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Elevating Followers: Confirmatory Factor Analysis on the Revised Kelley Followership Questionnaire

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Abstract

Every person is a follower, and followers and leaders are both equally important to the leadership process, yet followership literature pales in comparison to leadership literature. One problem was that followership did not have a valid and reliable self-assessment. The purpose of this study was to advance the theory of followership by conducting confirmatory factor analysis on the revised Kelley Followership Questionnaire (KFQ-R; Ligon, 2016) with data collected from employees at St. Jude Children's Research Hospital. The KFQ-R and three additional instruments to assess convergent validity were administered in December 2022. Data analysis included seven iterations of factor analysis conducted using jamovi statistical software. The results showed that the KFQ-R is a 16-item assessment that measures two previously identified followership dimensions (critical thinking disposition and work engagement) and two new followership dimensions (co-productive orientation and experienced meaningfulness). This updated version of Ligon's KFQ-R should be named the KFQ-RV2, with the letter V indicating "version." This study expands and enriches the understanding of measurable followership dimensions that cultivate a positive organizational culture. Among the nine suggestions for future research are to reword two items, use the updated scale, and administer the KFQ-RV2 in flat organizations.

Keywords: followers, followership, KFQ, KFQ-R, KFQ-RV2, confirmatory factor analysis

Dedication

This dissertation is dedicated to my dear friend June Barbas. I would have never enrolled in a doctoral program without her suggestion and encouragement years ago. The first few times that June suggested I pursue a Ph.D., I completely and laughingly dismissed her idea. After thinking and praying about it, and researching programs, I realized that it was a goal worth pursuing. I am amazed and captivated by the interesting knowledge I have gained in doctoral school. One of the main reasons I now have a Ph.D. is June. I am eternally grateful for her friendship, inspiration, support, and encouragement.

This dissertation is also dedicated to my parents, Robert E. "Bobby" and Jeanne Lynn. I would not be who I am today without their love, support, and guidance. I am incredibly fortunate and blessed to be their daughter. My mother, who went to heaven in 2011, far too soon, would be so proud of this accomplishment. My father has been a continual source of encouragement throughout my doctoral journey. I appreciate and love them both more than I can express.

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I am so fortunate to work at St. Jude Children's Research Hospital, where I am surrounded by people who have also earned doctorate degrees. My St. Jude friends have supported and encouraged me in ways too numerous to count; thank you from the bottom of my heart. Thank you to Scott Long, Ph.D., who first suggested I survey all St. Jude employees for my study. Thank you to Virgil Holder for help in figuring out my study and reviewing my chapters. Thank you to Valerie Crabtree, Ph.D., for serving as my faculty sponsor. Thank you to the St. Jude employees who completed my study survey, to whom I am forever grateful.

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Chapter 1 – Introduction

Employees at every level are followers to someone else: individual contributors are followers to managers, senior leaders are followers to the CEO, and the CEO is a follower to the board of directors. Organizations employ more followers than leaders, yet followership empirical literature is sparse compared to leadership empirical literature (Dean & Huizinga, 2022; Ligon, 2016; Malakyan, 2014). Organizations are fixated on leadership to the detriment of followership (Riggio, 2014). The preoccupation with leadership drastically reduces the attention to followership, a critical component of the organizational relational process (Heilman, 2020). The leadership industry has been criticized for ignoring followers, an essential and equal component of the leadership system (Kellerman, 2016). Leaders and followers are co-producers of leadership united by a common goal (Hurwitz & Hurwitz, 2020; Kellerman, 2016).

Researchers have advocated for followers to be elevated and appreciated in the academic and professional leadership industry (Chaleff, 2009; Gobble, 2017; Kelley, 2008; Riggio, 2014). Researchers and practitioners have agreed that followers are equally as important to the organization as leaders (Bardwick, 2010; Bass & Bass, 2008; Dyer et al., 2013; Gentry et al., 2014; Hamlin, 2016; Scott, 2017). Followership connotes a voluntary commitment to a purpose and a consent to be influenced (Bastardoz & Van Vugt, 2019). Exemplary followers are the most desirable in an organization; they increase their knowledge, give discretionary effort, work to the highest degree, add value, and are committed to the organization (Kelley, 1988; Ligon, 2016). Followers agree to be influenced and willingly support a purpose (Bastardoz & Van Vugt, 2019; Chaleff, 2009); pursuing a common purpose unites followers and leaders (Yücel, 2021).

Measuring followership behaviors using the Kelley Followership Questionnaire (KFQ; Kelley, 1988, 1992) has been uncertain because the KFQ lacks empirical validity (Ligon, 2016). Favara (2009) explained that the KFQ is the main instrument for follower self-assessment; Kelley (1992) created the KFQ methodically via qualitative interviews with 700 people in 20 industries. Blanchard et al. (2009) conducted the first exploratory factor analysis of the KFQ and reported

discrepancies; for example, they posited that the KFQ had three factors, not two as Kelley defined; they also stated that two of the 20 items were removed because of poor factor loading. Favara reported that the KFQ contained two factors, yet found that the items did not load to the same factors as Kelley asserted. Gatti et al. (2014) created an Italian version of the KFQ and subsequently performed exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). In the EFA stage, Gatti et al. (2014) found that only 14 of the 20 KFQ items loaded satisfactorily in Kelley's (1988) original two factors of independent critical thinking and active engagement. Further, Gatti et al. (2014) stated that the Italian version of the KFQ was not completely satisfactory and needed further examination.

To help establish validity and reliability, Ligon et al. (2019) followed the recommendations of the question and survey design literature. These authors reviewed and modified the KFQ 20 questions to become 25 items before performing exploratory factor analysis on the revised KFQ. Their analysis revealed four important findings: (a) the 25-item instrument can be reduced to a 17-item instrument; (b) the instrument consists of three dimensions, not two dimensions as Kelley (1988) originally formulated; (c) the independent critical thinking dimension measured critical thinking disposition; and (d) the active engagement dimension measured work engagement. The KFQ does not measure critical thinking skills, but rather the affective motivation to apply critical thinking skills (Ligon, 2016). During EFA, Ligon followed Blanchard et al.'s (2009) recommendation and evaluated social desirability bias of the KFQ and found none; therefore, this study did not assess social desirability bias. Ligon used two validated instruments to measure convergent validity on Kelley's (1992) two domains of independent critical thinking and active engagement. This study followed Ligon's methodology to validate, further develop, and refine the KFQ. Therefore, the purpose of this study was to advance the theory of followership by examining the validity of the three-dimension structure of the 25-item revised KFQ (KFQ-R; Ligon, 2016) by conducting confirmatory factor analysis with data from employees at St. Jude Children's Research Hospital.

Statement of the Problem

Knowing the followership style of a person can lead to helpful insights about their motivations, values, culture, reactions, and assumptions (Kelley, 2008). Studying followership is paramount to understanding the interdependent nature of followers and leaders (Laszlo, 2017; Palmer, 2015; Riggio, 2014). The KFQ has been tested for EFA with U.S. university research faculty (Blanchard et al., 2009) and U.S. Air Force airmen (Colangelo, 2000). Blanchard et al. (2009) explained that the results from research faculty, some of whom were tenured, most likely do not represent employees in traditional businesses; therefore, there was a need to assess the KFQ in other organizational contexts. Colangelo's sample was American military service members slated for promotions in a leadership program on three U.S. Air Force bases in Europe; he advised that the results most likely do not represent other organizations. Therefore, there is a further need to assess the KFQ in nonmilitary contexts. Adjusted versions (i.e., fewer items or questions and different dimensions) of the KFQ have been examined for EFA and CFA in various U.S. organizational settings, including healthcare and banking (Gatti et al., 2014) and with nurses in Italy (Ghislieri et al., 2015). One of Ligon's (2016) recommendations was to conduct CFA on the KFQ-R at an organization with traditional hierarchy.

Ligon (2016) revised the KFQ and found that the 25-statement KFQ-R had three dimensions (i.e., critical thinking disposition, work engagement, and an additional dimension), not two dimensions (i.e., independent critical thinking and active engagement) as originally formulated by Kelley (1988). Blanchard et al. (2009) also revealed a third dimension that they classified as *attitude and affect*; they eliminated the new dimension from their study because it did not fit Kelley's model. Ligon recommended eliminating the eight statements that had low correlations or correlated with two or three dimensions. Thus, the KFQ-R could be a 17-item three-dimension instrument that measures critical thinking disposition, work engagement, and an unnamed dimension (Ligon, 2016). Ligon outlined six deficiencies with the KFQ: (a) it may elicit response bias considering social desirability, (b) it contains questions that do not represent the identified

dimensions, (c) it appears to measure an additional dimension, (d) it is not empirically supported, (e) it contains cumbersome and double-barreled language, and (f) it uses outdated and confusing language. Therefore, the problem is that the 25-item KFQ-R has not been examined for replicability using CFA to accurately measure followership factors, dimensions, and behaviors in various organizational contexts, as Blanchard et al. (2009), Colangelo (2000), and Ligon (2016) suggested.

Purpose of the Research

As established, up to this point, the followership field had no consensus on the dimensions the KFQ measured. Additionally, the 25-item revised KFQ had not been examined for validity through CFA to accurately measure followership dimensions and behaviors. Three additional instruments, explained later in this chapter, were included in this study to examine convergent validity. Therefore, the purpose of this study was to advance the theory of followership by examining the validity of the three-dimension structure of the 25-item KFQ-R by conducting CFA with data from employees at St. Jude Children's Research Hospital.

Research Question and Hypotheses

To examine the validity of the KFQ-R, I answered the following research questions:

> RQ_1: Does the structure of the 25-item KFQ-R support the hypothesized dimensions of critical thinking disposition, work engagement, and an additional unnamed dimension?
>
> RQ_2: Do the named dimensions of the 25-item KFQ-R show significant convergent validity with the critical thinking disposition scales (i.e., Critical Thinking Disposition Scale and University of Florida Engagement, Cognitive Maturity, and Innovativeness inventory) and the work engagement scale (i.e., Utrecht Work Engagement Scale)?

Based on Ligon's (2016) EFA of the KFQ-R, I tested the following the hypotheses:

$H1_0$: There is no significant correlation between the structure of the 25-item KFQ-R and the dimensions of critical thinking disposition and work engagement.

H1a: There is a significant correlation between the structure of the 25-item KFQ-R and the dimensions of critical thinking disposition and work engagement.

$H2_0$: There is no significant convergent validity between the emerged dimensions of the 25-item KFQ-R and the critical thinking disposition scales (i.e., Critical Thinking Disposition Scale and University of Florida Engagement, Cognitive Maturity, and Innovativeness inventory) and the work engagement scale (i.e., Utrecht Work Engagement Scale).

H2a: There is significant convergent validity between the emerged dimensions of the 25-item KFQ-R and the critical thinking disposition scales (i.e., Critical Thinking Disposition Scale and University of Florida Engagement, Cognitive Maturity, and Innovativeness inventory) and the work engagement scale (i.e., Utrecht Work Engagement Scale).

Significance of the Research

Because followers comprise most to all employees in an organization (Dean & Huizinga, 2022), and because followership behaviors are vital influences on team performance and business outcomes (Kelley, 2008; Spicer, 2018), the followership field needs a valid and reliable self-assessment to measure followership classifications, or styles. Hurwitz and Hurwitz (2015) explained that everyone in an organization is a leader and a follower. Advancing followers as active empowered participants creates more engaged, collaborative, and empowered organizational partners in the leadership process (Hurwitz & Hurwitz, 2020; Kellerman, 2007). Shamir (2007) explained that the leadership process should not be leader centric but a partnership between the leader and the follower. Although several studies have sought to establish validity of the KFQ (Blanchard et al., 2009; Favara, 2009; Gatti et al., 2014; Ghislieri et al., 2015; Ligon, 2016; Ligon et al., 2019), deficiencies remain. Therefore, the significance of this study was to contribute to the validity and reliability of the KFQ-R followership self-assessment

with data from employees at St. Jude Children's Research Hospital to examine followership and the dimensions of critical thinking disposition, work engagement, and an additional unclassified dimension.

Conceptual Framework

The theoretical framework of the current study was followership and the three dimensions that comprise Ligon's (2016) updated findings to Kelley's (1992) model: critical thinking disposition, work engagement, and an unclassified dimension, which are all briefly explained in this section. Followership merits its own field of study, as it is not merely an extension of leadership research (Kelley, 1992; Riggio, 2014; Uhl-Bien et al., 2014). Researching the leadership field cannot be done holistically without understanding the role and contributions of followers (Carsten et al., 2014; Chaleff, 2009; Laszlo, 2017; Riggio, 2014). Meindl (1990) recognized that the scales were heavily weighted on leadership as the prominent force of organizational study, thereby romanticizing leaders and leadership. Meindl, along with his colleagues Ehrlich and Dukerich, recognized the contributions of employees in terms of accomplishing tasks and creating meaningful relationships with other employees and the leader. Meindl explained that a leader creates an effect that results in a cause with the employees, proposing that the causal system could be reversed whereby employees could create the effect which caused an impact on the leader. Years later, Shamir (2007) reminded followership researchers to convert their point of view from examining followership with a leadership lens to examining leadership with a followership lens.

Shamir (2007), Kaiser and Curphy (2013), and Uhl-Bien et al. (2014) purported the value of expanding the leadership process and examining follower impacts on leaders. Chaleff (2009) stated that the relational landscape in leadership was changing; no longer were leader-centric relationships the primary focus. Leader-centric relationships are being expanded to include follower-follower and follower-leader dynamics (Chaleff, 2009). Malakyan's (2014) findings supported the expanded leadership dynamics (i.e., follower-follower and follower-leader) and indicated that leadership and followership roles depend on the context and situation. Followers can offer valuable information and analysis to the decision-

maker leader, thereby exemplifying the symbiotic cycle of sharing leadership (Hurwitz & Hurwitz, 2020; Laszlo, 2017). The knowledge worker culture, as opposed to the production worker culture, has demanded the relational shift (Chaleff, 2009). To that end, Kelley's (1992) qualitative research led him to conclude that followership was comprised of two factors: independent critical thinking and active engagement.

Independent critical thinking, the first dimension of the KFQ, describes critical thinking that is made up of two elements: (a) affective disposition, or motivation, to be inquisitive and seek clarity and (b) cognitive skills, or motivation to reason and examine (American Philosophical Association, 1990). Critical thinking disposition is the inclination to apply critical thinking skills (Facione et al., 1994). Facione (2000) explained that some people exercise the disposition toward a particular interest but do not have the cognitive skills to complete the task (e.g., writing a book). Alternatively, Facione cited submitting a U.S. tax return as an example of having the cognitive skills to accomplish the task but not the affective disposition to begin and complete the task. After examining the convergent validity correlation matrix, Ligon (2016) found that the KFQ-R measured critical thinking disposition, not critical thinking skills. In the current study, I used two instruments that measure critical thinking disposition to further assess convergent validity.

