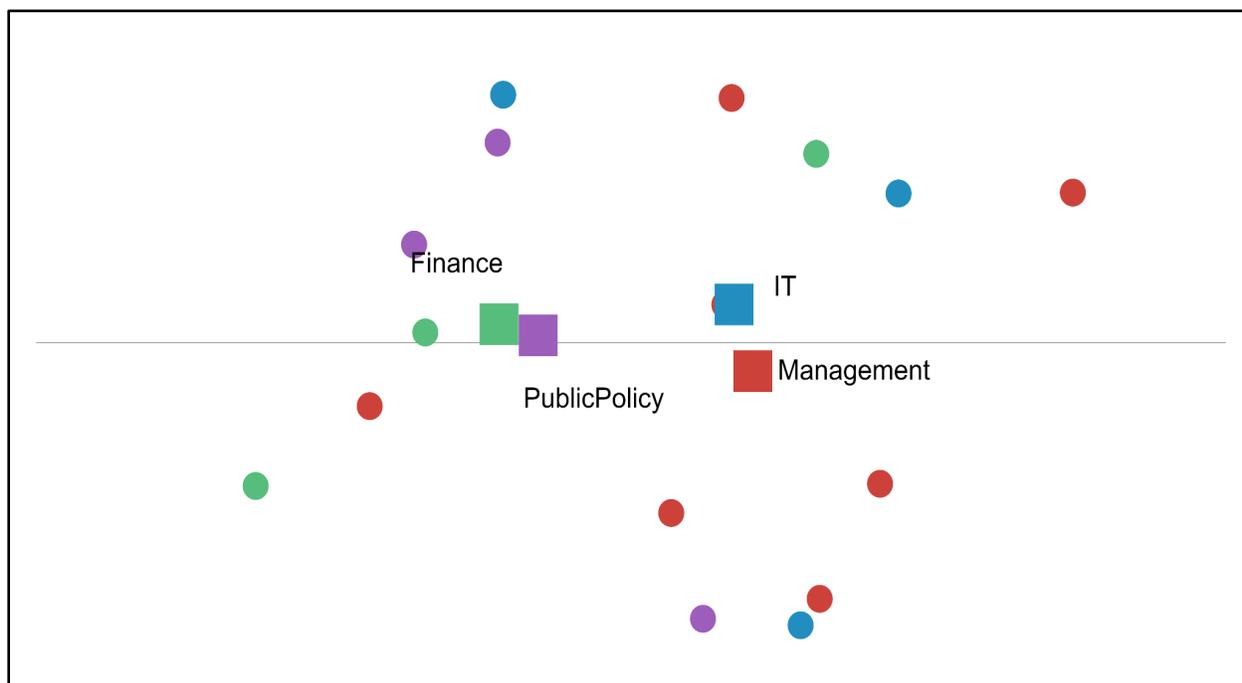
Subsequently, according to the specialist areas of the study participants, the data was divided into four groups, and the network models for each group were compared. Figure 13 displays the positions of the means of the four groups. The discourse patterns of personnel

specializing in consulting in the Finance and Public Policy fields were similar, with the center somewhat to the left of the ENA space. In contrast, the discourse patterns of employees specializing in management and IT consulting were significant to the right. Statistical analysis revealed, however, that there was no difference between the four groups. In other words, since there was no substantial variation between the conversational patterns of employees in the four specialized areas, the comparison between groups could not be meaningful.

For instance, when the researcher compared the Finance group and the Management group with the most significant difference in the center position, A Mann-Whitney test along the *X* axis (SVD1) revealed that Finance ($Mdn = -1.64, n = 3$) was not statistically significantly different from Management ($Mdn = 0.49, n = 7, U = 5.00, p = 0.27, r = 0.52$). Similarly, given the comparison between Public Policy and Management groups, a Mann-Whitney test indicated the difference between Public Policy ($Mdn = -1.14, N = 3$) and Management ($Mdn = 0.49, N = 7, U = 4.00, p = 0.18, r = 0.62$) was not statistically significant at the $\alpha=0.05$ level.

Figure 13

Comparison Plot of the Mean of Four Expertise Realms



Working Period

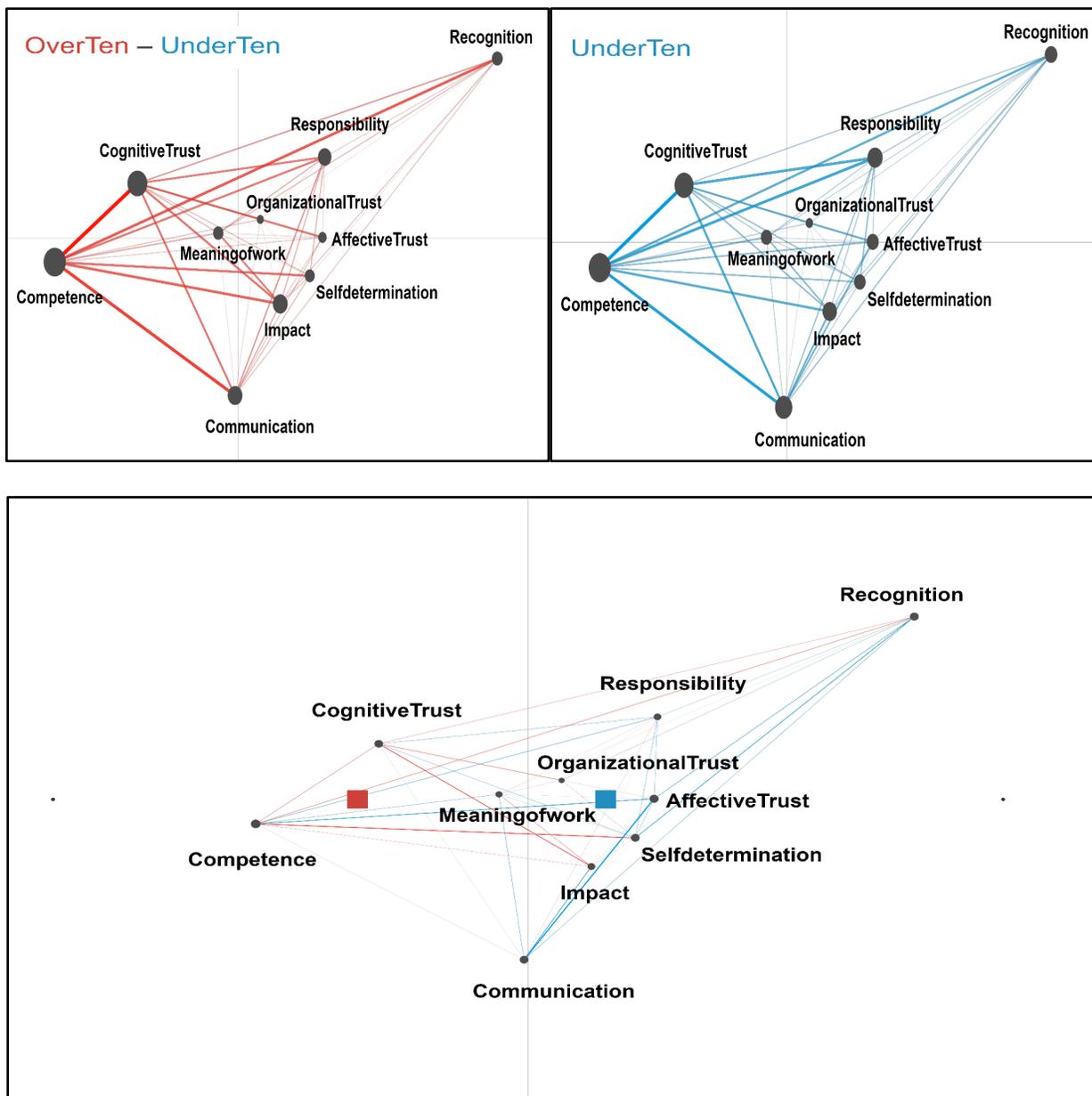
Afterward, the data were divided into groups of more than 10 years and less than 10 years of work experience in the global virtual team. The discourse patterns of these two groups were compared to determine if there was a difference. A Mann-Whitney test along the X axis (MR1) reported that Over 10 ($Mdn = 2.90, N = 5$) was significantly distinct from Under 10 ($Mdn = -1.12, N = 11, U = 3.00, p = 0.00, r = 0.89$) at the $alpha = 0.05$ value. Moreover, in the case of Variance in this model graph (see Figure 14), the $x-axis = 0.10$ and the $y-axis = 0.23$, and in the case of Goodness of fit, the $x-axis = 0.99$ for both Pearson and Spearman, and the $y-axis = 1$ for both Pearson and Spearman.

Figure 14 demonstrates in the group graph that for more than 10 years, the association with Cognitive Trust was the strongest, centered on the primary code Competence, followed by the relationship with Communication. The group with less than 10 years of work experience had

a similar strongest correlation with the primary code, but the correlation between Cognitive Trust and Responsibility was significantly more robust. Moreover, the association between the Communication code and other codes (i.e., Impact and Affective Trust) was substantially more significant. Analyzing the striking disparities between these two groups by combining their graphs revealed that the relationships between Competence and Self-determination and Cognitive Trust and Impact were relatively more substantial in the group for more than 10 years. In contrast, the association between Affective Trust and Communication was the most notable difference in individuals shorter than 10 years.