Active engagement is the second dimension of the KFQ (Kelley, 1992). Followers who are actively engaged willingly serve the organization (Laszlo, 2017). Kelley explained that actively engaged employees are competent and committed to accomplishing the organization's goals as an involved member of the leadership process. When employees are encouraged to contribute ideas and assist in decision making, engagement is deeper (Friedman, 2014). Engagement fosters collaboration, commitment, and positive energy, several characteristics of high performing organizations (Friedman, 2014; Mulligan & Taylor, 2019). After examining the convergent validity correlation matrix, Ligon (2016) showed that the KFQ-R measured work engagement, not active engagement. Creating opportunities for employees to increase and apply skills fosters engagement (Akinyomi, 2016), as does pursuing work-related interests to co-create products and services (Zak, 2017).

Both Kelley (1988, 1992) and Ligon labeled the most desirable follower as an exemplary follower; Ligon showed that the exemplary follower ranks high in cognitive thinking disposition and work engagement.

Methodology

The purpose of this study was to advance the theory of followership by examining the validity of the three-dimension structure of the 25-item KFQ-R by conducting CFA with data from employees at St. Jude Children's Research Hospital. CFA is a critical step of scale development for an instrument such as the KFQ-R to determine the number of factors, or dimensions, of the instrument, and the relationships of the items and factors, or factor loadings (Brown, 2015). EFA first generates a theory and provides the factor structure; CFA then tests the theory and the proposed factor structure (Stapleton, 1997). In addition to the need to evaluate the KFQ-R in a different organizational context, Orçan (2018) explained that CFA requires a different dataset than EFA.

Participants

The population for this study included all employees, approximately 6,000, who work at St. Jude Children's Research Hospital in Memphis, TN. The census design was single stage (Creswell & Creswell, 2017) meaning that as an employee of St. Jude, I was granted access to email the population. A census survey was used because surveying an entire population provides more participants, more accuracy, and reduces bias (Creswell & Creswell, 2017; Henry, 2008). From a population of approximately 6,000 employees, it was likely that the study would reach the minimum number of respondents for a standard CFA, which is 200 (DeCoster, 1998). Hair et al. (2010) stated that to achieve the desired significance level of 0.80 and an effect size of less than or equal to 0.05, a ratio of 20 participants per independent variable is recommended. Hair et al. also recognized that most researchers recommend at least 100 participants, while others prefer 200 participants; therefore, the projected sample size for this study was 200 participants.

One of Ligon's (2016) recommendations was that CFA be performed on the 25-item KFQ-R at a traditional organization with hierarchy. St. Jude is an

appropriate study site because it has the traditional organizational hierarchy (i.e., board of directors, CEO, executive leaders, vice presidents, directors, managers, and individual contributors; St. Jude Children's Research Hospital, n.d.-d, n.d.-e). Additionally, St. Jude is an academic research institution with the expected academic hierarchy (i.e., chair, member, associate member, assistant member, instructor, and research associate; St. Jude Children's Research Hospital, n.d.-b, n.d.-c). The followers at St. Jude represent clinical, research, and administrative areas (St. Jude Children's Research Hospital, n.d.-a).

Instruments and Data Collection

In this quantitative nonexperimental study, I followed the model that Ligon (2016) used to determine whether the KFQ-R (see Appendix A) measures critical thinking disposition and work engagement. In addition to the KFQ-R, this study included three additional instruments. First, the 26-item University of Florida Engagement, Cognitive Maturity, and Innovativeness (EMI; Ricketts & Rudd, 2004) inventory measured critical thinking disposition (see Appendix B). The EMI is scored on a continuous 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*); the coefficient alpha is .79 for innovativeness, .75 for maturity, and .89 for engagement (Ricketts & Rudd, 2004). Second, the 11-item Critical Thinking Disposition Scale (CTDS; Sosu, 2013) also measured critical thinking disposition (see Appendix C). The CTDS is scored on a continuous 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*); the coefficient alpha is .81. Finally, the nine-item Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2006) measured work engagement (see Appendix D). The UWES is scored on a continuous 7-point Likert scale from 0 (*never*) to 6 (*always, every day*); the median coefficient alpha is .92 (Schaufeli et al., 2006). The survey was administered via Qualtrics survey software.

Data Analysis

I selected a census survey to collect data from employees at St. Jude Children's Research Hospital. CFA examines the relationships between observed actions (e.g., test score or behavior rating), known as indicators, and latent unobserved variables, or factors (Brown, 2015). CFA was conducted using version

2.3.21 of jamovi statistical software (The jamovi project, 2021; jamovi uses lower-case branding). The following six basic steps of CFA were conducted:

1. Define the factor model.
2. Collect measurements.
3. Obtain the correlation matrix.
4. Fit the model to the data.
5. Valuate model adequacy.
6. Compare with other models (DeCoster, 1998).

The following descriptive statistics were examined and reported: mean, standard deviation, number in the sample, and missing cases. Additionally, I calculated coefficient alpha and conducted factor analysis.

Scope and Limitations

The scope of this study included all employees of St. Jude Children's Research Hospital in Memphis, TN. As established, organizations employ more followers than leaders (Dean & Huizinga, 2022); therefore, all St. Jude employees, approximately 6,000, were invited to participate. I tested the 25 KFQ-R items that supported the three dimensions (i.e., critical thinking disposition, work engagement, and an unclassified dimension) found by Ligon (2016). Both organizational and academic hierarchy are in place at St. Jude, which supports one of Ligon's recommendations to perform CFA at an organization with hierarchy.

The study had two identified limitations. The first limitation was the education level of the sample. St. Jude employs those with high school diplomas to those with both an M.D. and a Ph.D.; many employees have master's and doctorate degrees. Because of the highly educated workforce, results may not generalize to or represent a typical organization. The second limitation was the organization sector. St. Jude is a nonprofit organization, which may intrinsically affect critical thinking disposition and work engagement.

Definition of Terms

In this section, I provide the definitions of key terms used in this study to assist the reader.

Active engagement encompasses behaviors such as discretionary effort, active participation, initiative, and helpfulness (Kelley, 1992).

Critical thinking disposition is the affective motivation, drive, or inclination to apply critical thinking skills (Facione et al., 1994; Ligon, 2016).

An *exemplary follower* is the most desirable style of follower; this follower exercises critical thinking disposition and is actively engaged with teammates and organizational goals (Kelley, 1992; Ligon, 2016).

A *follower* is defined as a competent, knowledgeable partner in any organization (Kelley, 1992). Everyone is subordinate to someone in an organization; therefore, all employees are followers (Kelley, 1992). Followers accomplish 80% to 90% of the work in any organization and are equal partners to leaders (Kelley, 1992).

Followership is the response of those in lower organizational levels to those in higher organizational levels; followership implies positional rank and relationship (Kellerman, 2008).

The *Kelley Followership Questionnaire (KFQ)* is a 20-question instrument created by Robert Kelley through qualitative interviews to measure one's followership style on two factors as axes: independent critical thinking and active engagement (Kelley, 1988, 1992). Kelley's follower styles are exemplary, alienated, conformist, pragmatist, and passive.

The *Kelley Followership Questionnaire – Revised (KFQ-R)* is the 25-item instrument created by Kateryna (Ligon) Pitchford, as a result of survey redesign and EFA, to test the KFQ's validity and reliability. EFA revealed one unnamed dimension and two named dimensions of critical thinking disposition, which is an adjustment to Kelley's (1992) independent critical thinking dimension, and work engagement (Ligon, 2016).

Work engagement is exclusively associated with organizational life and is an important measure of employee well-being (Maslach et al., 2001). Work engagement is demonstrated by a consistently positive state of fulfillment and is characterized by three components: vigor, dedication, and absorption (Maslach et al., 2001).

Summary

In summary, the current study was the first to empirically examine the KFQ-R. This chapter presented the foundation of the study to explore validity and reliability of the KFQ-R. The problem was that the 25-item KFQ-R had not been examined for replicability using CFA to accurately measure followership factors, dimensions, and behaviors. The purpose of this study was to advance the theory of followership by examining the validity of the three-dimension structure of the 25-item KFQ-R by conducting CFA with data from employees at St. Jude Children's Research Hospital. This study examined whether the structure of the 25-item KFQ-R supports the hypothesized dimensions of critical thinking disposition, work engagement, and an additional dimension. Followers are vital interdependent organizational partners who accomplish most of the work (Kelley, 1992). Exemplary followers apply critical thinking disposition and work engagement to provide numerous contributions to an organization in the areas of productivity, camaraderie, enthusiasm, competence, and intelligence.

Chapter 2 – Literature Review

The purpose of this study was to advance the field of followership by examining the validity of the KFQ-R, an updated version of Kelley's (1992) widely used self-assessment that has not been empirically validated. In this chapter, I review the existing body of literature on the main concepts of this study, including a background of followership with an overview of three seminal follower models (i.e., Kelley, Chaleff, and Kellerman), an explanation of followership themes, a review of critical thinking disposition themes, and a review of work engagement themes. Scholars have outlined the scarcity of follower research (Carsten et al., 2014; Kellerman, 2016; Riggio et al., 2008), especially compared to the volume of leadership research. Bastardoz and Van Vugt (2019) and Kellerman (2008) noted that followership is the default state of being that enables people to live and thrive in groups. Following enables organizations and society to function, therefore researching and advancing followership is important because every person is a follower at some level.

Followership Background

Kelley (1988) is credited as the first 21st century researcher to expound the value of followers, but the concept of leaders and followers has existed for thousands of years. The Bible shares that Moses led millions and King David led tens of thousands. History from around the world tells of leaders, followers, and uprisings. Kelley (1992) named Aristotle, Thomas Jefferson, Jane Addams, and Alfred Adler as such exemplary followers that others encouraged them to accept leadership roles. The United States was established as a country of followers who prefer to govern by electing others to lead (Kelley, 1992). Follett (1924) was a forerunner to the modern concepts of leadership and followership; she stated that true power was coactive, not coercive. Follett identified coercive power as an abomination and coactive power as a universal and basic enhancement to human existence. A coercive mindset excludes; a coactive mindset includes (Follett, 1924). de Mozota and Valade-Amland (2020) extended Follett's teachings by explaining

that coactive power fosters creative thinking and collaborative problem solving, which are critical skills for the 21st century knowledge workforce.

Robert Kelley and Exemplary Followers

In the 1980s, Kelley (1992) became fascinated with followers while studying leaders. Kelley realized that when followers were consulted, they were mainly asked to speak about the leader; followers were often considered to be passive, uninformed, unappreciated, and unacknowledged; however, followers accomplish 80% of the work and are critically important to organizational success, Kelley found. Competence and pursuing a worthy goal are two of the main reasons followers follow leaders, not because of organizational authority level, status, or title (Kelley, 1992).

One of the ways that Kelley (1992) sought to clear misunderstandings of the follower role was to ask when leaders first became seen as the only ones with power, influence, and accomplishment. The etymological source of the word follower is the Old High German word *follaziohan*, which means to support, assist, or help (Kelley, 1992); it is the companion to the word leader, which connotes endurance or suffering. Originally the two words characterized a symbiotic relationship among equals; Kelley noted that the disciples chosen by Jesus and the knights of the round table chosen by King Arthur gained prestige in their follower roles. In the 21st century, Social Darwinism distorted the word follower with the survival-of-the-fittest concept, whereby struggle is seen as positive and the ones who struggle and win are viewed as leaders while the ones who struggle and do not win are viewed as losers (Kelley, 1992). In the follower role, do people automatically become wholly submissive to the leader with no opinion, input, or independent thought (Kelley, 1992)? No; followership and leadership are roles, not assigned singular identities (Kelley, 1992). As established, people are simultaneously followers and leaders who fulfill complimentary, synergistic, and coactive roles, not competitive, separate, and coercive roles (Follett, 1924; Kelley, 1992).

Followership is the inherent partner to leadership; without followers there are no leaders, which makes these two concepts dialectics (Hamlin, 2016; Kelley,

1992). Dialectics are simultaneous oppositions, such as left and right, rain and sunshine, and love and anger; one helps explain and gives context to the other (Kelley, 1992). Followers and leaders are interdependent, not independent of each other (Kelley, 1992). Followership in Japan looks different than in the United States, Kelley explained; followers are lauded in Japan but stigmatized in the United States. Followers and leaders are bound to each other in a symbiotic valuable relationship (Kelley, 1992).

Recognizing the significance of followers, Kelley (1992) turned his focus to measuring follower styles and identifying follower strengths and opportunities. After surveying more than 700 individuals in more than 20 industries, two follower dimensions emerged: independent critical thinking and active engagement (in following; Kelley, 1992). Followers strong in independent critical thinking provide significant and helpful input; offer valuable, sometimes unpleasant yet necessary, feedback to the leader and others; engage in respectful conflict and consider the ideas of others; and take responsibility (Kelley, 1992). Similarly, followers who are actively engaged in the follower role add value to the organization through their actions and ideas, give discretionary effort, are conscientious and reliable, and understand the importance of speaking truth to power (Kelley, 1992).

Kelley (1992) created a four-box model where the Y axis measures dependent uncritical thinking at the bottom to independent critical thinking at the top; the X axis measures passive engagement on the left to active engagement on the right. Along with the model, Kelley created a 20-question followership assessment, the Kelley Followership Questionnaire (KFQ) discussed in the previous chapter, that ostensibly measured the two dimensions; five follower styles emerged: passive, pragmatist, conformist, alienated, and exemplary. The passive follower scores low on independent critical thinking and active engagement (Kelley, 1992). The pragmatist follower scores in the middle of independent critical thinking and active engagement (Kelley, 1992). The conformist follower scores low on independent critical thinking and high on active engagement (Kelley, 1992). The alienated follower scores high on independent critical thinking and low on active engagement (Kelley, 1992). The exemplary follower scores high on

independent critical thinking and active engagement (Kelley, 1992). As established in the previous chapter, the KFQ has been the primary followership self-assessment but does not have empirical support.

Ira Chaleff and Courageous Followers

Extending Kelley's focus on followership, Chaleff (2009) emerged as a pivotal figure in modern followership research. Chaleff urged followers to embrace a dynamic proactive role of parity with leaders and demonstrate empowerment, courage, integrity, and service. Deep discomfort with the term follower needs to be abolished so that strong followers can support strong leaders, chided Chaleff. Any meaningful organizational activity or goal has three components: leader, follower, and a shared purpose. The correct course is for the follower and leader to revolve around the common purpose; followers who revolve solely around leaders contribute to leadership tyranny, which misses the critical shared purpose (Chaleff, 2009). Without a clear common purpose to unite and motivate followers and leaders, selfish interests compete with common interests (Chaleff, 2009).

Chaleff (2009) urged people to proudly accept the follower role by fulfilling three areas of responsibility. First, followers need to understand and recognize their power, both the amount and source; followers have more power than they acknowledge (Chaleff, 2009). Second, followers should help minimize the distractions and obstacles that prevent leaders from working at their best; followers need to create an environment that encourages leaders to exercise their strengths (Chaleff, 2009). Finally, followers need to understand their power and avoid the pitfalls of having power (Chaleff, 2009). Like Kelley's (1992) dialectic explanation, Chaleff found that leadership has no meaning without followership; he explained that teachers are to students as leaders are to followers, one without the other is impossible.

Exceptional followers are intrinsically inspired and do not depend on leaders to inspire them (Chaleff, 2009). Regardless of title or position, people experience the same emotions, vulnerabilities, needs, and dreams; realizing this shared humanity helps provide a common followership foundation of reciprocal respect instead of a foundation of disregard or worship (Chaleff, 2009). Courage

requires risk and infuses power; Chaleff found that followers who ask questions and present alternate information exercise courage in their organizations. The followers who courageously challenge decisions, norms, and behaviors demonstrate their healthy dedication to the common purpose, not an unhealthy dedication to a specific person or decision (Chaleff, 2009). Chaleff's research and findings led him to create a new theory of followership that he named courageous followership.

Courageous followership has two measurements: (a) the level of support a follower extends to a leader and (b) the degree of challenge a follower is willing to exercise for the common purpose (Chaleff, 2009). The Y axis of the courageous follower four-box model measures low support at the bottom to high support at the top (Chaleff, 2009). The X axis of the courageous follower model measures low challenge on the left side to high challenge on the right side (Chaleff, 2009). The resulting quadrants yield four types of followers: partner, implementer, individualist, and resource (Chaleff, 2009). The partner scores high on both support and challenge; the partner offers enthusiastic support for the leader and is willing to challenge and confront difficult issues (Chaleff, 2009). The implementer scores high on support and low on challenge; the implementer is a dependable proponent of the leader and does not challenge the leader, especially if the leader rebuffs a challenge attempt (Chaleff, 2009). The individualist scores low on support and high on challenge; the individualist is confrontational and relentlessly voices their strong opinions (Chaleff, 2009). Finally, the resource follower scores low on both support and challenge; the resource is dependable and works at the minimum accepted standard (Chaleff, 2009). Like Kelley, Chaleff offers an assessment for the courageous follower model, which does not have empirical support.

The five dimensions of how courageous followers operate are: (a) courage to assume responsibility, (b) courage to serve, (c) courage to challenge, (d) courage to participate in transformation, and courage to take moral action (Chaleff, 2009). Assuming responsibility originates from loyalty to the common purpose, not loyalty to a person; courageous followers improve organizational products or services and processes; they initiate desirable actions and decisions for the

organization and themselves (Chaleff, 2009). Serving involves giving discretionary effort when and where needed for the common purpose; serving also involves searching for ways to support a leader's strengths and compensate for a leader's weaknesses (Chaleff, 2009). Challenging comprises exercising voice when actions, policies, or decisions need to be examined; courageous followers are willing to undertake the consequences of strong reactions and emotions when the common purpose is challenged (Chaleff, 2009). Participating in transformation involves exercising steadfastness and resilience in seeing organizational change to completion and fully participating in the change process (Chaleff, 2009). Last, taking moral action may result in refusing to comply, consulting the next level of management, resigning, or whistle blowing; this dimension involves personal risk while taking a different position than that of the leader (Chaleff, 2009).

Barbara Kellerman and Engaged Followers

Leaders and followers are co-producers of leadership united by a common goal (Hurwitz & Hurwitz, 2020; Kellerman, 2016; Kelley, 1988). Like Kelley and Chaleff (2009), Kellerman (2008) explained the dialectic relationship between followers and leaders; consider buyer and seller, one has no meaning without the other. Kellerman (2007) stated that followers and leaders were impossible to separate and agreed with Kelley (1992) and Chaleff (2009) that everyone can occupy the leader role and follower role simultaneously. Followers in Kellerman's (2008) model are distinguished by their rank, which is lower than their superiors and inherently means they have less authority, power, and influence. Followers are also characterized by their behavior, which often means they support, perform, or accomplish the goals set forth by the superior (Kellerman, 2008). Rank and behavior often correspond, yet there are times when followers have more power or influence than the leader (Kellerman, 2008).

Better followers produce leaders (Kellerman, 2008). Advancing followers and the follower role as active empowered participants creates more engaged, collaborative, and empowered organizational partners in the leadership process (Hurwitz & Hurwitz, 2020; Kellerman, 2007). Kellerman's (2016) leadership system consists of three equal parts: leader, follower, and context. Kellerman

(2008) described context as concentric circles, offering the example of a follower working in a retail men's shoe department. The men's shoe department is the smallest context; expanding the context includes the entire shoe department, the local store, the same brand of stores in the region, the subsidiary of stores of the parent company, the parent company, and even the fashion industry at large (Kellerman, 2008). In every context, there are followers and leaders who operate in expected ways of rank and behavior (Kellerman, 2008). In addition to the spatial, or size, example given above, other contexts include temporal, or time-based; group size and group culture; shared experiences and values; country and culture; crisis or stable environment; history; religion; institutions; law; technology; and divisions (Kellerman, 2008, 2016). In each context, conforming to rank and behavior expectations most often results in reward; not conforming could result in punishment or rejection (Kellerman, 2008).

Kellerman's (2008, 2016) followership model measures followers on the single continuum of engagement level and has five types: (a) isolates, (b) bystanders, (c) participants, (d) activists, and (e) diehards. On the low end of the level of engagement continuum, followers are unengaged and withdrawn; on the high end, followers are extremely involved and committed (Kellerman, 2008, 2016). Isolates are lowest on the engagement continuum and are in a category by themselves because they are completely disconnected and withdrawn; they have no interest in and do not engage with the leader, team, or organization (Kellerman, 2008, 2016). Bystanders are aware yet make the choice to withhold participation and support; they deliberately stand by and do nothing and are somewhat detached (Kellerman, 2008, 2016). Participants are engaged either positively with supportive behaviors or negatively with rebellious and uncooperative behaviors; participants do not waver in their stance of support or disdain (Kellerman, 2008, 2016). Activists are engaged, enthusiastic, and eager yet their energies are directed toward supporting the leader or resisting the leader (Kellerman, 2008, 2016). Kellerman's final follower style is diehards who are wholly committed and extremely dedicated to a person, goal, or both; diehards will risk their life for the cause and their dedication becomes their identity. As with the participant and activist styles,

diehards offer positive engagement with support and assistance or negative engagement with disregard and contempt (Kellerman, 2008, 2016).

In summary, this section provided a background of modern followership based on the works of Kelley, Chaleff, and Kellerman. Kelley's (1992) followership model measures critical thinking and active engagement and identified five follower styles. Chaleff's (2009) followership model measures challenge and support and identified four follower types. Kellerman's (2008) followership model measures the level of engagement on a continuum and identified five follower styles. This discussion now moves to a review of the salient literature themes on followership, critical thinking disposition, and work engagement.

Followership Themes

As established, everyone in an organization is a follower. Leadership is not merely an organizational role or title; because leadership is influence, it can expand beyond roles and titles (Maxwell, 2007). The previous section clarified the fact that followers have varying levels of allegiance to a goal or shared purpose, teammates, a leader, or an organization. In the following section, I present the five themes that emerged from a review of the followership literature: (a) followers achieve the results, (b) followership should be taught (c) followers affect leaders and the organization, (d) followership is role based, and (e) followers have agency.

Followers Achieve the Results

The 21st century knowledge workplace can often function effectively without as many leaders as in the past because much of the work is done in teams at the follower level (Bastardoz & Van Vugt, 2019). High performing organizations recognize that leadership is a distributed and shared role between those who have a manager title, at any level, and those who do not (Pearce & Conger, 2002). Centralized management with one designated person in control of a work unit is a concept of the past industrial age (Edmondson, 2012). Modern organizations with less hierarchy better serve the knowledge workers of the 21st century (Edmondson, 2012; Leung et al., 2018). Followers who possess knowledge capital emerge as more influential (Bastardoz & Van Vugt, 2019). Supporting Kelley's findings,

Scott stated that the organizational position or title never guarantees credibility with followers or others (Scott et al., 2022).

Reduced hierarchy allows for the people closest to the work, often individual contributor followers, not managers, to collaborate as partners to accomplish organizational objectives (Leung et al., 2018; Plachy & Smunt, 2022). Retired U.S. Army General Wesley Clark, a former NATO supreme allied commander in Europe, supported followership theory when he explained that the Ukrainian army was operating in cohesive units built on trust and teamwork, whereas the Russian army was operating from a World War I era management model of command and control (CNN, 2022). Clark explained that battles are won or lost on the frontlines by soldiers, who are closest to the work, not in rooms where strategy is discussed by high-ranking officers.

Followership Should Be Taught

Enlarging the focus and study of leadership development to include followership is paramount to understanding the interdependent nature of followers and leaders (Laszlo, 2017; Palmer, 2015; Riggio, 2014). Malakyan (2014) found that leadership and followership roles depend on the context and situation. Knowing that followership is not usually taught in organizations, Grant et al. (2020) created the Followership Intelligence Activity (FIA) to enable people managers enrolled in a leadership training program to discover followership and explore their personal followership characteristics. Participants in the leadership program were asked a series of questions that introduced followership concepts and led participants to insights on their personal followership behaviors (Grant et al., 2020). The leadership training program has been running since 2012 and Grant et al. reported that the FIA helps most of the participants realize for the first time that they are followers. Grant et al. created the 90-minute FIA as an experiential exercise with reflection, writing, discussion, and drawing components to appeal to different learning modalities. By embedding a followership component in a leadership program, Grant et al. sought to legitimize and honor followership.

Weber et al. (2021) strongly advocated for followership to be the foundation of any leadership development program. The authors, all military

physicians, experienced the value of using effective follower behaviors when working with an attending physician, which helped them to be more effective in a leadership role with students, residents, and interns. Supporting Kelley, Chaleff, and Kellerman's work, Weber et al. stated from experience that successfully flourishing as a follower translated to effective leadership skills and abilities. Wiseman et al. (2014) examined the attending physician and resident relationship; they found that supportive and collaborative attending physicians in the leader role created an inviting culture that increased learning and meaningful experiences for the residents in the follower role. Schwab (2017) incorporated followership training using Chaleff's (2009) model in an undergraduate nursing program; results indicated that learning about followership had a positive effect on students' accountability, responsibility, initiative, and advocacy and collaborative behaviors. Finlayson (2021) piloted an interactive followership course at a followership conference and encouraged attendees to implement it at their organizations. Additionally, Finlayson outlined practices and recommendations that human resource teams can implement in areas such as recruiting, onboarding, training, performance management, and total rewards to foster an environment of exemplary followership.

Teaching followership at the Federal Deposit Insurance Corporation (FDIC) helped contribute to a dramatic increase in employee engagement. Results of the FDIC 2007 employee engagement survey indicated that employees did not trust leadership, did not feel empowered, and had minimal to no input on decisions (Read, 2014). The 2007 survey results placed the FDIC in the bottom third of government engagement rankings (Read, 2014). FDIC leadership tasked the corporate university with addressing the low scores and one of the interventions the university team developed was a followership curriculum (Read, 2014). A barrier with teaching followership was the view that followers are passive order-takers, as outlined previously in this discussion (Read, 2014). To combat the negative connotation of followership, the teaching faculty used Chaleff's concepts of leaders and followers uniting around a common purpose and exercising courage and service (Read, 2014). Hundreds of employees completed the course, from new

employees to senior leaders (Read, 2014). In the 2011, 2012, and 2013 annual employee engagement surveys, the FDIC soared from the bottom third to first place among government agencies its size (Read, 2014).

Followers Affect Leaders and the Organization

Shamir (2007) indicated the one-sided leader-centric viewpoint is unrealistic and impractical. Shamir explained that leadership involves multiple people offering influence on a particular issue or question without regard to organizational title. Carsten et al. (2014) advanced Shamir's charge to examine followers' effects on leaders. Specifically, Carsten et al. studied the effects of followers who demonstrated either a passive or co-productive orientation at a large Chinese technology company; sample size was 306 employees and 42 people managers. A passive orientation occurs when followers defer to the leader's guidance or direction and do not exercise voice by offering suggestions or alternative solutions (Carsten et al., 2014). Conversely, a co-productive orientation occurs when followers proactively identify problems and offer valuable solutions (Carsten et al., 2014). Their results showed that co-productive followers had a positive effect on leaders and were viewed as organizational partners interested in assisting leaders to achieve goals; they also solved problems at their level without upward delegating (Carsten et al., 2014). Managers of passive orientation followers felt less supported and less motivated by them (Carsten et al., 2014).

Based on an extensive literature review of leader-follower transgressions, Epitropaki et al. (2013) stated that it is in the follower's best interest to maintain a positive stable relationship with the leader for two reasons. First, leaders, as managers, often have more access to critical resources (e.g., funding and information) than do followers (Epitropaki et al., 2013). Second, leaders may grow weary of managing a negative relationship with a particular follower (Epitropaki et al., 2013). As a result, because leaders usually have multiple followers, a leader may direct their attention to another follower who provides positive leader support (Epitropaki et al., 2013). The manager-employee or leader-follower relationship is the most important organizational relationship, and more responsibility is on followers to maintain the relationship (Dyer et al., 2013; Epitropaki et al., 2013).

Confirming that followers' behaviors influence leader behavior and mindset, Lorsch et al. (2021) found that follower organizational citizenship behavior (OCB) moderated leader moral credit. Specifically, Lorsch et al. surveyed 141 participants in an executive training program and found that when followers exhibited OCB, leaders who scored high in narcissism exercised moral credit, which means that leaders gave themselves permission to engage in unethical behaviors. Narcissism contributed to a leader's notion that they were responsible for the followers' OCB (Lorsch et al., 2021).

Supporting Kelley's (1988) description of an exemplary follower, Chen et al. (2018) stated that leaders, as well as followers, benefit from negative feedback that helps improve performance in the leadership process. Traditionally, feedback is given from leader to follower; effective leaders seek negative feedback that will help them become more effective, thereby increasing trust, and strengthening workplace relationships (Chen et al., 2018). Eva et al. (2019) found that implementing and maintaining servant leadership specifically, and other worthwhile organizational initiatives generally, was advantageous because the supportive environment encouraged followers to engage in helping behaviors for coworkers, customers, and the organization. Hurwitz and Hurwitz (2015) stated that effective followership strengthens leadership.

Follower level of work engagement influences leaders. In an 8-month study, Wirtz et al. (2017) measured work engagement and emotional exhaustion and the effect these states had on leaders. Wirtz et al. expanded follower-centric literature and showed that followers' level of work engagement transferred to and influenced leaders more than emotional exhaustion. Supporting Shamir's (2007) direction, Wirtz et al. found that follower psychological state affects leader psychological well-being. Demirtas et al. (2017) found that ethical leadership positively influenced a sense of meaningful work in followers—which, in turn, increased follower work engagement. As work became more meaningful for the 440 study participants, followers became more engaged and developed a stronger bond with the organization, thus increasing organizational identification (Demirtas et al., 2017).

There are times when leaders are not receptive to follower input. Benson et al. (2016) studied how leaders interpret follower prosocial behaviors by interviewing 15 professional head coaches of Canadian university sports teams. Two main themes emerged: personal follower qualities and context (Benson et al., 2016). In the personal follower qualities theme, findings showed that coaches were most receptive to follower input when it supported team values and group efforts, was team-centric and not ego-centric, was the result of critical thinking that supported the team, and was given appropriately to leaders at the beginning of an issue and not at the last minute (Benson et al., 2016). Additionally, followers who received performance feedback well and applied it without complaining were viewed as effective followers, which, in turn, allowed their feedback to be received by the coach (Benson et al., 2016). Findings in the context theme showed that follower feedback should be given in the team setting and not in the presence of those outside the team, followers need situational awareness to separate times of learning from performance, followers need to understand that the final decision is not open for debate, and finally feedback was received the most from higher status followers such as assistant coaches and team captains (Benson et al., 2016). These findings support three foundational themes of followership: independent critical thinking from Kelley (1992), context from Kellerman (2008), and courage from Chaleff (2009).