Figure 14

Network Graph for Statements by Working Period



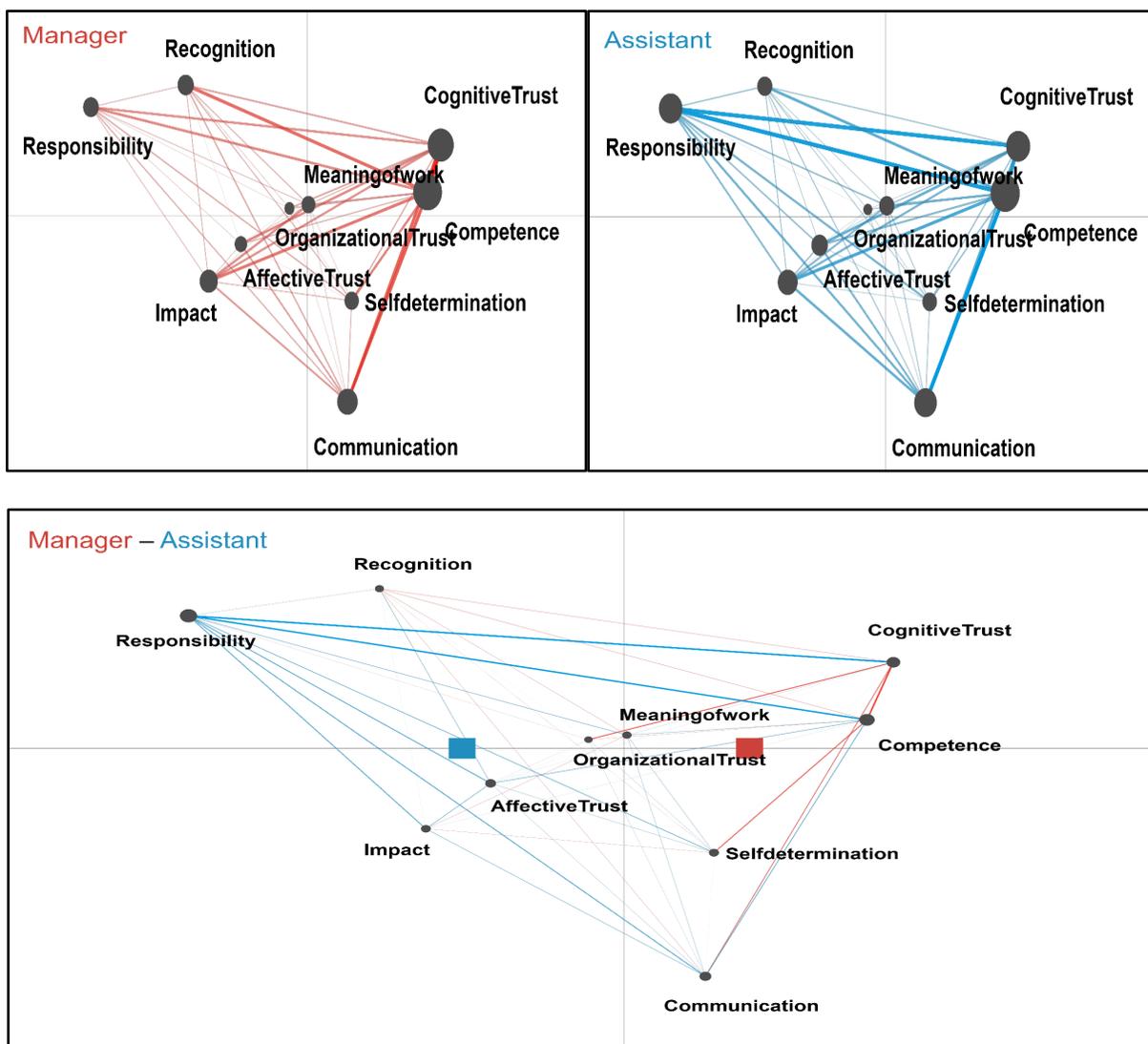
Role

While conducting the interview, the researcher identified differences in conversational patterns based on the participant's role in the team and added a role as another characteristic. The researcher categorized the data as Manager and Assistant, then compared the ENA models for

each category. Manager ($Mdn = -1.30, n = 9$) was statistically significantly different from Assistant ($Mdn = 1.36, n = 7, U = 2.00, p = 0.00, r = 0.94$) at the $\alpha = 0.05$ level, according to a Mann-Whitney test performed along the X axis (MR1). Thus, the Pearson and Spearman goodness-of-fit value is $x = 0.99$, and y has a Pearson and Spearman goodness-of-fit value of 1.

As demonstrated in Figure 15, there was nothing unusual about the triangular relationship between Competence, Cognitive Trust, and Communication in the Manager group's graph. In contrast, the Assistant group's connection between Competence and Recognition was stronger. The Assistant group was comparable to the Manager group in that Competence was the most significant code; however, the association between Competence and Responsibility was the second strongest, and the relationship between Cognitive Trust and Responsibility was also relatively strong.

Comparing the graphs of these two groups, the Manager group indicated Cognitive Trust and Organizational Trust more frequently than the Assistant group. Competence and Self-determination were also commonly mentioned by the Manager group. The Assistant group, on the other hand, was distinguished by the relatively frequent mention of Responsibility, and as a result, it was more commonly mentioned with Cognitive Trust and Competence.

Figure 15*Network Graph for Statements by the Role***Chapter Summary**

This chapter included the analysis result of 16 interviews. The researcher provided the results of binary coding for each sentence and the number of utterances based on descriptive information in a team. In addition, graphs in network models were constructed using ENA, a tool for data analysis. Based on this, each model's core codes and core connections were identified. This chapter extracted and organized the result of the pertinent data information in this manner.

Chapter 5: Discussion

Overview

This study aimed to explore team members' perceptions of the relationship between trust and psychological empowerment components—meaning of work, competence, self-determination, and impact, in global virtual teams as well as to examine the differences in their perceptions based on their attributes—age, gender, nationality, expertise realm, and working period. For this purpose, 16 participants were interviewed using semi-structured questions to capture data, and ENA was used to analyze the data regarding the frame of employees' perceptions. Consequently, the overall model, the model for each topic, and the model for each characteristic-based group were derived, respectively. By interpreting and integrating these models, the most critical findings were summarized. In addition, the researcher connected these findings to the research questions, linked them to theories to validate their academic position, and derived implications for the effective operation of the global virtual team. Finally, the limitations of this study were outlined, and areas, where future research could be expanded were also suggested.

Interpretation of the Results and Key Findings

Epistemic frame theory, the study's analytic framework, explains that people form an organized perceptual frame through personal and social experiences within a specific community or cultural society, which can be discovered by observing how people use language in discourse (Shaffer, 2006). In addition, the structured cognitive frame reacts to the environment and engages in various activities, including working, learning, and problem-solving. Accordingly, the researcher endeavored to comprehend their way of thinking, i.e., their framework of perception, by interpreting and analyzing network models derived from ENA, a data analysis tool based on

this theory, as seen in Chapter 4. In this regard, the researcher organized the critical findings by whole, topic, and group.

Overall Perceptual Frame

The employees of the global virtual team deemed *Competence* to be the essential theme. In interviews, employees primarily discussed their competence, knowledge gained from work experiences, and stories of success in projects or problem-solving experiences based on their or colleagues' competence. In addition, *Cognitive Trust* and *Communication* were identified as the most crucial aspects of competence.

As a logical outcome, the researcher anticipated that the relationship between *Cognitive Trust* and *Competence* would be robust. The literature supported the strong relationship between cognitive trust and competence by distinguishing cognitive trust as trust based on employees' work skills, knowledge, and accomplishment and affective trust as trust based on the emotional closeness between employees (McAllister, 1995). In the actual discourse, however, the relationship between these two codes was expressed through several phrases. Consequently, the meaning could be interpreted in a greater variety of ways during the process of interpretation. Focusing on the relationship between these two codes and *Communication*, it was also essential to comprehend how the relationship was expressed in conversations.

Competence and Cognitive Trust. Listed below are examples of the two cognitive connections. The first case was associated with the belief that the team's performance was excellent due to the members' knowledge and skills. The second instance demonstrated that employees' lack of work experience could impact their confidence in their competence. Thirdly, these two cognitive connections were also found in the content when each team member had their tasks, which were compiled to produce a complete piece. Employees felt trust and

recognized their work abilities through interdependent team dynamics. In summary, the sufficient knowledge, skills, and work experience of employees were the basis of trust between employees, and the form of teams that rely on each other in carrying out projects between team members positively affected building trust between employees.

- Case 1 (Interview 7): “Our technical team members are brilliant, too. They are knowledgeable about smart technologies, and they are the ones who make things happen for us. So we trust them; without their expertise and work, nothing is going to happen.”
- Case 2 (Interview 1): “Sometimes, when their experiences are limited, and when they are kind of relatively junior members, do not have as much of experience with the client and stuff like that I, I cannot fully trust, I have to confirm what they say and things like that.”
- Case 3 (Interview 12): “He would use his expertise to figure out the issues I am pointing out. And then, like, in that way, we collaborated, and we finished that mini project, which it felt nice because that it causes many problems, usually, but I think we handled it pretty smoothly last. I felt the trust definitely.”

Competence and Communication. The relationship between these two codes also manifested itself in the following context. For instance, if an employee were confident in their abilities, they would communicate more actively with coworkers and offer opinions when something went awry. Second, during the meeting, the employees exchanged opinions and conversed with coworkers, and in the steps toward achieving the meeting's objective, they reflected on their work knowledge and self-confidence. Thirdly, if another employee actively sought to discuss their views and experiences, it was also deemed to indicate confidence in his or

her work abilities. To sum up, it means that employees perceive active conversation, exchange of opinions, and discussion for problem-solving among employees are deeply related to confidence in their work skills.