Followership is Role Based

Even though everyone can be classified as a follower, the manager and individual contributor relationship often comes to mind when thinking of followership. As the lowest level of an organization chart, individual contributors are closest to the work and are, by default, followers. Everett (2016) explained the valuable leader-follower partnership at the executive level. Everett was executive vice president and chief nurse executive at a university hospital; she worked closely with the university's school of nursing dean, Broome, to create an internationally acclaimed nursing partnership. Broome was the subject matter expert and leader with education and academic matters; Everett was the subject matter expert on nursing practice issues. In their interactions, Everett and Broome recognized and

embraced the interplay of adjusting roles from leader to follower and follower to leader. Everett and Broome appreciated the value and expertise the other contributed and recognized that each was the leader in her area. Everett explained that she and Broome adopted the leader and follower roles when appropriate for the situation.

Cheong et al. (2016) reviewed 50 studies that examined the effectiveness of empowering leadership models and asked whether empowering leadership was a consequence or antecedent of effective followers. Cheong et al. stated that the role-based model of the leadership process whereby followers and leaders contribute in a reciprocal manner would be an effective theoretical framework to further study the question of consequence or antecedent. Crawford and Kelder's (2019) findings supported the Everett and Broome executive interactions showing that the leadership process involves followers and leaders exchanging roles. Leadership is not a static title with finite defined behaviors; leader and follower roles and behaviors are interchangeable (Crawford & Kelder, 2019).

Instead of adopting the role-based view of followership, Bastardoz and Van Vugt (2019) used an influence-based view whereby followers adopt the leader's goals and defer to the influence of the leader. As Kelley (1992) established, followership and leadership are roles, not specific unchangeable identities, and everyone is a follower. During the COVID-19 pandemic, Carsten et al. (2022) examined follower roles and responses to distal leaders as a result of orders to work from home. Findings showed that co-productive role followers valued interactions (e.g., email, virtual meetings, and online chats) with the manager, which increased their effort and performance (Carsten et al., 2022). Alternatively, passive role followers who reported to a highly interactive manager saw a decline in effort and performance (Carsten et al., 2022). The results showed that followers have specific styles and leaders need to recognize and acknowledge the preferences of the roles (Carsten et al., 2022). The results also recognized followers as individuals with preferences, not merely groups of submissive people who blindly follow everything a leader requests (Carsten et al., 2022).

Followers Have Agency

Crawford et al. (2020) explained that followers are not mindless parts of the organizational system, but active participants occupying the leader and follower roles seeking to influence others through formal or informal means. Organizational titles grant the intent of formal influence, yet leaders at any organizational level can exercise informal influence (Crawford et al., 2020). Crawford et al. called for the myth that leaders are more important than followers to be stricken; furthermore, their view is that the incorrect assumption will be corrected when follower behaviors are assessed with as scientific rigorous methods as are leader behaviors. Through the current study, I sought to answer this call.

In an extensive literature review, one of the areas Siangchokyoo et al. (2019) examined was the scope to which followers are transformed by transformational leadership practices. The researchers pointed out that follower transformation was one of the assumed effects of transformational leadership, whereby leader behaviors influenced follower behavior (Siangchokyoo et al., 2019). One of the conclusions was that the leader and follower relationship is social and interpersonal, not isolated and intrapersonal. Transformational leadership is the most researched leadership style (Siangchokyoo et al., 2019), yet the focus is on leader behaviors and actions to affect followers; it hardly considers how follower behaviors and actions affect the leader.

As a follower and active participant in the leadership process, General of the Army and Secretary of State George C. Marshall exercised agency at the highest level by disagreeing with President Franklin Roosevelt in November 1938 (Uldrich, 2009). At the time, Marshall was Army deputy chief of staff and aspired to be chief of staff (Uldrich, 2009). In a meeting with Roosevelt and other high-ranking officials, Marshall disagreed when everyone else agreed with Roosevelt's plan concerning 10,000 war planes; everyone, including Roosevelt, was surprised by Marshall's candor (Uldrich, 2009). All assumed that the act of defiance had ruined Marshall's opportunity to become chief of staff, but this was not so; months later, Roosevelt appointed Marshall chief of staff because of his honesty (Uldrich, 2009). Marshall was a visionary, a decorated soldier, twice *Time* magazine's man

of the year, the first soldier to receive a Nobel Peace Prize, and an exemplary leader and follower (Uldrich, 2009).

In a survey of 390 people, Gatti et al. (2014) examined antecedents of follower active engagement and found three: intellect, organization citizenship behaviors toward the organization (OCBO), and organization citizenship behaviors toward other individuals (OCBI). Intellect includes being educated, being interested in experiencing new cultures and meeting new people, and being informed (Gatti et al., 2014). OCBOs and OCBIs are prosocial behaviors that enhance work relationships yet are not expected (Gatti et al., 2014). Schwab (2017) found that undergraduate nursing students who received followership training that focused on the common purpose (Chaleff, 2009) instead of the leader felt empowered and were willing to exercise voice.

In summary, this section presented five themes that emerged from a review of the followership literature: (a) followers achieve the results, (b) followership should be taught (c) followers affect leaders and the organization, (d) followership is role based, and (e) followers have agency. This review showed that high-functioning followers are truly coactive (Follett, 1924) participants and co-producers of the leadership process (Carsten et al., 2014; Shamir, 2007). Followers who exhibited OCB positively influenced others, including their managers (Epitropaki et al., 2013). An important consideration to remember with followership is that the leader-follower relationship is the most important organizational association, and the follower has more responsibility to maintain the relationship (Dyer et al., 2013; Epitropaki et al., 2013). The exploratory factor analysis results of Ligon (2016) and Ligon et al. (2019) indicated that the KFQ-R measured critical thinking disposition, not independent critical thinking as Kelley (1988) stated. In the following section, I explore critical thinking disposition and present the three themes that emerged from a review of the critical thinking disposition literature.

Critical Thinking Disposition

The inherent precursor to critical thinking is the mindset and inclination, or disposition, to exert effort to think critically (Facione et al., 1994; Facione, 2000;

Tishman et al., 1995). Dispositions can be identified and are on display through attitudes, beliefs, and actions (Facione, 2000). In sports, a player with an offensive disposition strives to score, whereas a player with a defensive disposition strives to stop the opponent from scoring; in parenting, one may have a permissive or authoritarian disposition toward discipline; in an organization, an employee may have a risk-tolerant or risk-averse disposition (Facione, 2000). Critical thinking disposition is influenced by culture (Tishman et al., 1995), whether familial, environmental, or organizational. Possessing the physical or mental skill to accomplish a goal or task does not substitute for the willingness to attempt the goal or task (Bloch & Spataro, 2014); hence, critical thinking disposition must be encouraged and nurtured (Tishman et al., 1995). Critical thinking skills can be taught; critical thinking disposition must be cultivated and modeled (Facione, 2000). A review of critical thinking disposition literature showed three themes that will be discussed in this section: (a) critical thinking disposition must be modeled, encouraged, and taught; (b) critical thinking disposition is a mindset; and (c) critical thinking is a vital employee skill.

Critical Thinking Disposition Must Be Modeled, Encouraged, and Taught

Most of the literature on critical thinking and critical thinking disposition involves studies conducted with children, teenagers, and young adults in college, which illustrates the importance of creating the proper environment early in life to nurture critical thinking disposition (American Philosophical Association, 1990; Tishman et al., 1995). The first 5 years of a child's life are critical to develop lifelong cognitive and emotional skills (Organisation for Economic Co-operation and Development [OECD], 2020). Parents who displayed a supportive and encouraging disposition and who engaged in reciprocal conversations with their child, read to their child almost every day, were involved in their child's school, and enrolled their child in extra activities (e.g., scouts, swimming, or dance) had results that highly correlated with the child's self-regulation and social-emotional skills (OECD, 2020). Besides parents, teachers are vital to cultivating critical thinking dispositions in students; by extension, managers are crucial to cultivating critical thinking dispositions in employees (American Philosophical Association,

1990; OECD, 2021). OECD findings revealed that 15-year-old students displayed a higher level and stronger disposition of lifelong learning with teachers who were perceived as enthusiastic and inspiring about the class material. To encourage critical thinking disposition, instructors should encourage students to ask questions, voice objections, exercise curiosity, and identify problems in the instructor's reasoning; subsequently, all of the questions, objections, and problems should be scrutinized objectively (American Philosophical Association, 1990).

Similarly, Potgieter (2012) encouraged nurse educators to cultivate a supportive, respectful, and flexible relationship with the nurses they are training, which better enables the nurse educators to challenge and nurture nurses in training. Encouraging critical thinking disposition fosters an environment of active learning where nurses can think, rethink, and discuss (Potgieter, 2012). One-way teaching methods such as lecture or memorization are not effective strategies to encourage critical thinking disposition; these methods may result in technical skills, but they ignore humanity skills (Potgieter, 2012), which are important in most any industry. Raymond et al. (2018) also explored critical thinking and critical thinking disposition in nurse educators; the top two domains of critical thinking disposition were inquisitiveness and confidence. Their results showed that both critical thinking and critical thinking disposition were negatively impacted when the nurse educators experienced stress, pressure, and high demands (Raymond et al., 2018). By extension, most people experience reduced critical thinking disposition in stressful situations. Kim et al. (2014) found that critical thinking disposition increased in Korean nursing students until their junior year, then dropped in their senior year. One possible cause for the reduced scores was culture; senior nursing students were completing their practicum and being integrated in the Korean medical culture that values compliance and endurance (Kim et al., 2014).

The American Philosophical Association (1990) stated that a liberal education, along with the skills education of a chosen field, is vital to nurturing critical thinking disposition. Finley (2021) confirmed that a liberal education prepares graduates for workplace success. Similarly, Nixon (2020) explained that qualitative, or wonder, questions (e.g., What if…?) result in divergent thinking and

quantitative, or rigor, questions (e.g., How might we…?) result in convergent thinking; both mindsets are vital to hone a personal and organizational disposition for curiosity and innovation. Organizations should schedule 1 hour per week as a "rigor sprint" for employees to intentionally explore specific problems (Nixon, 2020). In the case of dance, rigor can be equated to skills, whereas wonder can be associated with artistry (Nixon, 2020); similarly, rigor can represent critical thinking skills, whereas wonder can represent critical thinking disposition.

Dwyer and Walsh (2020) aimed to reduce the dearth of critical thinking literature on working adults. Dwyer and Walsh worked with nontraditional employed adult students in a mostly online bachelor's degree program to measure critical thinking. The 3-year longitudinal study used pretests and posttests with 95 students, whose median age was 42 years, to measure critical thinking, including critical thinking disposition (Dwyer & Walsh, 2020). Two instruments were used to measure critical thinking disposition: one that measured intellect and attitude and another that measured motivation (Dwyer & Walsh, 2020); neither instrument was used in the current study. Their results showed a significant increase in critical thinking from Time 1 to Time 2; however, critical thinking disposition did not change significantly (Dwyer & Walsh, 2020). Dwyer and Walsh explained two possible reasons that critical thinking disposition scores may have been stagnant: (a) working adults have experience with critical thinking and may have been overconfident in their abilities in assessing their own critical thinking disposition and (b) the field of critical thinking disposition does not have a comprehensive measurement instrument and therefore may only measure select domains (i.e., intellect and attitude instead of motivation).

Faculty at a West Coast university studied critical thinking disposition in students enrolled in a business communication course (Wilson, 2003). The study used the California Critical Thinking Disposition Inventory (CCTDI; Facione et al., 1994) as a preassessment and postassessment to measure Facione's seven domains of critical thinking disposition: inquisitiveness, open-mindedness, systemacity, analiticity, truth-seeking, critical thinking self-confidence, and maturity. At the end of the 15-week semester, the 42 students who completed the course showed

significant increases in the analycity and self-confidence domains; students also showed increases in the inquisitiveness, open-mindedness, systemacity, and truth-seeking domains; additionally, scores in the maturity domain decreased (Wilson, 2003). Four different assignments were intentionally created to foster a critical thinking disposition environment; hence, this study showed that nurturing, supporting, and creating the proper environment for critical thinking yielded critical thinking (Wilson, 2003). The students in the business communication course honed vitally important critical thinking disposition skills that are transferrable to and valuable in any organization.

Bezanilla et al. (2019) surveyed 230 university professors from Spain and nine Latin American countries with the aim of determining the most effective methodologies to teach critical thinking skills. Their findings showed that oral and written reflection, discussion, and argumentation were the most preferred methods to teach and model critical thinking skills. Additionally, Bezanilla et al. stated that there must be an intentional and carefully planned focus on creating the proper environment for critical thinking to thrive, hence nurturing critical thinking disposition. It behooves professors and managers to make critical thinking disposition part of the classroom or organization culture to encourage and support an environment of critical thinking.

Critical Thinking Disposition is a Mindset

The ability to do an activity is different than the inclination to do the activity; this statement helps explain how critical thinking is different than critical thinking disposition (Bloch & Spataro, 2014). A critical thinking disposition is a positive mindset to adopt and use critical thinking skills (Bloch & Spataro, 2014). Likewise, Halpern (1998) explained that the willingness to think critically, disposition, was different than actually applying critical thinking skills. Effective critical thinking instruction involves using real world scenarios to explain when a problem is worth the intellectual investment of critical thinking and when a problem is not worth the effort (Halpern, 1998).

Halpern (1998) categorized five mindsets or dispositions of an effective critical thinker: (a) willingness to explore and continue a complex task, (b) apply

plans and suppress impulse activity, (c) maintain an open mind, (d) abandon unproductive approaches to self-correct, and (e) recognize when consensus or compromise may be necessary to turn ideas in to actions. Halpern (2014) later listed six critical thinking dispositions: (a) willingness to plan, (b) flexibility, (c) persistence, (d) willingness to self-correct, (e) mindfulness, and (f) consensus-seeking, an important mindset for employees in organizations. Tishman et al. (1995) identified five dispositions of good thinkers: (a) be curious, wonder, and ask questions; (b) think broadly, explore alternatives, and be flexible; (c) reason carefully, be thorough, and anticipate possible error; (d) be orderly and think ahead; and (e) devote intentional time for thinking; the researchers stated that their list of critical thinking dispositions was not exhaustive. These identified critical thinking dispositions support Facione's (2000) research that dispositions reveal consistent ways of acting, which allows others to predict how a person may act and react in various situations. Valenzuela et al. (2011) supported the accepted empirical conclusion that critical thinking consists of two components: disposition and skills. These researchers stated that critical thinking disposition was composed of motivations to apply critical thinking skills, thereby hypothesizing that motivation preceded disposition (Valenzuela et al., 2011).