- Case 1 (Interview 2): “So there were some suggestions I made, like, "Can we move this around?" "Can this fit better?" "In this part of the application looks cluttered here" I also provide a lot of my aesthetic kind of suggestions for the application. So I think those are appreciated. I shared it once and email, and then we talked about it during our meeting.”
- Case 2 (Interview 8): “When I have the knowledge, I think that is one piece of it. That is when I have the confidence. So like, for example, during that onboarding call on last Friday, I knew what we were going for, and I knew what the goals for our conversation needed to be. So I knew, like, okay, going into this conversation, I need to make sure she is at this point.”
- Case 3 (Interview 15): “I was asking about your experience and your thoughts at some moment, and you felt a high level of confidence in your work.”

Cognitive Trust and Communication. The global virtual team employees believed that the more they communicated and discussed the matter with their coworkers, the more they trusted their work abilities. This was because employees continued explaining and appealing to other employees regarding their performance or ability, resulting in awareness and belief in their competence. In addition, it was affirmed that language skills, essential for communication among multinational employees, significantly affected the belief in the competence of the other party. Employees understood that it was difficult to develop trust in a coworker with insufficient English proficiency, regardless of how competent and conclusively excellent the other party was.

Employees felt confident in their ability if other coworkers actively heard when they spoke in the meeting. In other words, the employees of the global virtual team could build trust between employees through active communication and engaged listening, and language skills, which are the foundation of conversation, play a crucial role in establishing trust in the other party.

- Case 1 (Interview 16): “And kind of the tension is basically because of who will take things in the end, who will take the credit for the work, and it is all about being visible and pushing forward the project. So it is basically a kind of competition about showing the work. The more you communicate, the more you are visible showing up so that you can have good performance.”
- Case 2 (Interview 14): “A most important factor in trusting my team member is definitely communication ability. And that can be a huge, that can be its part of literal language, so language skills. Frequently part of it, I have colleagues in another country that are extraordinarily competent, and it is hard to figure that out because their English is not as good.”
- Case 3 (Interview 9): “So, if your colleagues like saying, like nodding when you are talking, then that gives you a signal that listened, and then they might tend to agree, and you feel I am respected because they are listening to me.”

Topic-Specific Perceptual Frame

Based on interview questions related to five essential topics—Trust, Meaning of Work, Competence, Self-determination, and Impact—participants in this study shared their experiences, thoughts, and feelings regarding each topic with researchers. Therefore, the researcher determined it necessary to comprehend the cognitive framework of employees for each topic. In the five network models (Figures 4 through Figure 8) derived from ENA, the researcher

attempted to better understand participants' perceptions by connecting them to actual conversations and concentrating on significant relationships and codes.

First, when employees considered trust, they associated it most with Competence. The second trait was Responsibility, the third was Affective Trust, and the fourth was Communication. The first and fourth connections were omitted from this paragraph because they were recognized in the overall perception in the preceding paragraph.

Cognitive Trust and Responsibility. Employees explained a consequence or a cause of trust in their coworkers with experiences that they completed their work on time, responded immediately, and worked diligently with a great deal of time and best effort. In other terms, the researcher discovered that the employees recognized their responsible behavior regarding trust. The following are illustrative instances.

- Case 1 (Interview 4): “I can definitely fully trust them. Like I said, there was never a time when somebody missed a deadline or, like, even when it is not, you know, like, a task that I was involved in, like, everybody really makes sure that things get done on time.”
- Case 2 (Interview 7): “I think it is very, a sign of dedication that they can show us quick responses, nice and quick resolutions, like solving the issue. I was grateful for the quickness of the responses because, without their assistance, it's not going to work.”
- Case 3 (Interview 1): “And in that regard, it worked really well, and they all joined, and they worked hard, very devoted. Sometimes they worked over weekends. And then this outcome came out of the project, and everybody was very happy.”

Cognitive Trust and Affective Trust. Numerous employees believed that these two codes were inextricably intertwined and that they were mutually influential. In other words, it was confirmed that trust in work competency for employees and emotional trust in the employee were interdependent relationships that influence each other. Academically, the character may be distinct, but all participants in the study emphasized that these two concepts were closely related.

- Case 1 (Interview 1): “My response will be, there'll be very difficult to differentiate trust about competence and ability and then emotional trust, as they're human beings. I think these two are very difficult to separate in work settings.”
- Case 2 (Interview 7): “When I have tremendous confidence and trust in someone else's capabilities, like expertise and professional capabilities, I tend to trust them more, not just professionally, but also emotionally, because it is all related to each other. Because when you have strong confidence and trust in someone else's professional capabilities, you are more likely to have emotional trust in them too. It is all related to each other.”

Notably, the researcher discovered that the difficulty of completing a collaborative project with team members significantly impacted the affective trust between employees. For instance, by completing a project as a team, they felt that the team members were emotionally connected and that the team as a whole was unified.

- Case 1 (Interview 3): “It was just this moment of accomplishment, especially being the project manager on it, and everyone gladly worked together to get it done. I think, at the end of it, we were probably like four individuals that were fully dedicated, and I had a little bit more love for each of them because I like somebody who will work

hard and not always, but somebody that can step up to the play, I really have admiration for them.”

- Case 2 (Interview 14): “But like, the people who I always think of is you have formed the strongest emotional bonds of the people you are fighting in the trenches with. So it is the people that you have been able to rely on in order to win.”

The Meaning of Work and Impact. When employees thought about the meaning of work, Impact was the most frequently mentioned aspect. When they believed that what they were doing positively impacted society or the country, and when they believed that they were positively contributing to a team or team member, they frequently considered the value and significance of their work. The following examples are more specific.

- Case 1 (Interview 1): “We want to see things improving together, rather than a zero-sum game, one side, our client winning at the cost of Korea's national or public interest. We want to only engage in a win-win where everybody gains, and that's what we do, and I feel very proud of it. And that is where I get the most meaning and value out of my work.”
- Case 2 (Interview 9): “I think if I do not believe in the importance of the contributions that I am making to the team, I will not be here. It is a foundation.”

Competence and Recognition. Employees expressed confidence in their work abilities or perceived work abilities of other employees, primarily due to compliments and encouragement from coworkers or actual compensation. In other words, employees were likelier to gain confidence in their work skills if other team members or leaders praised or encouraged their work results. In addition, rewards such as incentives, promotions, and intangible

recognition significantly boosted their confidence in their performance. Several examples of this relationship are provided below.

- Case 1 (Interview 5): “When I first started my job, I was not confident and sure that I could do this job, but our senior analysts always reminded me that you are doing great, you are doing more than we expected. So I gradually gain confidence.”
- Case 2 (Interview 10): “Actually, the background of the compensation that the company gives me is the skills and ability that I can do for my company. So, I think I am confident in my skill and ability, and I developed my skills and ability throughout working as a global team.”

Competence and Self-Determination. The global virtual team members ranked Self-determination as the third most robust relationship when considering Competence and Competence as the second most vital relationship when considering Self-determination. Among the relationships between the elements constituting psychological empowerment, the relationship between these two was notably strong. Many participants stated that autonomy plays an essential role in workability, asserting that when they have sufficient autonomy to determine their work style, their workability is enhanced, and they are more effectively motivated. According to the result of network models, researchers discovered that the freedom to determine how to work and control one's behavior helps employees develop their skills and produce better results. The following examples are more specific.

- Interview 10: “Most of the time, I think autonomy can make people work harder. If the team provides enough autonomy, they can work, which is more strength for them. So I think the output can be maximized.”

Competence and Impact. These two factors had a similar relationship comparable to the degree of relationship between Competence and Responsibility. This was because the third most excellent relationship employees of the global virtual team had when considering Competence was Impact with Self-determination; meanwhile, the second most robust relationship when considering Impact was Competence.

Specifically, the employees stated that they believed their high confidence in their work capabilities was due to their positive contribution to the team's overall work performance. They argued that gaining sufficient knowledge and confidence in their work abilities positively affected the growth of team members and teams. In other words, contribution to team performance was valued as a foundation for work confidence; on the contrary, knowledge and work capabilities were valued as a foundation for positively contributing to team members and team growth. In other words, the researcher was able to find out the interdependency between the two factors.

- Case 1 (Interview 10): “So actually, I'm not sure that that was completely well, but the approach that we could start differently was very meaningful. I felt confident about the capability that I have established in this market throughout this global work.”
- Case 2 (Interview 13): “If I did not have any confidence, I would not be able to convince people like you, for example, to work for me. It is not only that I have to convince you that I know what I am doing, but you also must learn from me. If you are not learning from me, then I am not bringing you up.”

Self-Determination and Responsibility. Similar to the preceding paragraph, which described the relationship between self-determination and competence, most participants stated

that if they feel free to decide how they work and control their behavior, they are motivated to work harder or accept responsibility for the outcomes. This can be interpreted as having a solid relationship with increasing employee accountability and dedication to achieving work results.

The following conversations illustrate this point.

- Case 1 (Interview 12): “I honestly was motivated to because he gave me that autonomy or privilege. I felt like I needed to own up to that and like perform even more and better. It was like, I want to do better work.”
- Case 2 (Interview 13): “The important thing is that autonomy comes with responsibility. So whatever decision you have, you have control over everything; you got to accept the responsibility and the consequences of any actions or decisions you take.”

Impact and Communication. It was revealed that employees believed that light daily conversations or jokes could positively affect the atmosphere of the team. It was commonly believed that leaders or team members who participated in meetings with an upbeat attitude could infuse other team members with positive energy. In conclusion, it was believed that light conversation, meetings with a bright attitude, and business communication were all closely related to impact. In other words, the researcher discovered that employees working in a global virtual team consider the positive role of communication between team members when evaluating their impact on a team member or team.

- Case 1 (Interview 2): “So there is a lightheartedness to the team as well because my boss jokes a lot. He likes to joke a lot. It is not serious all the time. I guess we address this difficulty with some humor.”

- Case 2 (Interview 3): “Influence regarding work or just energy in general cross a fine line for me because I feel like personality is contagious. So you can come in and deliver work with a smile on your face and in a good mood, or you can come and deliver at work is demanding. And if you come in being demanding, people are going to get the work done, but it is not going to influence the team to do it happily.”

Group-Specific Perceptual Frame

In Chapter 4, based on the descriptive information of the participants, data were divided into two groups, and the ENA network model was extracted and analyzed for differences. In this paragraph, rather than focusing on the primary characteristics of each group, the researcher interpreted significant parts of the differences between these two groups and linked them to a specific example based on the analysis results.

Over the Age of 40 and Under the Age of 40. The perceptions of participants aged 40 or older and those younger than 40 differed significantly. Groups over 40 perceived conversation, communication, and meetings as relatively significant, whereas groups under 40 referred less to mention formal communication and more to say emotional trust between employees with communication. Groups over 40 perceived the role of conversation as a process of relying on each other to complete their tasks successfully. In contrast, groups under 40 tended to perceive conversation as a role of understanding, empathy, and emotional communication.

For instance, when describing a conversation involving individuals over 40, the function of conversation was linked to the successful completion of work and the willingness to rely on one another and solve problems. On the other hand, those under the age of 40 viewed the function of conversation as empathizing and comprehending each other's situations, such as heavy workloads. As a result, they considered emotional exchange and trust between colleagues.

- Over the Age of 40 [Communication-Cognitive Trust]: “So definitely kind of fully trust their kind of skills, knowledge, and capacity. And also have a strong sense of responsibility and accountability for what they need to deliver. If any risks, you know, arise, I guess, down the road, then that is where we could go collectively and discuss what other support we should give that particular member of a team to achieve goals.”
- Under the Age of 40 [Communication-Affective Trust]: “But I think because my colleagues knew the amount of the work and how much went into the work, we all supported each other because we were doing the work. So we trusted each other as best as we could, and we acted as friends because we knew the workload was so intense. But when leadership got involved, they did not really understand. So I would see, we would see like, a lot less communication when leadership was on a call, and a lot more integration and trust when leadership was off the call.”

Male and Female. The perception of affective trust was where male and female groups diverged the most. In contrast to the male group and similarly to the group under 40 years old, the female group tended to describe more emotional interactions and feelings for the other person, as well as trust in employee's work ability after a comparatively successful performance with the team member. In addition, women described more instances in which negative changes in intimacy and emotional trust between coworkers resulted in conversation breaks than males. In other words, female groups placed a higher value on affective trust between employees than male groups do in terms of trust in work performance and communication. The following examples are more specific.

- Female 1 [Affective Trust-Cognitive Trust]: “I think, at the end of it, we were probably like four individuals that were fully dedicated, and I had a little bit more love for each of them because I like somebody who will work hard and not always, but somebody that can step up to the play, I really have admiration for them. So I think in this sense when it was all said and done, and we went, I had a love for the leader who executed it and also responded, I had a love for the designer that, you know, stayed late to get it done. And the next day, when I saw them on, like, a stand-up, I had a little bit more appreciation for that person.”
- Female 2 [Affective Trust-Communication]: “He just wants to do something that's very visible to external stakeholders or a boss, and then he tries his best to avoid certain work, you know, and that made me feel like I do not want to hang out with him anymore. I thought to myself, I do not want to share my thoughts and my experience with him. It is about trust.”

American and Korean. Americans and Koreans who participated in the study demonstrated the most significant difference compared to other groups, and the results were considerably meaningful. First, in the case of Americans, conversation and communication were more crucial to employee trust, whereas, in the case of Koreans, timely completion of work was more crucial to trust. For instance, Americans may maintain much trust in someone even if they did not complete a task within the agreed-upon time if they explained their reasons and continued to communicate to share the situation. However, Koreans may lose trust in someone when colleagues fail to complete the task on time, even if they communicate. Thus the researcher identified that Koreans considered punctuality and timely work completion to impact trust significantly.

- American 1 [Cognitive Trust-Communication]: “If you are going to have empathy, you also need really clear communication and expectations. And it can be challenging to have to create that path forward, just from, like, unresponsive messages. If I knew you were busy ahead of time, it is fine. But it is all about like having very open communication.”
- Korean 1 [Cognitive Trust-Responsibility]: “I love it when my coworkers get things done on time. If they didn't respond or they did not share anything on time, I do not like that. And then, if that happened, I am less likely to trust them. I think keeping your promise and then getting things done on time are the biggest factors for trust.”

In addition, American groups tended to view their work capabilities as a substantial link to communication. It was frequently used as an example to affirm confidence in one's work ability during employee meetings and discussions. On the other hand, Koreans were relatively more aware of their workability and the recognition, appreciation, and rewards of others, and based on these, they perceived them as significant factors when evaluating their workability or the workability of others.

- American 2 [Competence-Communication]: “High level of confidence that I work has been so having been on client calls where I am onboarding them, and I have made sure that I have prepped, I have asked people on my team, maybe their insight, or how did this work for you. That is when I have the confidence.”
- Korean 2 [Competence-Recognition]: “The director of the other company complimented the Korean team for finding exactly what they wanted. So that was an example of how I gained confidence.”

Third, more Americans than Koreans mentioned interaction between employees and the formation of emotional trust among employees. The researcher found recognition of how important the American group weighed communication.

- American 3 [Communication-Affective Trust]: “When she shared that there is much celebration, I think that we all are, like, putting emojis of a celebration because it was through our like commute internal chat system, we use Slack. And then a few of us asked a couple of questions on top of it like to learn more. So I think our feelings were, like pride, we are proud of our team. When we celebrate each other, I think emotionally, we feel good and feel proud or inspired by each other, that we would bring it up to each other.”

Working Period of Over 10 or Less Than 10 Years. Participants who worked more than 10 years were approximately 40 years of age and males, whereas those who worked less than 10 years were primarily females. People who worked for over 10 years had more confidence in their abilities, greater control over their work, and more freedom to choose their ways. However, these results could have been more noteworthy. Since most of those who have worked for 10 or more years were team leaders, they were likelier to have high confidence in their work abilities as they gained experience and expertise. In addition, there was a greater likelihood of autonomy in the workplace for leaders than for general employees. Therefore, it was anticipated that these two components would be derived relatively by those who had worked for at least 10 years. The following examples are more specific.

- Over 10 years of working period [Competence - Self-determination]: “So I am also not afraid to make tough decisions. So, that goes with confidence. And, you know, I

am able to say that confidently now because the company has been in business for over 23 years.”

Manager and Assistant. Lastly, the researcher compared whether there were differences in perceptions based on roles within the team and discovered that awareness of organizational trust and responsibility could be meaningfully observed. In the case of leaders, they frequently considered both confidence in the organizational system and trust in the team member relative to the team member. For instance, they thought a well-equipped organizational system was essential for the team members' confidence in their work skills.

- **Manager [Cognitive Trust - Organizational Trust]:** “My company sets clear KPIs, receives continuous reports on progress, provides feedback and performance compensation, and makes a team of competent members. I think this part is helpful for continuously successful work. Institutional mechanisms must be well-equipped to overcome the shortcomings of a virtual team. Depending on how well this environment has been created, it seems possible to measure the degree to which team members can continue successfully performing their tasks regarding skills, competence, and responsibility.”

In addition, assistants were more cognizant of their responsibilities than managers, and they approached them with Competence and Cognitive Trust. For instance, it was acknowledged that completing one's work on time was a significant factor in determining one's work competency. In addition, many employees believed that completing their work responsibly and on time was a significant factor in team members' trust, and even in the opposite situation, their responsible conduct was viewed as a reason for the team leader to trust themselves.

- Assistant 1 [Responsibility - Competence]: “I'd say everybody on my team adheres to that status tracker, and they make sure that they finish their work on time and they are meeting the deadlines, which is like an incentive for me also to get my work done. If they have given me a set amount of work and responsibility to do, then they trust me to like complete that work then, so I should respect that and try my best to adhere to those status trackers and finish that up”
- Assistant 2 [Responsibility - Cognitive Trust]: “I think in terms of competence, or responsibility there, I can definitely fully trust them. As I said, there was never a time when somebody missed a deadline. Everybody really makes sure that things get done on time.”
- Assistant 3 [Responsibility - Cognitive Trust]: “He is in the middle of his trip. So he trusts me to be able to do my work on time at my own pace. So I do not have many deadlines, but they trust me to do what is good for them in a timely manner.”

Alignment with Research Questions

The researcher organized the answers by linking the data analysis results and interpretations conducted so far with the research questions. There were two research questions to achieve the purpose of this study:

- RQ1: How do employees perceive the relationship between trust and psychological empowerment components—meaning, competence, self-determination, and impact—in global virtual teams?
- RQ2: How do employees' perceptions differ regarding trust and psychological empowerment based on their characteristics—age, gender, nationality, expertise realm, and working period on the team—within global virtual teams?