Halpern (1998) supported Kelley's (1992) assertion that exemplary followers are critical thinkers. Critical thinkers have the disposition and skills to be purposeful and goal-directed (Halpern, 1998). Because of their disposition, critical thinkers recognize appropriate situations that call for critical thinking and inherently apply their skills to solve problems without prompting (Halpern, 1998). Alternatively, others with critical thinking skills may recognize when a situation calls for critical thinking and may deliberately choose to not exert the effort to think critically (Halpern, 1998). Kelley's (1988) followership model identified two categories of those who are not independent critical thinkers as (a) conformist or (b) passive followers.

Bloch and Spataro (2014) recognized that their MBA program needed a stronger emphasis on critical thinking and critical thinking disposition to meet the demands of employers. Bloch and Spataro led the MBA faculty redesign committee

on a quest to incorporate a culture of critical thinking disposition, as well as critical thinking skills, throughout the program. Program outcomes shifted from helping MBA students acquire knowledge to helping students deliver results, which sets them apart as desirable employees (Bloch & Spataro, 2014). Creating the proper environment to nurture critical thinking disposition in the MBA program involved writing reflective papers about the assignments, recognizing biases, reviewing case studies, examining actual problems at real organizations, and designing and presenting solutions (Bloch & Spataro, 2014).

Reid and Anderson (2012) created a study to answer the debate of whether critical thinking can be taught and learned. The answer was affirmative, based on the critical thinking teaching model from Halpern. The sample was college seniors at a Midwestern university majoring in business administration (Reid & Anderson, 2012). The study used three sections of a capstone class with one control group and two experimental groups (Reid & Anderson, 2012). The four-part model began with critical thinking motivation or disposition, demonstrating the foundational importance of mindset (Reid & Anderson, 2012). Although critical thinking disposition was not measured or reported in this study, critical thinking skills were measured and showed a significant increase from pretest to posttest, indicating that critical thinking can be taught and learned (Reid & Anderson, 2012).

Critical thinking disposition and skills are vitally important in the medical field. As such, Yuan et al. (2014) developed and validated the Critical Thinking Disposition Assessment (CTDA), an instrument grounded in the Taiwanese culture for Taiwanese medical students. The researchers compiled items from three valid and reliable critical thinking disposition instruments and followed proper protocols to validate and translate the items into Mandarin Chinese (Yuan et al., 2014). The CTDA measures three factors: (a) systematicity and analyticity, (b) inquisitiveness and conversance, and (c) maturity and skepticism (Yuan et al., 2014). The CTDA expanded the critical thinking disposition literature by providing a discipline-specific (e.g., medical professionals) and culture-specific instrument (Yuan et al., 2014).

Critical Thinking is a Vital Employee Skill

Recent college graduates are not as skilled in critical thinking as organizations expect them to be (Hart Research Associates, 2018). The American Association of Colleges and Universities surveyed 500 executives (i.e., owners, CEOs, presidents, executives, and vice presidents) and 500 nonexecutive hiring managers (i.e., directors, managers, supervisors, and administrators responsible for recruiting, interviewing, and hiring new employees; Hart Research Associates, 2018). The results showed that 78% of executives indicated critical thinking and analytical reasoning skills were very important, yet only 34% indicated that recent college graduates were well prepared; similarly, 87% of the hiring managers indicated critical thinking and analytical reasoning skills were very important, yet only 39% indicated that recent college graduates were well prepared (Hart Research Associates, 2018). This deficit in critical thinking, and additional important skills, negatively impacts an employee's ability to advance or be promoted and reduces an organizations' satisfaction with higher education (Hart Research Associates, 2018).

In a survey of almost 500 executives and hiring managers across various industries, 95% of respondents rated critical thinking skills as very important or somewhat important for employees, after the ability to work effectively in teams (Finley, 2021). Of the 60% of respondents who rated critical thinking skills as very important, only 39% agreed that recent graduates were very well prepared (Finley, 2021). This 21% gap was the largest survey gap in the category (Finley, 2021). Finley stated that because aptitudes, mindsets, and dispositions are not intrinsic traits for everyone, they must be made explicit inside and outside the classroom to help students understand how important critical thinking skills are in organizations.

Halpern and Dunn (2021) called for critical thinking to be used as a measure of intelligence in addition to general intelligence (e.g., IQ) tests. Critical thinking, also referred to as rational thinking or wise reasoning, enables people to address real problems, whereas IQ assessments measure cognitive ability. Schools use grades as a measure of general intelligence, which is not the only success indicator in life; intelligent people can be unwise or foolish (Sternberg, 2019).

Critical thinking disposition and critical thinking enable people to better work with others, recognize biases, respectfully disagree and challenge, and consider alternative points of view (Halpern & Dunn, 2021; Sternberg, 2019). In a survey of 700 higher education professionals (e.g., faculty, deans, directors, and administrators), the American Association of Colleges and Universities found that critical thinking was the second highest rated learning outcome (87%) after written communication (90%) for undergraduates (Finlayson, 2021). In a survey of almost 500 employers, 60% of respondents stated that critical thinking skills were very important, yet only 39% indicated that recent graduates were very well prepared; this finding had the most significant gap of 15 identified skills (Finlayson, 2021).

Sternberg (2019) advocated for incorporating and advancing a new measure of intelligence: adaptive intelligence. General cognitive intelligence is measured via IQ tests; adaptive intelligence is not a domain that is measured on IQ tests at this point, yet it is a measure of intelligence whereby culture and environment are paramount (Sternberg, 2019). To illustrate the importance of adaptive intelligence, Sternberg stated that someone who scores high on an IQ test, which measures general intelligence, may not have the adaptive intelligence to survive in an active war zone or in an inner-city neighborhood, places far outside the usual experience of the majority of those in modern society.

In this section, I explained how critical thinking disposition differs from critical thinking skills; each is needed and both work in concert to produce quality solutions. This section concentrated on critical thinking disposition and discussed three themes that emerged from a review of the critical thinking disposition literature: (a) critical thinking disposition must be modeled and encouraged, (b) critical thinking disposition is a mindset, and (c) critical thinking is a vital employee skill. Ligon's (2016) findings indicated that the KFQ-R measures work engagement, not active engagement as Kelley (1988) stated. In the next section, I explore work engagement and the three themes that emerged from a review of the work engagement literature.

Work Engagement

Work engagement is specifically associated with organizational life and is an important measure of employee well-being (Maslach et al., 2001). Work engagement is demonstrated by a consistently positive state of fulfillment and is characterized by three components: vigor, dedication, and absorption (Maslach et al., 2001). Vigor conveys resilience, energy, and persistence through challenges; dedication conveys strong work involvement and feelings of pride, inspiration, significance, and enthusiasm; and absorption conveys losing track of time and being so pleasantly involved in work that it is hard to stop (Maslach et al., 2001). In response to doubts that absorption was an essential dimension of work engagement, Neuber et al. (2022) asserted that vigor, dedication, and absorption are all separate and core dimensions. Work engagement is different than organizational commitment (i.e., loyalty to the organization) and job satisfaction (i.e., experiencing fulfillment and contentment from job responsibilities; Maslach et al., 2001). Approaching and measuring employee well-being from a positive solutions-based mindset of work engagement is more useful than measuring the antithesis of work engagement, which is burnout (Maslach et al., 2001). Measuring something provides more accountability than measuring the absence of something (Maslach et al., 2001).

In a global survey of more than 2,000 human resource professionals and 15,700 managers at every level representing multiple industries, Development Dimensions International (2021) data supported Schaufeli et al.'s (2004) findings that engagement, specifically job resources (e.g., manager coaching, effective feedback, and access to tools and information), strongly influences intent to stay at an organization. The global survey also showed that managers desire to spend time interacting with their teams, but work tasks preclude it; managers spend 27% of their time interacting, yet they prefer to spend 41% of their time interacting (Development Dimensions International, 2021). Alarmingly, managers who spent more time on work tasks and demands were 32% less engaged and two times more likely to resign within 12 months (Development Dimensions International, 2021). In a worldwide survey of employed adults, Gallup (2022) reported that only 21% of

employees are engaged which impacts motivation, culture, and financial performance.

Whereas work engagement is characterized by vigor, dedication, and absorption, burnout is characterized by emotional exhaustion (i.e., a stress response of emotional and cognitive distance from the work and feeling emotionally and physically depleted), depersonalization (i.e., a negative response to certain job aspects and intentionally distancing oneself from the people served in the job role), and ineffectiveness (i.e., a feeling of incompetence or reduced achievement or productivity; Maslach et al., 2001). Work engagement and burnout are opposites; the more positive way to frame burnout is a lack of engagement (Maslach et al., 2001; Schaufeli et al., 2002). Six domains of organizational life represent areas, that if personally congruent, contribute to work engagement, and if personally incongruent, contribute to burnout: workload, control, reward, community, fairness, and values (Maslach et al., 2001). Focusing on work engagement offers a positive strengths-directed approach that fosters a growth mindset (Dweck, 2006) and encourages a reward state (Rock et al., 2013), which enables and encourages people to progress from surviving to flourishing (Seligman & Csikszentmihalyi, 2000). To illustrate the value of work engagement, I review three themes that emerged from a review of the literature: (a) work engagement stems from intrinsic motivation, (b) work engagement fosters a strong organizational culture, and (c) work engagement positively impacts financial performance.

Work Engagement Stems from Intrinsic Motivation

Whether extrinsic or intrinsic, motivation is highly valued because it causes action (Ryan & Deci, 2000). Intrinsic motivation compels people to pursue work and activities for the inherent joy, pleasure, or satisfaction involved (Deci & Ryan, 2012; Johnson, 2013; Kumar & Raghavendran, 2013). Considering one's work as meaningful improves performance; this is an advantage of intrinsic motivation (Kumar & Raghavendran, 2013). Intrinsic motivation connects people with their work, which results in passionate and engaged employees (Kumar & Raghavendran, 2013). Alternatively, extrinsic motivation causes people to engage in actions to seek a reward, receive a preferred outcome, or avoid a consequence

(Di Domenico & Ryan, 2017; Vroom, 1964). The self-determination theory of motivation is based on the idea that inherent motivation causes people to determine their own choices and actions (Deci et al., 1989; Gagné & Deci, 2014). Deci and Ryan (2014) explained that the self-determination theory is positive when the three basic psychological needs of autonomy, competence, and relatedness are met; as job satisfaction increases, intrinsic motivation and employee engagement also increase. Conversely, the self-determination theory asserts that when autonomy, competence, and relatedness needs are unmet, employees experience lower job satisfaction, motivation, and engagement (Deci & Ryan, 2014). Autonomy, competence, and relatedness are supportive proactive psychological needs and predict well-being, job satisfaction, and work engagement (Deci & Ryan, 2014; Ryan & Deci, 2000).

Three universal psychological innate drivers comprise the self-determination theory: autonomy, competence, and relatedness (Deci & Ryan, 2014). First, autonomy is the ability to control events or outcomes, to choose and take initiative to pursue an interest (Deci & Ryan, 2014; Pink, 2011; Rock & Cox, 2012). Second, competence is the ability to master an activity or task, to succeed and achieve growth (Deci & Ryan, 2014; Gagné & Deci, 2014). Last, relatedness is a feeling of belonging and connectedness, a sense of interdependence (Brown, 2018; Deci & Ryan, 2014). Pleasant affect fosters productive relationships and is interpreted by the brain as a reward; negative affect carries a cost because it is interpreted by the brain as a threat (Casciaro, 2014; Lopez-Kidwell et al., 2018; Rock & Cox, 2012). High performing organizations create a supportive environment that fosters intrinsic motivation, collaboration, commitment, and positive energy, several critical components for any high performing modern workplace (Friedman, 2014; Mulligan & Taylor, 2019; Vroom, 2000).

As established, work engagement is comprised of vigor, dedication, and absorption (Maslach et al., 2001) and can be predicted by external and internal elements. Warr (2011) identified the external elements as environment-centered and the internal elements as person-centered. Bakker et al. (2008) categorized the external elements as job resources and the internal elements as personal resources.

Job resources include autonomy, social support, feedback on performance, learning opportunities, and managerial coaching; personal resources include optimism, self-esteem, and self-efficacy (Bakker, 2009; Bakker et al., 2008). Bakker et al. and Schaufeli and Bakker (2004) explained that job resources could support intrinsic or extrinsic motivation. Job resources foster intrinsic motivation by supporting an employee's growth and development by increasing autonomy and competence, which deepens relatedness with the manager and colleagues (Bakker et al., 2008). Job resources foster extrinsic motivation by helping the employee accomplish performance goals and objectives (Bakker et al., 2008). Organizational cultures with strong work engagement create a virtuous cycle of support and feedback; these characteristics and behaviors, in turn, foster the intrinsic motivators of autonomy, competence, and relatedness (Bakker et al., 2008).

In a global survey of more than 2,000 human resource professionals and 15,700 managers at every level representing multiple industries, Development Dimensions International (2021) results supported the significant nature of job resources as the key predictor of work engagement (Schaufeli & Bakker, 2004). Results showed that the top three drivers of engagement, retention, and work dedication are intrinsic motivators and can be classified as job resources: (a) know and understand performance expectations, (b) see a clear career path, and (c) feel that their manager sincerely cares about them (Development Dimensions International, 2021). Each of the previous three drivers can be simultaneously mapped to autonomy, competence, and relatedness (Ryan & Deci, 2020) because they foster intrinsic motivation in multiple ways. Organizations that value intrinsic motivation and job resources are more likely to be considered high-performing organizations and appear on best place to work lists (Development Dimensions International, 2021).

Work Engagement Fosters a Strong Organizational Culture

Autonomy, competence, and relatedness help explain the need for and the importance of a healthy organizational culture that inspires employee engagement (Deci & Ryan, 2014; Lencioni, 2012). Members of the most effective teams, even ad hoc teams, know the skills, strengths, preferences, and experiences of the other

members, thereby leading to effective interdependence and cohesion (Rath, 2007; Valentine & Edmondson, 2015). Job resources such as relational bonds help the team members work through inevitable conflicts (Couture & Harvey, 2021). Arshad et al. (2022) examined the effects of empowering leadership and organizational identity on work engagement. Results showed that managers who empower employees foster organizational identity—which, in turn, increases work engagement (Arshad et al., 2022). Specifically, managers who encouraged autonomy and involved employees in decision-making processes endeared employees to the organization, thereby deepening work engagement (Arshad et al., 2022). Previous research supports the current findings; when employees help make decisions, they are more committed to implementing the decisions (Burke, 2017; Vroom, 2000).

Organization practices are interwoven with the organization culture; strong cultures lead to effective practices, which results in well-run organizations (Schein, 1990; Warrick, 2017). In the modern fast-paced knowledge workplace, teams complete the work (Mathieu et al., 2014; Mulligan & Taylor, 2019; Vanthournout et al., 2014). Teams accomplish more when working in a growth mindset with managers who lead with compassion and commitment instead of leading with command and control (Abrashoff, 2007; Clifton & Harter, 2021; Dweck, 2006; Marquet, 2013). The COVID-19 pandemic quarantine further revealed the importance of human connections at work and outside of work (Howe et al., 2021).