Regarding the first research question, the researcher summarized five key conclusions by reflecting on the data analysis results and interpretation.

- Employees working in global virtual teams of consulting companies mainly perceive trust among team members concerning their perception of competence.
- Demonstrating responsible behaviors, including completing a task within the agreed time frame, responding to contacts quickly, and showing dedication to work, is essential to employees' perception of trust.
- Effective inter-employee communication, including honest exchange of opinions, discussions for problem-solving, and light daily conversations, plays a vital role in recognizing trust between employees and employees' perceptions of competence.
- The perception of competence is strongly connected to the level of employees' self-determination and their impact on the team or others, as well as recognition, including a compliment, encouragement, and external compensation.
- When the employees perceive positively contributing to the team's atmosphere or performance, country or society's development, they believe their work is meaningful.

More details of these conclusions are included in the upcoming paragraph. Employees working in global virtual teams viewed competence, one of the components of psychological empowerment, as the factor most closely associated with trust. In addition, they perceived communication as the external factor contributing the most to the perceptions of trust and competence. Moreover, employees' perceptions of trust were heavily influenced by behaviors that demonstrate accountability. They valued the behaviors of completing their work well within the given timeframe, responding promptly, and putting forth their best effort. In other words, employees of the global virtual team considered trust intimately connected to their work skills,

knowledge, experience, and problem-solving abilities or those of their team members. Also, they recognized it cohesively through the exchange of opinions, meetings, casual conversations, and interaction between team members.

Moreover, with competence, employees thought closely related to recognition which means external compliments, encouragement, and rewards. In addition, competence was considered alongside self-determination and impact, which are components of psychological empowerment. For instance, it was acknowledged that confidence in one's work ability influenced the autonomy of work and that autonomy of work promotion influenced the development of employees' workability. In addition, they expressed confidence in their work abilities because they contributed positively to the team and work performance, and vice versa; they tended to focus on enhancing their work abilities to increase their impact on the team, organization, or society.

Furthermore, the most significant relationship between psychological empowerment components was between the meaning of work and impact. The most significant reason members of the global virtual team believed their work was valuable and meaningful was their contribution and influence. If their work positively impacted society or the nation or benefited the team and team members, they viewed their work as valuable, meaningful, and essential to their lives.

Regarding the second research question, it was possible to identify differences in employee perceptions based on four other factors besides expert realism. Additionally, differences in perception based on roles were discovered. An essential aspect of this conclusion is that the researcher should have concentrated on the characteristics of each group but rather on the differences between groups.

Regarding age, the primary distinction between employees over 40 and those under 40 was the importance of communication in building trust. Those over 40 were more likely to recognize communications in the context of effectively completing tasks by relying on one another. In contrast, those under 40 were more likely to recognize communications in the context of understanding, empathy, and emotional interaction among employees.

Regarding gender, the most significant difference between male and female perceptions was the importance of affective trust. Females were more likely than males to consider their close feelings toward an employee with their trust in their work abilities and to consider intimacy or emotional trust in the context of communication or conversation with the employee. Communication can affect emotional trust, and emotional trust can affect communication.

The researcher discovered the most significant perception gap between Americans and Koreans regarding nationality. In terms of trust, Americans prioritized communication, while Koreans prioritized responsibility. Americans, for instance, valued communicative elements such as dialogue, unrestricted exchange of opinions, understanding employees' situations, discussion, and appealing to employees' abilities or performance. In addition, Americans evaluated one's work ability by connecting communication, whereas Koreans evaluated by connecting others' recognition, such as compliments or acknowledgments. In addition, Americans valued emotional trust in employee interactions more than Koreans.

Compared to those who have worked for fewer than 10 years, those who have worked for more than 10 years had greater confidence in their capabilities and autonomy. On the other hand, those with less than 10 years of experience were relatively more aware of the connection between communication between employees and affective trust.

Regarding his or her role within the team, the manager acknowledges trust in the organizational system and the team members' work abilities. On the other hand, assistants were more aware of responsiveness or punctuality than managers and tended to reflect on competence when considering trust.

Table 5

Research Questions and Corresponding Key Findings

Research Questions	Subject	Key Findings	Figure			
RQ1. How do team members perceive the relationship between trust and psychological empowerment components—meaning, competence, self-determination, and impact—in global virtual teams?	Overall	<ul style="list-style-type: none"> •○Cognitive Trust - Competence - Communication •○Trust - Responsibility •○Competence - Recognition •○Competence - Self-determination/Impact •○Meaning of Work - Impact •○Impact - Communication 	Figure 2 Figure 9			
RQ2. How do members' perceptions differ regarding trust and psychological empowerment based on their characteristics—age, gender, nationality, expertise realm, and working period on the team—within global virtual teams?	Age	<ul style="list-style-type: none"> •○Over 40: Communication - Cognitive Trust •○Under 40: Communication - Affective Trust 	Figure 10			
	Gender	<ul style="list-style-type: none"> •○Female: Affective Trust - Cognitive Trust/Communication 	Figure 11			
	Nationality	<table border="1" style="width: 100%; text-align: center;"> <tr> <td data-bbox="797 1587 1053 1654">American</td> <td data-bbox="1053 1587 1289 1654">Korean</td> </tr> <tr> <td data-bbox="797 1654 1053 1797">Cognitive Trust - Communication</td> <td data-bbox="1053 1654 1289 1797">Cognitive Trust - Responsibility</td> </tr> </table>	American	Korean	Cognitive Trust - Communication	Cognitive Trust - Responsibility
American	Korean					
Cognitive Trust - Communication	Cognitive Trust - Responsibility					

Research Questions	Subject	Key Findings		Figure
		Competence - Communication	Competence - Recognition	
		Communication - Affective Trust	None	
	Expertise Realm	None		Figure 13
	Working Period	•○Over 10: Competence - Self-determination		Figure 14
Role	<ul style="list-style-type: none"> •○Manager: Cognitive Trust - Organizational Trust •○Assistant: Responsibility - Cognitive Trust, Responsibility - Competence 		Figure 15	

Alignment with Theory

This study employed the cognitive model of empowerment theory (Thomas & Velthouse, 1990) as a theoretical framework. This theory explains how a person feels empowered and is intrinsically motivated to perform tasks based on this inner strength and vitality by focusing on individuals' subjective perceptions. In this regard, empowerment is essentially a motivation, and more specifically, it refers to an internal motivation that makes the task itself meaningful and dedicated internally rather than externally and instrumentally. In addition, it is a theory that explains the connection and flow between multidimensional variables and other external factors.

Multidimensional variables mean Task Assessment, as interpreted in Spreitzer's (1995) four psychological empowerment components—meaning, competence, self-determination, and impact. In addition to that, the other elements include (a) environmental events indicating

structural, interpersonal, organizational, and personal change, (b) behavior, meaning actual activity and effort in response to change, (c) global assessment, referring to individual values and beliefs based on repeated experiences or socio-cultural norms, (d) interpretive styles representing individual distinguishing trait, and (e) intervention including leadership, training, feedback, and supportive relationship.

The researcher connected this theory's explanation of an individual's cognitive process to the main finding of this study. First, the researcher anticipated that the Global Assessment would include individuals' trust-related beliefs and values. However, the researcher concluded that the intervention factor likely includes *Recognition* and *Cognitive Trust*, indicating a situation where employees rely on one another for work performance. This is because Thomas and Velthouse (1990) argued that as an illustration of Intervention, it included feedback or recognition of employee achievement and a supportive relationship. This study may explicate the relationship between Intervention and Task Assessment in this theory. In theory, however, it was explained as a flow-through Environmental Event in the middle of these two factors. The researcher determined that it could be connected as a criterion for evaluating psychological empowerment through 'personal change of thought' included in Environmental Events.

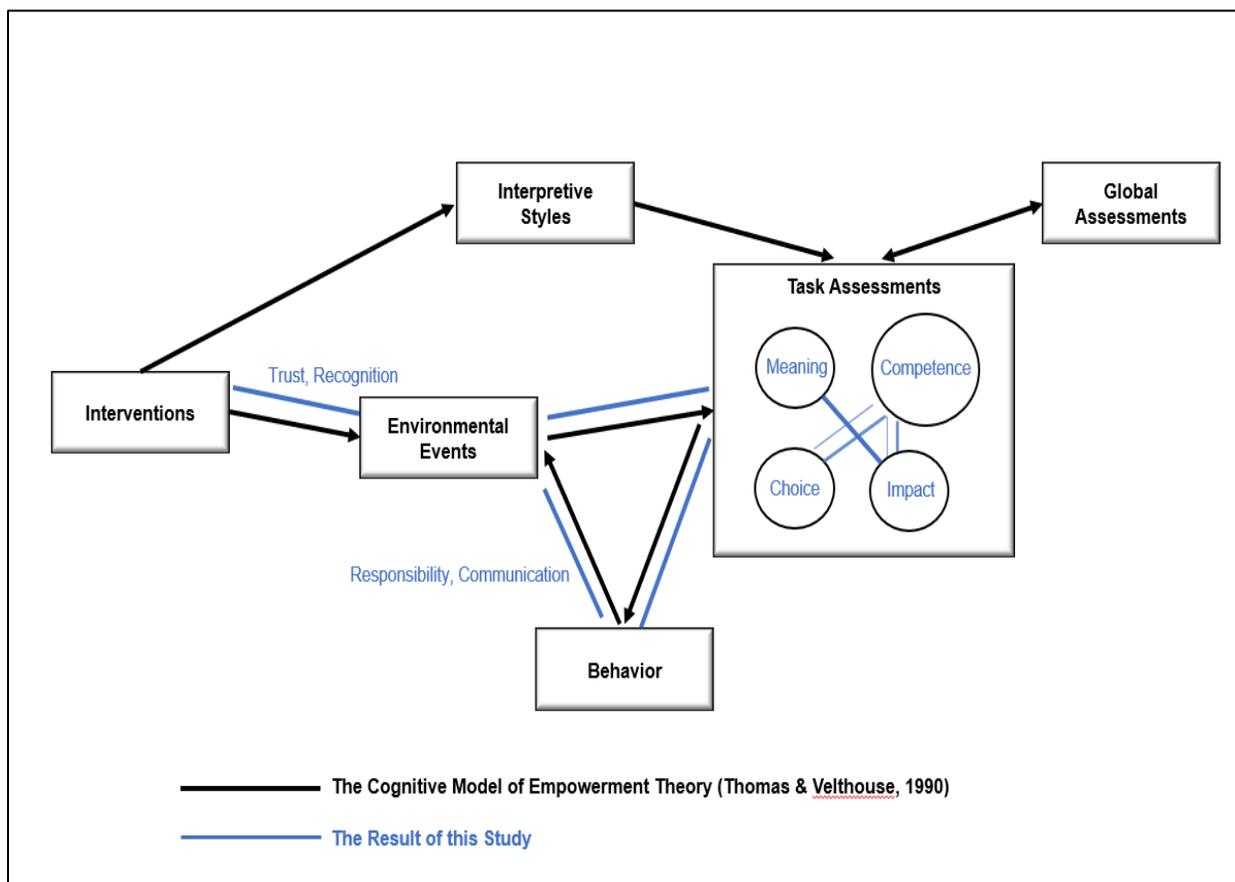
Furthermore, the researcher believed that this study's elements of Responsibility and Communication could belong to Behavior in this theory. Completing tasks on time, reacting quickly, and committing to excellence are intimately related to one's proactive response to change. Second, communication is also the active presentation of sincere opinions, discussion of issues, and interactions. In conclusion, it was believed that the results of this study explained the interactive relationship between Behavior and Task Assessment. Theoretically, this is also linked

to the Task Assessment through the Environmental Events in the middle. As stated previously, it is believed to be linked to the change in individual thoughts described in Environmental Events.

In addition, this study could assist in identifying the relationship between psychological empowerment components by revealing that the relationship between Competence, Self-determination, and Impact is prominent and that the relationship between the Meaning of Work and Impact is strong. In conclusion, this research could contribute to the development of theory by illustrating the relationship between these two lines and the Task Assessment elements in the flowchart between the elements of the cognitive empowerment model (Thomas & Velthouse, 1990). Figure 16 indicates the position of this study in the theoretical framework.

Figure 16

Alignment Between Theory and Key Findings of the Study



Implications for the Global Virtual Teams

The context of this study was the consulting firm's global virtual teams, and this study began with the challenges they faced, which is the lack of interpersonal and emotional trust between employees because of a lack of face-to-face interactions, language barriers, and cultural differences among team members, and their diverse qualities and qualifications. To address these issues and apply the study's findings to the successful operation of the global virtual team, the researcher summarized the study's implications into four categories.

First, to increase the employees' trust in team members, organizations should encourage them to increase their confidence in their work abilities and create a dynamic in which employees rely on one another based on their respective areas of expertise. This is because trust in employees' work capabilities and knowledge and affective trust in employees are strong bonds that influence each other. Therefore, the business should take measures to improve the employees' work abilities and knowledge, and it will be essential to pay close attention to the flow of role assignments and teamwork so that employees' strengths and expertise can be fully demonstrated.

The growth of the global virtual team is expected to be aided by emphasizing the following three aspects of employee work abilities development. The dialogue of praise, encouragement, and recognition should be encouraged as much as feasible among employees. Moreover, through appropriate compensation and incentives, employees should feel a greater sense of recognition. In addition, employees should have as much autonomy as possible to adjust their work schedules and determine how to work. In addition, it should be consistently emphasized that team members' contributions benefit the entire team, the organization, and even the society or country. When employees perceive that they are helpful to others and that their

work contributes to something else, they will appreciate the value and significance of their work, which will motivate them to strive to improve their work skills and devote themselves to their work.

Second, the organization should activate inter-employee communication. The conversation should allow for the interchange of honest opinions, productive problem-solving discussions, sharing complex tasks or concerns by employees, and sharing personal situations or concerns outside their current work. Above all, light daily conversations and humor that create a cheerful environment should be encouraged. Furthermore, language proficiency is unavoidably essential because this is a global team. Employees of numerous global virtual teams emphasized the significance of language proficiency as a means of communication. In addition to organizational support for enhancing language skills, employees who lack language skills and do not participate in discourse should be given more opportunities to discuss their work, progress, and performance.

Third, because the team leader can only go to the company sometimes to check on the progress of its work, employees should do their best to respond immediately to requests and submit their assigned tasks on time. If a situation arises in which a submission cannot be made, it should be shared with the team member through adequate communication for better understanding. In other words, the global virtual team must communicate effectively and deliver timely results.

Fourth, it would be necessary for each employee to comprehend the perceptions of other employees regarding the differences in perception based on the characteristics of the global virtual team members. Based on this information, not only can employee conflicts be minimized, but operational strategies will also vary according to the demographics of each member of the

global virtual team. For instance, it should be acknowledged that the role of conversation, as perceived by individuals under 40, is empathy, comprehension, and emotional exchange. Furthermore, it should be noted that organizations play a more significant role in recognizing intimacy and emotional trust among female employees. Regarding employee trust, Americans value dialogue and communication more, whereas Koreans value responsible behavior in completing tasks on time. Americans tend to place greater emphasis on workability and communication, whereas Koreans tend to place greater emphasis on workability and acknowledgment.

Additionally, it should be noted that Americans tend to positively perceive employee interaction and casual daily conversation more than Koreans at work. It is essential to comprehend that the greater the level of work experience, the greater the value of work autonomy. Leaders tend to trust the organization's system more than other team members.

Conclusions

The findings from the study's focus on the perception of employees working in global virtual teams of consulting firms can be summarized in 10 main points.

1. Employees mainly perceive trust concerning their or the other's workability.
2. Showing responsibility, including completing work within the agreed time frame, responding to contacts quickly, and showing dedication to work, is essential to employees' perception of trust.
3. Inter-employee communication, including honest exchange of opinions between employees, discussions for problem-solving, and regular daily conversations, plays a vital role in recognizing trust between employees and the competencies of themselves or other employees.

4. The competence of the individual or employee is primarily perceived through a compliment, encouragement, and external recognition.
5. The perception of a person's or employee's work ability is strongly connected to the autonomy of work and their impact on the team or society.
6. The employees perceive positively contributing to the team's atmosphere, team performance, or society; they believe their work is meaningful.
7. Employees over the age of 40 value employee communication for its role in efficiently solving problems by relying on each other, whereas employees under the age of 40 relatively value communication for its role in enhancing intimacy and empathy between employees over the age of 40.
8. Female employees pay more attention to emotions they feel for the other employees and their closeness with each other than their male counterparts. They tend to consider the other employee's reliability through their conversations.
9. Americans value communication, while Koreans value responsibility in terms of trust. Americans believe that through connecting via communication, they can judge one's work competence, while Koreans believe in connecting with recognition in the process of judging one's work competence.
10. Employees with more than ten years of experience have greater confidence in their workability and a greater tendency to value autonomy in their work performance than those with less than ten years of experience.
11. Managers or leaders are more likely to connect trust between employees and trust in the organization's system. In contrast, followers or assistants are likelier to consider trust between employees concerning responsible behavior and workability.

Limitations

The first limitation of this research was having a small sample size. This study recruited 16 participants as the sample population. Inadequate sample sizes may have limitations in generalizing research results because the likelihood that the results represent the population decreases. The smaller the sample size, the more challenging it may be to determine if the sample is representative of the population (Creswell & Creswell, 2017). In addition, this study included a comparison between groups, but the number of samples needed to be increased to represent the group accurately. Specifically, in the case of Expertise Realm, the categories of specialized areas needed to be more diverse (e.g., management, IT, public policy, and finance). Three samples were included in one group, which was not likely representative of this collection.

Another area for improvement was the gap between the meaning of trust in the literature and the meaning of trust perceived by individuals. In the literature, the distinction between types of trust was evident. However, the researcher discovered that trust being recognized by people was difficult to distinguish and recognized by various individuals in different ways. The researcher intended to collect data through interview inquiries by identifying organizational, cognitive, and affective trust. However, during the interview, the researcher realized that it took work for the participants to distinguish between the varied types of trust accurately. Also, the participants recognized the meaning of trust in their way. Thus, it took work to precisely distinguish the participants' perceptions of trust based on academic terms.

Lastly, in ENA, the frequency with which core constructs co-occur within a specific time frame of a defined stanza window is a crucial aspect of data analysis. It influences the interpretation of discourse meaning and the modeling of the relationship between the constructs (Zörge et al., 2021). In other words, the magnitude of the stanza window used for data analysis

in ENA significantly impacts the results. However, this study did not provide statistical evidence demonstrating that selecting Stanza Window Five was the most effective method for analyzing the meaning of discourse. This study's semi-structured interview transcripts differed from typical conversations because they might involve many themes in an individual's response and could connect to various subtopics. Thus, as opposed to the participants' discontinuous accounts, continuous narratives had no apparent breaks; as such, it was challenging to segment continuous narratives.