Effective leaders recognize they play a critical role in a follower's work experience; leaders' actions and behaviors strongly influence an employee's job satisfaction, which affects work engagement, a critical dimension of followership (Audenaert et al., 2018; Ligon, 2016). When leaders and followers both have high expectations of job performance, the followers' work experience is better and they report higher job satisfaction; additionally, when expectations are aligned, followers experience progress on their goals and readily tackle challenges, demonstrating critical thinking disposition, another foundational dimension of followership (Audenaert et al., 2018; Ligon, 2016). Cultivating exemplary

followership expands collaboration, partnership, and camaraderie, thereby fostering engagement (Development Dimensions International, 2021).

Veestraeten et al. (2021) found that leaders' expectations influenced follower work engagement. Those who believe followers are hardworking, productive, and competent have a positive implicit follower trait (IFT; Sy, 2010). Alternatively, leaders who believe followers are lazy, incompetent, and have no initiative demonstrate a negative IFT (Sy, 2010). Veestraeten et al. found a positive effect on followers with high IFT from leaders with high IFT who voiced high expectations, which led to higher work engagement. Followers with lower IFT showed lower levels of work engagement, even when a leader expressed high expectations (Veestraeten et al., 2021). As often happens, Veestraeten et al. started with the leader point of view and recognized that followers' level of work engagement could influence a leader's IFT. Veestraeten et al. also acknowledged that followers play an active role in the leadership process.

Job and career satisfaction drivers of employee engagement include understanding job responsibilities, performance goals, and the job role (Mulligan & Taylor, 2019). High performance organizations give employees opportunities to learn and apply new skills (Rasheed et al., 2020; Teng, 2019). Effective organizations want their employees to be satisfied with the responsibilities, the job, and the compensation plan (Aburumman et al., 2020; Mulligan & Taylor, 2019). Akinyomi (2016) explained that employees want the ability to increase and apply skills, as well as advance in title and compensation. Mulligan and Taylor found that seeking career satisfaction was the top reason employees voluntarily leave their companies. Development Dimensions International (2021) reported that managers who encourage team members to pursue growth and make development a priority are among the best managers; in turn, their companies are most likely to be considered a best place to work. Gartner (2021) advised organizations to prioritize career conversations with employees; career conversations should be broad, to include personal interests and experiences, and specific, to include important next steps.

Friedman (2014) explained that friendships in the workplace and shared activities foster organizational success. Organizational culture expert Ed Schein explained that behavior, including verbal and nonverbal communication, is the most powerful way to convey signals of what is valued in an organization (Stachowiak, 2018). Language fosters positive or negative relationships (Marquet, 2020; Porath et al., 2015). Through functional magnetic resonance imaging, Albrecht et al. (2014) found that intrinsic motivation was slightly strengthened after study participants received verbal encouragement. Cohesive teams achieve synergy and shared camaraderie, which foster accountability (Jacobsson & Hällgren, 2016). When the inevitable conflict arises, teams that know each other and have high trust are better equipped to approach conflict as the pursuit of truth, not as an attempt to personally offend others (Lencioni, 2012). Ineffective organizations that do not recognize the importance of coworker relationships are destined to experience voluntary turnover (Friedman, 2014; Hom et al., 2012; Mulligan & Taylor, 2019; Zak, 2017).

Inherently, leaders shape employees' organizational experiences (Bass & Bass, 2008; Yücel, 2021). Credible leaders are trustworthy and keep their word (Quick & Goolsby, 2013). Effective leaders solicit and listen to suggestions (Mulligan & Taylor, 2019). Hoyt et al. (2012) demonstrated that leaders are made, not born, by expanding skills in a supportive environment. The best leaders provide useful and effective feedback that helps employees improve performance (Harley, 2013; Mulligan & Taylor, 2019; Scott, 2017). Credible leaders also demonstrate empathy and understanding for their team members (Mulligan & Taylor, 2019; Nixon, 2020). Communicating a compelling vision inspires employees to give their best efforts (Edmondson, 2012; Mulligan & Taylor, 2019).

Effective leaders understand the importance of trusting relationships (Akinyomi, 2016; Schein & Schein, 2016; Zak, 2017; Zimmerman et al., 2019). Development Dimensions International (2021) reported that leaders prefer to spend 41% of their time interacting with their team, yet they only spend 27% of their time in meaningful interactions because of nonstrategic managerial tasks. Effective leaders who do not interact with their teams are 32% less engaged and two times

more likely to voluntarily leave the organization within 12 months (Development Dimensions International, 2021). Positive work relationships create more embeddedness and help anchor employees to the organization (Zimmerman et al., 2019); negative behaviors such as rudeness and incivility breed dysfunctional work relationships (Loh & Saleh, 2022; Porath et al., 2015). When low performing organizations do not recognize the importance of credible leadership, they will experience turnover (Friedman, 2014; Mulligan & Taylor, 2019; Zak, 2017).

Leaders who foster a healthy organizational culture yield myriad financial, productivity, and relational benefits (Aktar & Pangil, 2018; Friedman, 2014; Warrick, 2017). Schein explained that behavior is the result of the organizational culture, not the driver (Kaufman, 2010). High performance organizations recognize that the culture moderates strategy implementation (Chen et al., 2018). Effective organizational leaders explore ways to measure and strengthen the culture (Cameron & Quinn, 2011; Mulligan & Taylor, 2019). High levels of work engagement reduce turnover intention (Gutermann et al., 2017).

Work Engagement Positively Impacts Financial Performance

The most important organizational relationship is the one between an employee and their manager (Burke, 2017). It is the responsibility of managers at every level, not exclusively the human resources department, to create an environment that fosters engagement, which ultimately translates to positive financial performance (Mulligan & Taylor, 2019). Low engagement is estimated to cost the worldwide economy $7.8 trillion (USD; Gallup, 2022). The engaged workforce accounts for 23% higher profits than the unengaged and miserable workforce (Gallup, 2022).

The actual cost to replace a leaving employee can range from minimal to noteworthy (Tam & Khoa, 2018). Replacement costs vary depending on the type of employee (i.e., executive or staff). Turnover costs have been estimated at 100% to 150% of the base salary for a staff position, and up to five times the salary for an executive position (Betts et al., 2018). Mulligan and Taylor (2019) reported that the average replacement cost for a staff position was $43,000, while the replacement

cost for a manager can be double the salary. Gandhi and Robison (2021) found that replacement costs could be up to two times an employee's salary.

It is an advantage to make organizational culture a strategic business priority (Powell, 2017; Warrick, 2017). A consistent characteristic of high-performing companies and market leaders is leadership development and continuous development for employee at all levels (Bersin, 2022; Development Dimensions International, 2018, 2021), which are components of job resources that drive engagement (Bakker, 2009). Schaufeli and Bakker (2004) conducted a study of almost 1,700 participants in four different industries (i.e., insurance, occupational health, pension fund, and home health) to measure the effects of work engagement and burnout. Results showed that job resources predict work engagement, which reduces turnover intention (Schaufeli & Bakker, 2004). As hypothesized, results also showed that burnout is associated with health problems and increased absenteeism and turnover intention, which all affect financial performance (Schaufeli & Bakker, 2004). Schaufeli and Bakker identified three levels of job resources: (a) task level represented by performance feedback, (b) interpersonal level represented by social support from colleagues, and (c) organization level represented by managerial coaching.

How people behave at work matters; behavior affects human relations and financial performance positively or negatively (Loh & Saleh, 2022; Porath et al., 2015; Quick & Goolsby, 2013; Valentine & Edmondson, 2015). Bakker (2009) related four reasons why engaged employees perform better: (a) they experience positive emotions such as joy and enthusiasm, (b) they are healthier, (c) they create job resources and personal resources, and (d) they positively influence others. It is critically important for senior leaders to openly drive and support lasting change (Galbraith, 2014; Mulligan & Taylor, 2019; O'Reilly et al., 2014). Employees at every level can create a supportive environment that fosters intrinsic motivation and fulfillment; alternatively, they can create an unsupportive negative environment that removes all enjoyment and results in minimal autonomy, competence, and relatedness leading to turnover and reduced financial performance (Howe et al., 2021; Lencioni, 2012; Porath et al., 2015). Indeed, Xanthopoulou et al. (2007)

stated that organizations with ample job resources fostered higher personal resources, thus creating a virtuous cycle of a supportive and flourishing work environment where engaged employees could thrive.

Bakker et al. (2008) showed that engaged employees display positive energy toward their work and a strong connection and identification with their work. These positive characteristics and behaviors translate into elevated job performance, which positively impacts customer satisfaction and financial performance (Bakker et al., 2008; Mulligan & Taylor, 2019). Employees themselves understand that engagement impacts customer service; in a UK public sector report, 78% of engaged employees and only 29% of disengaged employees agreed that they could impact service or delivery (Bridger, 2018). Bridger cited numerous case studies across multiple industries to demonstrate that engaged employees perform better in every measurable indicator, which creates a competitive advantage and peak performance for organizations concerned with their most important asset: people.

In their narrative synthesis of 214 studies on employee engagement, Bailey et al. (2017) reported that 24 studies showed that unengaged employees had increased turnover intentions. Even though voluntary employee turnover cannot be completely controlled or eliminated, an organization can create an environment that fosters work engagement and encourages employees to willingly contribute their best efforts (Friedman, 2014; Mulligan & Taylor, 2019). The Institute for Corporate Productivity (2022) showcased a coffee company that inverted the standard organizational pyramid; frontline employees are at the top of the pyramid, instead of senior leaders, because they are closest to the customers. The coffee company recognized that the frontline employees are the best ones to recommend the appropriate job resources, which increases work engagement, which increases profits (Institute for Corporate Productivity, 2022). Gallup (2022) stated that the single largest factor to increase work engagement is better managers who are skilled in listening, coaching, and collaborating. Gutermann et al. (2017) showed that leaders with high engagement scores had a positive effect on their followers' engagement scores.

Summary

To summarize, the literature clearly showed that followers and leaders are vital components of the leadership process. In this chapter, I first provided an overview of modern followership and explored five themes that emerged from a review of the followership literature: (a) followers achieve the results, (b) followership should be taught, (c) followers affect leaders and the organization, (d) followership is role based, and (e) followers have agency. Next, I explored critical thinking disposition and work engagement, the two dimensions the KFQ-R is proposed to measure. Three critical thinking disposition themes were reviewed: (a) critical thinking disposition must be modeled, encouraged, and taught; (b) critical thinking disposition is a mindset; and (c) critical thinking is a vital employee skill. Last, three work engagement themes were explored: (a) work engagement stems from intrinsic motivation, (b) work engagement fosters a strong organizational culture, and (c) work engagement positively impacts financial performance. Researchers have advocated for followers to be elevated and appreciated in the academic and professional leadership industry (Chaleff, 2009; Gobble, 2017; Riggio, 2014; Riggio et al., 2008). An empirically validated followership self-assessment is critical to provide followers at every level with the ability to measure critical thinking disposition, work engagement, and other effective followership behaviors.

Chapter 3 – Methodology

The purpose of this study was to advance the theory of followership by examining the validity of the three-dimension structure of the 25-item KFQ-R by conducting confirmatory factor analysis (CFA) with data from employees at St. Jude Children's Research Hospital. Ligon (2016) and other scholars (Blanchard et al., 2009; Favara, 2009; Gatti et al., 2014; Ghislieri et al., 2015) found that the KFQ is not a valid instrument; thus, Ligon conducted exploratory factor analysis (EFA) on the KFQ-R and concluded that it is a three-dimension instrument, not a two-dimension instrument, as Kelley (1988) maintained. Based on item analysis, Ligon edited the original 20-question KFQ resulting in 25 statements; she subsequently found that eight items could be eliminated, leaving 17 items. Kelley asserted that the KFQ measured independent critical thinking and active engagement; Ligon found that the KFQ-R measured critical thinking disposition, work engagement, and an additional unnamed dimension. The current study was the first to empirically examine the KFQ-R. In this chapter, I outline and justify the study methodology, including the selected approach and design, population and participant sample, measures and instruments, data collection process, and data analysis procedures.

Research Design

The study design was a quantitative, nonexperimental census survey. The appropriate data collection method for this quantitative study was a survey because the KFQ-R is a survey. The next step to examine empirical support for the KFQ-R was to administer the survey to the sample; experimental research was not appropriate for this study because the purpose was to test a survey (Creswell & Creswell, 2017). Conducting CFA on the KFQ-R examined the instrument's validity and provided empirical evidence on whether the updated 25 items support a three-dimension instrument (Ligon, 2016). I followed the model that Ligon used to determine whether the KFQ-R measures critical thinking disposition, work engagement, and an unclassified dimension.

Research Methodology

The purpose of this study was to advance the theory of followership by examining the validity of the three-dimension structure of the 25-item KFQ-R by conducting CFA with data from employees at St. Jude Children's Research Hospital. As such, this quantitative study was a cross-sectional survey of followers in an organization. The KFQ was created as a survey, therefore the KFQ-R is a survey; alternative research methods (e.g., experimental, field-based, or longitudinal) were not considered for this study. I collected data at one point in time: December 2022 (Creswell & Creswell, 2017). The minimum number of complete responses necessary for this CFA study was 200 (Hair et al., 2010); a cross-sectional survey was the most appropriate method to collect data from the population of 6,000 St. Jude employees (Creswell & Creswell, 2017). The electronic survey was emailed to St. Jude employees, which provided convenience and quick access for those who chose to participate.

Population and Participant Sample

Ligon (2016) recommended that CFA be performed on the KFQ-R at a traditional organization with hierarchy. St. Jude is an appropriate study site because it has the traditional organizational hierarchy (i.e., board of directors, CEO, executive leaders, vice presidents, directors, managers, and individual contributors; St. Jude Children's Research Hospital, n.d.-d, n.d.-e). Additionally, St. Jude is an academic research institution with more than 20 academic departments and divisions run by faculty with the customary academic hierarchy (i.e., chair, member, associate member, assistant member, instructor, and research associate; St. Jude Children's Research Hospital, n.d.-b, n.d.-c). The followers at St. Jude represent clinical, research, and administrative areas.

The population for this study was all payroll employees who work at St. Jude Children's Research Hospital in Memphis, TN. This study used simple random probability sampling because every member of the population had the same probability of participating; all St. Jude payroll employees have a St. Jude email account. Because all members of the population were being surveyed, this was a census survey (Creswell & Creswell, 2017; Henry, 2008). A census survey was

used because surveying an entire population provides more participants, more accuracy, and reduces bias (Creswell & Creswell, 2017; Henry, 2008). Census design was single stage (Creswell & Creswell, 2017); as an employee of St. Jude, I was given access to email all payroll employees.

There is not a definite or explicit minimum sample size for factor analysis (DeVellis, 2012). DeVellis explained that the sample size for factor analysis is proportional to the number of items and scales. Comrey (1988) stated that a minimum sample size of 200 is appropriate for ordinary factor analysis with fewer than 40 variables. This study had three variables: critical thinking disposition, work engagement, and an unnamed one. Therefore, 200 was the minimum number of responses for this study.