Future Research

One of the potential future areas of research is refining the types of global virtual teams and examining the differences in employees' perceptions of trust or psychological empowerment based on their subtypes. Although the categories of global virtual teams were not subdivided in this study, future research studies could derive relevant, situation-appropriate results by subdividing them by type. For instance, there are different types of global virtual teams, such as a global team belonging to a traditionally large organization, which is a form of collaboration with other large corporations in various countries, a global virtual team comprised of freelancers who are not full-time employees of the headquarters organization, and a global virtual team consisting of headquarters and local employees in a global company that operates overseas branches. Comparing employee perceptions by focusing on the differences between these multiple types of teams is also deemed significant.

Second, this study only compared Americans and Koreans due to a lack of diversity and samples in the number of participants; however, in the future, more in-depth research on employees' perceptions in the global virtual team will assist in comprehending cultural differences among employees. In this study, numerous employees discussed the challenges of

cultural differences between coworkers. Thus, research that enhances understanding cultural differences between employees could be crucial for developing global virtual teams.

Furthermore, another recommendation for future research should examine how different leadership styles influence global virtual teams, given that leading a virtual team differs from managing a traditional team. Future research might investigate how different leadership styles affect team dynamics in global virtual teams and discover the best techniques for managing virtual teams effectively. To summarize, further research on the many types, cultural contexts, and leadership styles of global virtual teams could provide vital insights into how they can be more productive, thereby supporting companies in better utilizing virtual teams globally.

Chapter Summary

This study examined the perceptions of employees working in global virtual teams of various consulting firms regarding the relationship between trust and psychological empowerment and distinctions in perceptions according to employee characteristics. Consequently, trust between employees was most profoundly recognized about the perceived work ability of themselves and other employees, responsible behavior, and communication among employees. In addition, competence was acknowledged regarding inter-employee communication, compliments and recognition between employees, work autonomy, and impact on the team or society. In addition, there was a strong tendency to recognize the significance and value of one's work about the team's or society's positive impact. Furthermore, the study found the differences in employees' perceptions according to characteristics—age, gender, nationality, working period, and role—excluding the expertise realm. The findings could contribute to the development of academic fields related to psychological empowerment and be of practical assistance in establishing strategies for organizations that operate, or intend to, in global virtual

teams. A shortage of samples, such as differences between academic and real-world perceptions of trust and a lack of connection between interview data and the analysis tool limited this study. The successful operation of global virtual teams also necessitates additional in-depth research on segmented global virtual team formations, greater cultural diversity between employees, and global virtual team leadership.

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APPENDIX A

Interview Guide

You are invited to participate in a research study by Yujung Seol, Doctoral Student, and Dr. Kent Rhodes at Pepperdine University. Your participation is voluntary. Before deciding whether to participate, you should read the information below and ask questions about anything you need help understanding. You may also choose to discuss participation with your family or friends.

PURPOSE OF THE STUDY

Global virtual teams are becoming more commonplace because of their many benefits. They are also challenged by a need for more interpersonal and emotional trust between team members, whose relationships are due to the relatively short-term relationship and lack of in-person interactions. This study explores how psychological empowerment could significantly influence trust development in global virtual teams. Psychological empowerment refers to employees' recognition that they have meaning, competence, self-determination, and impact on their work regardless of whether the members gain external authority officially (Spreitzer, 1995). In this regard, this research is designed to (a) explore the employees' perception of the connection between trust and psychological empowerment in global virtual teams and (b) to examine their perception of trust and psychological empowerment differ based on their attributes—age, gender, nationality, expertise realm, and working period on the team—within global virtual teams.

INCLUSION AND EXCLUSION CRITERIA

1. Subjects will be included in the study if they currently work within a global virtual team of geographically separated individuals conducting a specific project via technology-based communication at consulting companies.
2. Subjects will be included in the study if they have worked within the team for more than six months during the interview.
3. Subjects will be included in the study if they are over 18 and under 90.
4. Subjects will be excluded from the study if they do not have specific responsibilities and roles in that team. (i.e., People who have never attended a team meeting or have never sent a work-related email to their team members.)

STUDY PROCEDURES

If you volunteer to participate in this study, you will be asked to:

1. Answer 17 pre-determined questions and additional open-ended questions.
2. Participate in the interview, which take 60 to 90 minutes.
3. Permit to record the interview video/audio/transcripts through Zoom
4. Confirm the content of interview transcripts to increase the accuracy of the transcripts.

KEY CONSTRUCTS' DEFINITIONS

- *Organizational trust* is members' unilateral confidence and faith that the organization supports, believes, and helps its members in many ways (Gilbert & Tang, 1998; Robinson, 1996).
- *Cognitive trust* is related to one's perceptions and knowledge of the other person's competence, sincerity, and accomplishment (McAllister, 1995).
- *The meaning of work* includes reflection on the value or purpose of the task by connecting it to personal value, beliefs, and attitudes within the organization (Spreitzer, 1995).
- *Competence* is the belief and confidence in one's skillful and knowledgeable performance of a task in the workplace (Spreitzer, 1995). Competence is derived from subfactors of self-efficacy: Self-confidence in certain situations, Task difficulty preferences, and Self-regulatory efficacy (Bandura, 1989).
- *Self-determination* refers to autonomy and independence that can voluntarily determine work behavior and work methods—work style, speed, and level of effort (Spreitzer, 1995). In addition, the basic psychological requirements constituting self-determination are competence, autonomy, and relatedness (Ryan & Deci, 2002).
- *Impact* refers to the individual's perceptions of their ability to affect their work's strategic, managerial, and practical processes and results (Spreitzer, 1995).

PARTICIPATION AND WITHDRAWAL

Your refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may withdraw your consent at any time and discontinue participation without liability. You are not waiving any legal claims, rights, or remedies because you participate in this research study.

CONFIDENTIALITY

Reasonable steps will be taken to protect your privacy and the confidentiality of your study data.

- **Measure of Ensuring Anonymity:** Interview participants' anonymity will be maintained throughout all research processes, including data collection, analysis, and research results. Sensitive information indicating personal identification, such as names and addresses, will not be collected. Interview manuscripts will be handled numerically, like interviews 1 or 2.
- **The Measure of Ensuring Confidentiality of Data:** All collected electronic data will be stored on the researcher's portable device, such as a laptop, password protected (Sufficiently long and complex passphrase). The research will use BitLocker software, which performs 'on-the-fly' encryption to make encryption transparent to the user by automatically encrypting items saved to an encrypted drive. Among the automatically saved files after ending the interview via Zoom, the researcher will immediately delete non-necessary data except for the essential Transcripts and audio recording files. To protect against loss of the data, the researcher will back up the data in Google Drive tied to personal accounts. Additionally, the laptop will be completely turned off before being transported or left unattended, rather than using power-saving modes. When reading the data, the researcher will check it in private rather than public. The data will be stored for

three years after the interview has been completed and then destroyed to ensure confidentiality.

- Measure of Ensuring Confidentiality Data Associated with Another Coding Assistant: A coding assistant will be included in this study to ensure the inter-rater reliability of data analysis. The only data to be exchanged will be transcripts, which will be stored using the confidentiality mentioned above approach. Most file sharing will occur via Google Drive, and agreement will be obtained via e-mail by stating the restriction of sharing Google account passwords, setting laptop passwords, powering off when moving, inspecting contents in personal space, and prohibiting downloads. Immediately after finishing the discussion on the data coding results (at most two months following data collection), the primary researcher will suspend access to the data in google drive and instruct her/him to delete the data if it is saved on a personal laptop.

INVESTIGATOR'S CONTACT INFORMATION

You understand that the investigator is willing to answer any inquiries you may have concerning the research herein described. You may contact Yujung Seol with any other questions or concerns about this research.

RIGHTS OF RESEARCH PARTICIPANT – IRB CONTACT INFORMATION

If you have questions, concerns, or complaints about your rights as a research participant or research in general, please get in touch the Institutional Review Board (IRB): Phone (310-568-2305) and Email (gpsirb@pepperdine.edu).

INTERVIEW PROTOCOL

It will be attached as an additional file. You can have enough time to practice and familiarize yourself with the questions.

APPENDIX B

Informed Consent

IRB #: 23-01-2063

Participant Study Title: Trust and Psychological Empowerment in Global Virtual Teams: Quantitative Ethnography Research

Formal Study Title: Trust and Psychological Empowerment in Global Virtual Teams: Quantitative Ethnography Research

Authorized Study Personnel: Yujung Seol, MA

Key Information: This critical information is only required to be included for non-exempt research (i.e., Expedited or Full Board review).

Invitation

You are invited to take part in this research study. The information in this form is meant to help you decide whether or not to participate. If you have any questions, please ask.

Why are you being asked to be in this research study?

You are being asked to be in this study because you work in a consulting firm's global virtual team. The global virtual team refers to individuals with diverse qualities collaborating to achieve common goals using communication technologies across regional and organizational boundaries. You must be 19 years of age or older and under 80 years old to participate. You also must have worked within the team for more than six months at the time of the interview. When you indicate your interest in participating, the interview schedule will be set up within about three weeks.

What is the reason for doing this research study?