Measures and Instruments

In this study, I examined the KFQ-R and used three valid and reliable instruments to help establish validity and reliability for the KFQ-R. Table 1 shows the KFQ-R details on items and dimensions, the first instrument discussed. The purpose of this study was to follow Ligon's (2016) recommendation that the 25-item KFQ-R be investigated for validity and replicability. The KFQ-R's 25 statements describe various characteristics of followership to measure critical thinking disposition and work engagement. The KFQ-R is scored on a continuous 7-point Likert scale from 1 (*rarely*) to 7 (*almost always*). Coefficient alpha for the KFQ-R is .93 (Ligon, 2016). Ligon identified three followership styles from the EFA data analysis: exemplary follower, leader-centered follower, and disengaged follower.

Table 1

Revised Kelly Followership Questionnaire (KFQ-R) Survey Items Mapped to Dimensions

Dimension	Item	Scale
Critical thinking disposition	1, 3, 5, 7, 9, 11, 15, 19, 23	Rarely = 1
Work engagement	2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24	Occasionally = 4 Almost always = 7
Unnamed	13, 17, 21, 25	

Second, the University of Florida Engagement, Cognitive Maturity, and Innovativeness (EMI; Ricketts & Rudd, 2004) instrument measured critical thinking disposition. Table 2 shows details on the EMI items and dimensions. The EMI has 26 items and measures three dimensions of critical thinking disposition: engagement, cognitive maturity (labeled as maturity), and innovativeness (Ricketts & Rudd, 2004). The EMI is scored on a continuous 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Coefficient alpha is .89 for engagement, .75 for maturity, and .79 for innovativeness (Ricketts & Rudd, 2004).

Table 2

University of Florida Engagement, Cognitive Maturity, and Innovativeness (EMI) Survey Items Mapped to Dimensions

Dimension	Item	Scale
Engagement	2, 3, 5, 7, 8, 9, 14, 17, 18, 19, 22	Strongly disagree = 1
Maturity	1, 11, 13, 16, 20, 24, 25, 26	Disagree = 2
Innovativeness	4, 6, 10, 12, 15, 21, 23	Neutral = 3
		Agree = 4
		Strongly agree = 5

Third, the Critical Thinking Disposition Scale (CTDS; Sosu, 2013) also measured critical thinking disposition. Table 3 provides details on the CTDS items and dimensions. The CTDS has 11 items and measures two dimensions of critical thinking disposition: critical openness and reflective skepticism (Sosu, 2013). The CTDS is scored on a continuous 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*; Sosu, 2013). Sosu (2013) reported coefficient alpha as .81.

Table 3

Critical Thinking Disposition Scale (CTDS) Survey Items Mapped to Dimensions

Dimension	Item	Scale
Critical openness	1, 2, 3, 4, 5, 6, 7	Strongly disagree = 1
Reflective skepticism	8, 9, 10, 11	Disagree = 2
		Neutral = 3
		Agree = 4
		Strongly agree = 5

Finally, the Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2006) was used to measure work engagement. Table 4 provides item and dimension

details. The UWES has nine items and is scored on a continuous 7-point Likert scale from 0 (*never*) to 6 (*always, every day*). The median coefficient alpha for vigor is .77, the median coefficient alpha for dedication is .85, and the median coefficient alpha for absorption is .78 (Schaufeli et al., 2006). The median coefficient alpha for the UWES is .92 (Schaufeli et al., 2006).

Table 4

Utrecht Work Engagement Scale (UWES) Survey Items Mapped to Dimensions

Dimension	Item	Scale
Vigor	1, 2, 5	Never = 0
Dedication	3, 4, 7	Almost never, a few times a year or less = 1
Absorption	6, 8, 9	Rarely, once a month or less = 2
		Sometimes, a few times a month = 3
		Often, once a week = 4
		Very often, a few times a week = 5
		Always, every day = 6

Ligon granted permission to use the KFQ-R for this study; see Appendix E. Permission to use the EMI was not required. Based on the email communication between Ricketts and Ligon (2016), Ricketts requested that the results be shared with him, which I have done. Permission to use the CTDS was not required. Permission to use the UWES was not required; in return for using the UWES, on his website, Schaufeli asked researchers to share raw scores with him, which I have done. The UWES items were provided by agreeing to share the raw scores. The study survey contained five sections: (a) demographics, (b) the KFQ-R with 25 items, (c) the EMI with 26 items, (d) the CTDS with 11 items, and (e) the UWES with nine items.

Sample Items

Below are two items from the KFQ-R:

Item 5: I evaluate activities that are necessary for organizational goal achievement.

Item 6: I develop competencies in my work to increase my value to the organization.

Below are two items from the EMI:

Item 2: I look for opportunities to solve problems.

Item 7: I enjoy finding answers to challenging questions.

Below are two items from the CTDS:

Item 3: I often use new ideas to shape (modify) the way I do things.

Item 8: I often re-evaluate my experiences so that I can learn from them.

Below are two items from the UWES:

Item 4: My job inspires me.

Item 9: I get carried away when I am working.

Usability Testing

Usability testing, otherwise known as pilot testing, took place before launching the online survey to ensure participants could navigate correctly through the instrument (Creswell & Creswell, 2017). Performing usability testing helped determine the amount of time the survey would take and measure survey fatigue (Creswell & Creswell, 2017). I asked 13 St. Jude employees to participate in usability testing to provide feedback on the survey experience (Creswell & Creswell, 2017), of which seven provided feedback. I asked those participating in usability testing to complete the survey in different internet browsers (i.e., Google Chrome, Internet Explorer, Microsoft Edge, Apple Safari, and Mozilla Firefox) to test compatibility. I also asked each person to make observations about specific prompts and provide feedback (Creswell & Creswell, 2017).

Data Collection Procedures

To conduct this quantitative study, I used a cross-sectional design, meaning that data were collected at one point in time (Creswell & Creswell, 2017). The study survey was administered via Qualtrics, an electronic survey software program. Creswell and Creswell (2017) stated that Qualtrics, and programs like it (e.g., SurveyMonkey), facilitate data analysis, reduce data entry errors, and expedite hypothesis testing. After approval from the Southeastern University Institutional Review Board (IRB; see Appendix F), the St. Jude IRB (see Appendix G), and my dissertation committee, the survey was distributed. St. Jude employees received an email (see Appendix H for the initial email and the reminder) with the survey link. On the advice of the St. Jude IRB, abbreviated informed consent language appeared in the body of the email; the full informed consent was a PDF

attachment to the email (see Appendix I). After clicking the survey link in the email, participants were presented with the demographic questions and survey items outlined earlier (see Appendix J).

The online survey was delivered to the population electronically through email on Friday, December 16, 2022, with a brief explanation of the voluntary study and instructions. Clicking the survey link in the email indicated consent to participate. Participants completed the demographic data (i.e., employee status, age, gender, race, highest education level, years at St. Jude, years in industry/career, level, position type, and whether they are alumni of a training program) and the four surveys previously discussed. Table 5 provides the demographic coding. A reminder email was sent on Wednesday, December 21, 2022; data collection concluded on Friday, December 30, 2022. Responses were anonymous. Survey responses were saved in my St. Jude password-protected cloud-based drive and my university cloud-based drive, which is password protected. I originally planned to store the data file in an external drive but did not; my reasons for this decision are explained in Chapter 4.

Table 5

Demographic Item Coding

Item	Code	Data Type
What is your employee status?	1 = Full-time 2 = Part-time	Nominal
What is your age?		Continuous
What is your gender?	1 = Male 2 = Female 3 = Other	Nominal
What is your race?	1 = African American/Descent Black 2 = American Indian/Alaska Native 3 = Asian 4 = Caucasian/White 5 = Hispanic/Latino 6 = Native Hawaiian/Pacific Island 7 = Two or more races 8 = Other	Nominal
What is your highest education level?	1 = High school diploma/GED 2 = Bachelor's degree 3 = Master's degree 4 = Doctorate degree 5 = Multiple doctorate degrees	Nominal
How many years you have worked at St. Jude?		Continuous
How many years you have you worked in your industry/career field?		Continuous
Are you a people manager, meaning do you complete performance reviews for others?	1 = No 2 = Yes	Nominal
What is your position type?	1 = Staff 2 = Faculty	Nominal
Have you completed any of the St. Jude Leadership Academy programs? Check all that apply.	1 = Director 2 = Leadership Squared 3 = Manager 4 = Individual contributor: Leading Through Influence (LTI) 5 = N/A	Nominal

Data Analysis Procedures

CFA is used when a strong model has already been observed from EFA (Orçan, 2018). Researchers use CFA to examine the relationships between observed actions (e.g., test score or behavior rating), known as indicators, and latent unobserved variables, or factors (Brown, 2015). CFA is a critical step of scale development for an instrument such as the KFQ-R to determine the number of factors, or dimensions of the instrument, and the relationships of the items and factors, or factor loadings (Brown, 2015). CFA was conducted using version 2.3.21 of the statistical software jamovi (The jamovi project, 2021). Jamovi is a free statistical package that can be downloaded and offers factor analysis functionality. Jamovi is built on the R statistical language and is an appropriate alternative to SPSS, one of the most popular statistical analysis packages. SPSS requires an additional program, AMOS, to conduct structural equation modeling such as CFA. Additionally, AMOS is only compatible with the Windows operating system (IBM Corporation, n.d.); I have an Apple Macintosh computer, which eliminated the option of using AMOS.

To provide the data analysis details, Creswell and Creswell (2017) suggested listing the data analysis plan as sequential steps. Each step is addressed in Chapter 4.

- Step 1: Report the number of participants. A census survey of approximately 6,000 employees at St. Jude Children's Research Hospital was used to invite participants. Information on participants who returned and did not return the KFQ-R is reported (Creswell & Creswell, 2017).
- Step 2: Discuss the response bias. Wave analysis is widely accepted and was used to examine nonresponse bias, which occurs when respondents do not return surveys because of the topic or questions asked, which can negatively impact the study (Creswell & Creswell, 2017; Phillips et al., 2016). Wave analysis considers participants who complete the survey initially (i.e., Wave 1), those who complete the survey after being reminded (i.e., Wave 2), and those who are prompted to complete the survey after the deadline as proxies for nonrespondents (i.e., Wave 3; Phillips et al., 2016).

The proportion of later responses compared to earlier responses provides the nonresponse rate (Phillips et al., 2016).

- Step 3: Report the descriptive analysis. Descriptive data were analyzed via jamovi (The jamovi project, 2021). Missing data were examined, reported, and removed (Creswell & Creswell, 2017).
    - Before conducting CFA, data were examined for outliers and missing data (Creswell & Creswell, 2017). Pallant (2011) explained that complete data from each case is rare with humans. Pairwise deletion was used, meaning that cases were retained even with intermittent missing data.
    - Descriptive statistics from the demographic information were analyzed and reported. The following statistics were examined and reported: mean, standard deviation, number in the sample, and missing cases. In addition to descriptive statistics, I calculated coefficient alpha and conducted factor analysis.
- Step 4: Evaluate the instrument scales. None of the items in the surveys required reverse scoring. Instrument scores were calculated.
- Step 5: Identify the statistics to test the hypotheses. This includes conducting and identifying the statistical analysis. The six basic steps of CFA were conducted:
    1. Define the factor model.
    2. Collect measurements.
    3. Obtain the correlation matrix.
    4. Fit the model to the data.
    5. Evaluate model adequacy.
    6. Compare with other models (DeCoster, 1998).

The two research questions were examined, answered, and explained. RQ1 was: Does the structure of the 25-item KFQ-R support the hypothesized dimensions of critical thinking disposition, work engagement, and an unnamed dimension? RQ2 asked: Do the emerged dimensions of the 25-item KFQ-R show significant convergent validity with the critical thinking disposition scales (i.e., Critical

Thinking Disposition Scale and University of Florida Engagement, Cognitive Maturity, and Innovativeness inventory) and the work engagement scale (i.e., Utrecht Work Engagement Scale)?

Summary

In summary, CFA offered scientific examination of the KFQ-R to provide empirical evidence that confirmed validity and reliability of the KFQ-R. Critical thinking disposition, work engagement, and an unnamed dimension were measured in this study to assess followership dimensions. In this chapter, I explained the study methodology and design, including the population and participant sample, measures and instruments, data collection process, and data analysis procedures. An empirically validated followership instrument advances the followership field of study (Ligon, 2016). By accurately categorizing followers' style, I sought to provide insights to the levels of critical thinking disposition and work engagement to help in developing exemplary followers.

Chapter 4 – Results

In conducting this study, I aimed to promote followership by potentially providing a validated followership instrument. Kelley's (1988) original instrument, the Kelley Followership Questionnaire (KFQ), has been examined but not yet fully validated. Ligon (2016) analyzed the original KFQ 20 questions and split them, reworded them, or removed a portion of the content to create the revised KFQ (KFQ-R). The purpose of this study was to advance the theory of followership by examining the validity of the three-dimension structure of the 25-item KFQ-R (Ligon, 2016) by conducting factor analysis with data from employees at St. Jude Children's Research Hospital. The following research questions guided this study:

> RQ_1: Does the structure of the 25-item KFQ-R support the hypothesized dimensions of critical thinking disposition, work engagement, and an additional unnamed dimension?
>
> RQ_2: Do the named dimensions of the 25-item KFQ-R show significant convergent validity with the critical thinking disposition scales (i.e., Critical Thinking Disposition Scale and University of Florida Engagement, Cognitive Maturity, and Innovativeness inventory) and the work engagement scale (i.e., Utrecht Work Engagement Scale)?

This chapter provides data analysis results to answer the research questions.

Data Collection

The survey that I administered in this study was created in Qualtrics and delivered to the population via email. Before sending the survey, seven St. Jude employees participated in usability testing to give feedback on the survey experience and functionality. The study survey contained 10 demographic items and 71 survey items and took between 10–15 minutes to complete. The seven employees who piloted the survey tested it with four popular internet browsers: Google Chrome, Apple Safari, Microsoft Edge, and Mozilla Firefox.

The online survey was delivered to the population electronically via email on Friday, December 16, 2022, with a brief explanation of the voluntary study and instructions (see Appendix H). An abbreviated informed consent appeared in the

body of the email; the complete informed consent was a PDF attached to the email (see Appendix I). Clicking the survey link in the email indicated consent; participants were first presented demographic data (i.e., employee status, age, gender, race, highest education level, years at St. Jude, years in industry/career, level, position type, and whether they are alumni of a training program) and then the four surveys previously discussed in this study. Table 2 provides the demographic coding. A reminder email was sent on Wednesday, December 21, 2022. The survey ended on Friday, December 30, 2022. Responses were anonymous. The data file was saved in my St. Jude password-protected cloud-based drive and my university cloud-based drive that is also password-protected. I decided to not use my personal external drive, as originally planned, to back up the data because it is not password-protected. Saving the data file in two password-protected cloud locations was sufficient.

Data Analysis

As established in the previous chapter, data analysis followed a methodical sequential process (Creswell & Creswell, 2017). This section contains the results of the data analysis steps in these sections: participants, response bias, descriptive statistics, instruments, and statistical analysis. Data analysis was conducted with the statistical software jamovi, version 2.3.21 (jamovi branding uses a lowercase j).