Global virtual teams are becoming more commonplace because of their many benefits. They are also challenged by a need for more interpersonal and emotional trust between team members, whose relationships are due to the relatively short-term relationship and lack of in-person interactions. This study explores the possibility that psychological empowerment could significantly influence trust development in global virtual teams. Psychological empowerment refers to employees' recognition that they have meaning, competence, self-determination, and impact on their work regardless of whether the members gain external authority officially (Spreitzer, 1995). In this regard, this research is designed to (a) explore the employees' perception of the connection between trust and psychological empowerment in global virtual teams and (b) to examine their perception of trust and psychological empowerment differ based on their attributes—age, gender, nationality, expertise realm, and working period on the team—within global virtual teams.

What will be done during this research study?

If you agree to participate in this study voluntarily, you will be asked to answer 17 interview questions via Zoom. Each interview will take approximately 60 to 90 minutes. After the interview, you will be asked to confirm the content of interview transcripts to increase the transcripts' accuracy.

How will my data be used?

Your data will be gathered and coded to achieve this research purpose. Your data will be sent to a coding assistant who is a Pepperdine University doctoral student to ensure the data analysis's inter-rater reliability. Any personal information that could identify you will be removed before the data are shared.

What are the possible risks of being in this research study?

The potential and foreseeable risks associated with participation in this study include no more than minimal risks. Minimal Risk to subjects means that the probability and magnitude of harm or discomfort anticipated in the research are not greater than those ordinarily encountered in daily life or during routine physical and psychological examinations or tests and that confidentiality is adequately protected. Possible risks applicable to the subjects in the study include potential breach of confidentiality, and emotional or psychological distress because the interview involves some questions about your work habits, experiences, and the feelings.

What are the possible benefits to you?

You are not expected to get any benefit from being in this study.

What are the possible benefits to other people?

The benefits to society/academy include better understanding the relationship between trust and psychological empowerment within global virtual teams.

What are the alternatives to being in this research study?

Participation is entirely voluntary. Thus, the alternative is nonparticipation. You are free to cancel your consent and stop participation at any time without penalty. You can choose which questions to answer based on what you feel comfortable with. The alternative is nonparticipation.

What will being in this research study cost you?

There is no cost to you to be in this research study.

Will you be compensated for being in this research study?

There will be no compensation for participating in this study.

What should you do if you have a problem during this research study?

Your welfare is the major concern of every member of the research team. If you have a problem as a direct result of being in this study, you should immediately contact one of the people listed at the beginning of this consent form. If you have faced health difficulties caused by participating in this study, you can get to the Pepperdine University Student Health Center (24255 E Pacific Coast Hwy, Malibu, CA 90263, 310.506.4316).

How will information about you be protected?

Reasonable steps will be taken to protect your privacy and the confidentiality of your study data. First, interview participants' anonymity will be maintained throughout all research processes. Sensitive information indicating personal identification, such as names and addresses, will not be collected. Thus interview manuscripts will be handled numerically, like interviews 1 or 2. Second, the data will be stored electronically through a secure server and will only be seen by the research team during and for three years after the study is complete. To protect against data loss and share it to another coding assistant, the researcher will back up the data in Google drive tied to personal accounts. Immediately after finishing the discussion on the data coding results with another coding assistant, the primary researcher will suspend access to the data in google drive and instruct them to delete the data if it is saved on a personal laptop. Additionally, the computer will be completely turned off before being transported or left unattended, rather than using power-saving modes. When reading the data, the researcher will check it in private rather than public.

Lastly, the only person who will have access to your research records are the study personnel, the Institutional Review Board (IRB) of Pepperdine, and any other person, agency, or sponsor as required by law. The information from this study may be published in scientific journals or presented at scientific meetings. Still, the data will be reported as group or summarized data and your identity will be kept strictly confidential.

What are your rights as a research subject?

You may ask any questions concerning this research and have those questions answered before agreeing to participate in or during the study. For study-related questions, please get in touch with the investigator listed at the beginning of this form. For questions concerning your rights or complaints about the research contact the Institutional Review Board (IRB): Phone (310)568-2305), Email (gpsirb@pepperdine.edu).

What will happen if you decide not to be in this research study or choose to stop participating once you start?

You can decide not to be in this research study, or you can stop being in this research study (“withdraw”) at any time before, during, or after the research begins for any reason. Deciding not to be in this research study or deciding to withdraw will not affect your relationship with the investigator or with Pepperdine University (list others as applicable). You will not lose any benefits to which you are entitled.

Documentation of informed consent

You are voluntarily deciding whether or not to be in this research study. Signing this form means that (a) you have read and understood this consent form, (b) you have had the consent form explained to you, (c) you have had your questions answered and (d) you have decided to be in the research study. You will be given a copy of this consent form to keep.

Participant Name: _____
(First, Last: Please Print)

Participant Signature: _____
Signature of Research Participant Date

APPENDIX C

Recruitment Script Email

Dear Prospective Participant,

My name is Yujung Seol and I am a doctoral student at the Graduate School of Education and Psychology at Pepperdine University. I am conducting research exploring the relationship between the trust and psychological empowerment components in global virtual teams and examining how the team members' perception toward trust and psychological empowerment differ based on their attributes.

You are invited to a 60–90-minute interview, which will be conducted and recorded via a computer video program (Zoom). Participation is entirely optional. There are no known risks linked with this research. Your answers will be collected, coded, and identifiable to you, but kept confidential and anonymized. Attached is the detailed interview guidance and protocol.

If you are willing to participate in this study, please send me a confirmation email back to this address yujung.seol@pepperdine.edu, and I will send you immediately with a consent form, a copy of the interview questions, and arrange a time for the interview. Please note that you can withdraw your participation in the study at any time.

Thank you very much for your consideration, and I hope you will contribute to assist improve the field of trust and psychological empowerment studies. Please do not hesitate to contact me if you have any questions.

Best regards,
Yujung Seol
Pepperdine University
Graduate School of Education and Psychology
Status: Doctoral Student

APPENDIX D

Interview Protocol

Part 1 - Introduction

- Welcome participants, thank them for their time, and introduce the researcher.
- Explain the purpose and process of the interview.
- Outline general interview guidelines such as interrupting to assure the staying within the allotted time frame to cover all the questions and allowing the participants to directly ask the questions if the participants don't understand the interview questions.
- Inform the start of the recording video and the possibility that the interviewee may take handwritten notes using the pen during the interview.

Part 2 - Background Questions

1. (Age) What is your age?
2. (Gender) Which of the following best describes you? Male, Female, and Genderqueer/non-binary.
3. (Nationality) What is your nationality?
4. (Expertise Realm) What is your expertise realm?
5. (Working Period on the Team) How long have you been engaged in the current global virtual team?

Part 3 - Questions on Core Constructs

1. To what extent do you feel supported and trusted in your global virtual team?
2. How dedicated does the team seem overall? How does that show up in the team?
3. To what extent do you trust the team members to consistently accomplish tasks successfully in terms of skills, competence, and responsibility?
4. Think of a time when the team has successfully accomplished a task or project. How would you describe the thoughts/feelings generated by that success?
5. How important do you believe your work is in the team?
6. To what extent, if any, is your work with the team personally meaningful to you?
7. To what extent do you have confidence in your skill and ability to execute your job?
8. Tell me about your experience with difficulties you have faced. How would you describe the thoughts/feelings generated by that experience?
9. To what extent do you feel you have the autonomy to determine your own work style, speed, and level of effort in the team?
10. Think of a time when you worked independently and were acknowledged by your team members in the end. How would you describe the thoughts/feelings generated by that experience?
11. Tell me about a time when you influenced the team. How would you describe the thoughts/feelings generated by that experience?
12. Think of a time when your team members positively respond to your opinions and suggestions. How would you describe the thoughts/feelings generated by that experience?

Part 4 - Conclusion

- Inform participants the researcher will email to confirm interview transcriptions in approximately two weeks after the interview.
- Thank the participant for their engagement and closing the interview.

APPENDIX E

Thank You Email

Dear [name],

Please accept my gratitude for speaking with me on [insert date]. Your thoughts on trust and psychological empowerment were quite insightful, and your contribution to my research will be of great value.

In [insert timeframe], I will send you a transcript of our conversation. The objective is for you to correct anything I may have misunderstood or misconstrued and make any necessary adjustments.

Again, I appreciate your generosity with your time and your participation in this study.

Best regards,
Yujung Seol
Doctoral Student
Pepperdine University
Graduate School of Education & Psychology

APPENDIX F

Panel of Experts Recruitment Email

Dear [name],

Hi. I hope this email finds you well. My name is Yujung Seol, and I am a doctoral student at Pepperdine University, Graduate School of Education and Psychology conducting research for my dissertation entitled “Trust and Psychological Empowerment in Global Virtual Teams: Quantitative Ethnography.”

I am writing to invite you to voluntarily participate in the panel of experts to check the interview questions of the study. I would greatly appreciate you reviewing 17 interview questions in terms of appropriateness, clarity, and understandability to measure constructs.

This research aims to explore the employees’ perception of the relationship between the trust and psychological empowerment components in global virtual teams and examine how the employees’ perceptions of trust and psychological empowerment differ based on their attributes.

Attached are interview questions and definitions of core constructs in this study. If you are willing to review the interview questions in this study, please send me a confirmation email. Thank you very much for your generosity with your time. Please do not hesitate to contact me if you have any questions.

Best regards,
Yujung Seol
Pepperdine University
Graduate School of Education and Psychology
Status: Doctoral Student