Participants

A cross-sectional census survey was used to collect data for this study of approximately 6,000 payroll employees at St. Jude Children's Research Hospital, located in Memphis, TN. I used simple random probability sampling, which means everyone in the population had the same possibility of participating. Because all employees are followers, all employees were invited to participate in this study. A total of 962 employees clicked the survey link. During data cleaning, 12 cases with no data were deleted, one case with one answer to one question was deleted, and one case with nonsensical data was deleted, for a total of 14 cases deleted. I kept 948 cases even though some of the survey answers were arbitrarily missing. Jamovi defaults to pairwise deletion, which I used.

Response Bias

Wave analysis helps determine nonresponse bias (Creswell & Creswell, 2017). Wave analysis helps answer the question of whether the data provided by nonrespondents would have significantly changed the overall results. The study survey was emailed to approximately 6,000 St. Jude payroll employees on Tuesday, December 16, 2022. On the first day, 271 viable cases were submitted exceeding the minimum requirement of 200. In Wave 1 of the study, 635 viable cases were submitted. Employees received a reminder email on Wednesday, December 21; responses after the reminder comprise Wave 2. In Wave 2 of the study, 313 viable cases were received. I collected data during the last 2 weeks of the calendar year when many St. Jude employees take vacation; this likely reduced participation. Wagner (2012) advocated for new alternatives to determine response bias, citing numerous studies and concluding that predicting nonresponse bias solely by the response rate is not effective and not indicative of survey quality.

Descriptive Statistics

The sample for the study consisted of 948 St. Jude payroll employees, meaning they are paid by St. Jude and are on the St. Jude payroll (i.e., they are not contractors). Most of the participants, 96%, were full-time employees, which means they are expected or scheduled to work 40 hours per week. Part time employees are expected or scheduled to work 39 or fewer hours per week. See Table 6 for employee status details.

Table 6

Employee Status

Employee Status	*N*	Percent
Full-time	911	96.10
Part-time	34	3.59
Missing	3	0.31
Total	948	100

Table 7 outlines the sample's age statistics. Participants aged 31–55 years made up 66.7% of the sample. The youngest participants were in the 20–25 age range; the oldest participants were in the 81–85 age range.

Table 7

Age

Age	*N*	Percent
20–25	22	2.32
26–30	81	8.54
31–35	111	11.71
36–40	134	14.14
41–45	130	13.71
46–50	135	14.24
51–55	126	13.29
56–60	81	8.54
61–65	73	7.70
66–70	31	3.27
71–75	3	0.32
76–80	3	0.32
81–85	2	0.21
Missing	16	1.69
Total	948	100

Table 8 outlines gender data. Most participants were female (72.7%). Of the three employees who answered "other," two employees identified as nonbinary; one employee indicated they preferred not to answer.

Table 8

Gender

Gender	*N*	Percent
Male	255	26.9
Female	689	72.7
Other	3	0.3
Missing	1	0.1
Total	948	100

Race statistics are presented in Table 9. Most participants (67.7%) were Caucasian/White. Those of African American/Black descent comprised the second largest group at 17.5%. One participant who answered "other" indicated they preferred not to disclose. Two participants who answered "other" did not indicate a race. Of the remaining eight participants who answered "other," they indicated the following races: Indian, Indian Asian, Middle Eastern, Persian, Arab, MENA, and

human. One person used the following classification: White race, Hispanic ethnicity.

Table 9

Race

Race	*N*	Percent
African American/Black descent	166	17.5
American Indian/Alaska Native	2	0.2
Asian	75	7.9
Caucasian/White	642	67.7
Hispanic/Latino	34	3.6
Native Hawaiian/Pacific Island	1	0.1
Two or more races	17	1.8
Other	11	1.2
Missing	0	0
Total	948	100

Education statistics are presented in Table 10. St. Jude employees fill a vast assortment of positions including heating and air technicians, chefs, administrators, and world-renowned researchers. Approximately one third (32.9%) of the participants have a bachelor's degree. Similarly, approximately one third (32.7%) of respondents have a master's degree. Because St. Jude is an academic research institution, it is not surprising that 22.6% of participants have a doctoral degree. Data showed that 1.7% of the participants in this study have more than one doctoral degree. Of the seven missing values, some have associate's degrees. Two participants told me they left the education item blank because associate's degree was not an option. Not including associate's degree as an option was an oversight; seven St. Jude employees, my three dissertation committee members, and I reviewed the survey during usability testing and none of us realized that education should have an additional choice.

Table 10

Education

Education	*N*	Percent
High school diploma/GED	92	9.7
Bachelor's degree	312	32.9
Master's degree	308	32.5
Doctoral degree	213	22.5
Multiple doctoral degrees	16	1.7
Missing	7	0.7
Total	948	100

Years at St. Jude data are reviewed next (see Table 11 for details). The results showed that almost half of the participants (48.63%) have worked at St. Jude for less than 1 year and up to 5 years. The percentage of newer employees who responded possibly reflects the accelerated employment growth at St. Jude. The 2022–2027 strategic plan calls for unprecedented growth in employees, buildings, and programs (Downing, 2022). St. Jude has many long-term employees; 11.3% of the participants in this study have worked at St. Jude between 21 and 45 years.

Table 11

Years at St. Jude

Years at St. Jude	*N*	Percent
0–5	461	48.63
6–10	172	18.14
11–15	125	13.19
16–20	83	8.76
21–25	58	6.12
26–30	19	2.00
31–35	15	1.58
36–40	9	0.95
41–45	2	0.21
Missing	4	0.42
Total	948	100

Next, data for years in the industry or career field are presented (see Table 12). There was a fairly even distribution of participants who are brand new or new in their careers to those established in their careers, up to 25 years. St. Jude employees in their careers 6–10 years represented 16.88% of respondents;

employees in their careers 16–20 years represented 16.77% of participants. Ten participants (1%) have worked in their fields for 46–60 years.

Table 12

Years in Industry/Career Field

Years in Industry/Career Field	*N*	Percent
0–5	128	13.50
6–10	160	16.88
11–15	143	15.08
16–20	159	16.77
21–25	122	12.87
26–30	91	9.60
31–35	60	6.33
36–40	45	4.75
41–45	25	2.64
46–50	7	0.74
51–55	1	0.11
56–60	2	0.21
Missing	5	0.52
Total	948	100

As with most organizations, St. Jude has more individual contributors than people managers. Table 13 shows that individual contributors comprised 65.4% of the sample. Individual contributors naturally come to mind as followers because they are at the lowest organizational level and do not complete performance reviews for others. Chapters 1 and 2 of this study clearly showed that every employee is a follower regardless of organization position.

Table 13

People Manager

People Manager	*N*	Percent
No	619	65.3
Yes	328	34.6
Missing	1	0.1
Total	948	100

As explained earlier, St. Jude is an academic research institution with the expected academic structure: chair, member, associate member, assistant member, instructor, and research associate (St. Jude Children's Research Hospital, n.d.-b, n.d.-c). Furthermore, St. Jude has a traditional organization structure as well: CEO,

senior leaders, vice presidents, directors, managers, and individual contributors (St. Jude Children's Research Hospital, n.d.-d, n.d.-e). Table 14 shows that staff employees comprised 93% of the study participants.

Table 14

Position Type

Position Type	*N*	Percent
Staff	884	93.25
Faculty	56	5.91
Missing	8	0.84
Total	948	100

The final descriptive statistic is whether participants are alumni of any program under the St. Jude Leadership Academy (SJLA). The SJLA offers programs for directors, managers, and individual contributors. The individual contributor program is named Leading Through Influence (LTI). Leadership Squared (L2) is an application-based mentoring program for directors. Table 15 shows that participants who completed LTI comprised 11.6% of the sample. Participants who completed the manager program comprised 11.1% of the sample. A majority of the participants (61.7%) were not alumni of a SJLA program.

Table 15

St. Jude Leadership Academy

St. Jude Leadership Academy	N	Percent
Director	36	3.80
Leadership Squared (L2)	9	0.95
Manager	105	11.08
Individual contributor: Leading Through Influence (LTI)	110	11.60
Director, L2	10	1.05
Director, Manager	11	1.16
Director, LTI	3	0.32
Manager, LTI	15	1.58
Not applicable	585	61.71
Missing	64	6.75
Total	948	100

Instruments

As a reminder, four instruments were used in this study. Through this study, I sought to validate the KFQ-R (Ligon, 2016). The KFQ-R was the first instrument

presented to participants after the demographic items. Ligon's KFQ-R measures three dimensions: critical thinking disposition, work engagement, and an unclassified dimension. Additionally, this study used two instruments to assess convergent validity for critical thinking disposition and one instrument to assess work engagement. The second instrument used in this study was the 26-item University of Florida Engagement, Cognitive Maturity, and Innovativeness (EMI; Ricketts & Rudd, 2004) inventory to measure critical thinking disposition; Ligon also used this instrument. Third, I used the 11-item Critical Thinking Disposition Scale (CTDS; Sosu, 2013) to also measure critical thinking disposition. Finally, I used the nine-item Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2006) to measure work engagement.

Analysis

In this section, I explain data-related descriptive statistics, principal component analysis (PCA), reliability, validity, and confirmatory factor analysis (CFA). See Table 16 for the data-specific descriptive statistics; this table provides the mean, standard deviation, number of cases, and the number of missing cases. The KFQ-R uses a 7-point Likert scale from 0 (*never*) to 6 (*always*). The EMI and CTDS both use a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). The UWES uses a 7-point Likert scale from 1 (*almost never, a few times a year or less*) to 6 (*always, every day*).

Table 16

Factor Analysis Descriptive Statistics

Item	Mean	SD	*N*	Missing
KFQR_1	4.079	1.389	821	127
KFQR_2	4.355	1.299	822	126
KFQR_3	4.209	1.268	819	129
KFQR_4	5.350	0.820	819	129
KFQR_5	4.406	1.348	817	131
KFQR_6	5.376	0.685	819	129
KFQR_7	4.403	1.251	816	132
KFQR_8	4.203	1.206	821	127
KFQR_9	4.999	0.890	818	130
KFQR_10	4.648	1.241	818	130

Item	Mean	SD	*N*	Missing
KFQR_11	4.487	1.328	817	131
KFQR_12	5.110	0.976	817	131
KFQR_13	4.747	1.137	821	127
KFQR_14	5.550	0.749	817	131
KFQR_15	4.855	1.060	822	126
KFQR_16	4.826	1.163	818	130
KFQR_17	2.719	1.626	818	130
KFQR_18	4.823	1.008	815	133
KFQR_19	3.826	1.667	815	133
KFQR_20	5.074	0.994	822	126
KFQR_21	3.998	1.772	811	137
KFQR_22	5.009	1.024	816	132
KFQR_23	3.811	1.561	816	132
KFQR_24	5.067	0.899	820	128
KFQR_25	3.664	1.648	819	129

Note. The mean number of cases analyzed was 819.

PCA must be done first to determine whether factor analysis is appropriate. Factor analysis is not an exact science; much of the investigation is based on an iterative process: run an analysis, examine the output to interpret the results, remove or retain the items based on the interpretation, and repeat the process (Pallant, 2011). This section explains seven iterations of PCA to produce the strongest model on which to perform CFA.

PCA involves reviewing three elements: (a) component loadings, (b) Bartlett's test of sphericity, and (c) the Kaiser-Meyer-Olkin (KMO) test (Pallant, 2011). PCA shows the relationship between the variables, which is also known as intercorrelations (Pallant, 2011). Examining intercorrelations first helps determine whether conducting factor analysis is appropriate (Pallant, 2011). Table 17 shows the correlation matrix for the Pearson product-moment correlation coefficient, or Pearson's *r*. The correlation matrix shows the strength of the variables to one another; the correlation matrix revealed numerous significant relationships with values above the minimum of 0.30 (Watkins, 2018). The correlation matrix provided evidence for CFA.

Table 17

KFQ-R Correlation Matrix for Pearson's r

Item	KFQR_1	KFQR_2	KFQR_3	KFQR_4	KFQR_5
KFQR_1	—				
KFQR_2	.54***	—			
KFQR_3	.51***	.49***	—		
KFQR_4	.22***	.28***	.17***	—	
KFQR_5	.35***	.36***	.3***	.37***	—
KFQR_6	.16***	.23***	.16***	.47***	.31***
KFQR_7	.35***	.41***	.37***	.28***	.53***
KFQR_8	.38***	.35***	.33***	.34***	.46***
KFQR_9	.20***	.23***	.18***	.24***	.33***
KFQR_10	.23***	.28***	.21***	.21***	.38***
KFQR_11	.23***	.29***	.25***	.19***	.36***
KFQR_12	.15***	.22***	.15***	.35***	.30***
KFQR_13	.22***	.25***	.19***	.24***	.37***
KFQR_14	.10**	.16***	.15***	.30***	.29***
KFQR_15	.29***	.25***	.28***	.21***	.35***
KFQR_16	.24***	.24***	.21***	.31***	.37***
KFQR_17	.06	.04	.13***	-.06	.09*
KFQR_18	.16***	.17***	.19***	.30***	.27***
KFQR_19	.04	.02	.04	.08*	.06
KFQR_20	.22***	.18***	.16***	.22***	.25***
KFQR_21	.03	.06	.09**	-.01	.01
KFQR_22	.24***	.24***	.25***	.29***	.35***
KFQR_23	.15***	.17***	.2***	.13***	.14***
KFQR_24	.14***	.19***	.16***	.30***	.33***
KFQR_25	.14***	.18***	.19***	.11**	.15***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 17 Continued

KFQ-R Correlation Matrix for Pearson's r

Item	KFQR_6	KFQR_7	KFQR_8	KFQR_9	KFQR_10
KFQR_6	—				
KFQR_7	.25***	—			
KFQR_8	.32***	.58***	—		
KFQR_9	.29***	.40***	.39***	—	
KFQR_10	.21***	.47***	.37***	.43***	—
KFQR_11	.17***	.54***	.40***	.41***	.47***
KFQR_12	.42***	.23***	.31***	.24***	.33***
KFQR_13	.28***	.53***	.46***	.48***	.38***
KFQR_14	.32***	.24***	.21***	.40***	.28***
KFQR_15	.31***	.30***	.37***	.31***	.33***
KFQR_16	.37***	.45***	.40***	.43***	.31***
KFQR_17	-0.01	.17***	.13***	.20***	.08*
KFQR_18	.31***	.32***	.30***	.38***	.29***
KFQR_19	.14***	-0.01	.08*	.08*	.02
KFQR_20	.25***	.28***	.27***	.33***	.24***
KFQR_21	.03	.08*	.02	.21***	.07*
KFQR_22	.29***	.30***	.30***	.29***	.26***
KFQR_23	.10**	.27***	.25***	.27***	.21***
KFQR_24	.35***	.22***	.26***	.21***	.26***
KFQR_25	.07*	.27***	.2***	.32***	.23***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 17 Continued

KFQ-R Correlation Matrix for Pearson's r

Item	KFQR_11	KFQR_12	KFQR_13	KFQR_14	KFQR_15
KFQR_11	—				
KFQR_12	.32***	—			
KFQR_13	.68***	.32***	—		
KFQR_14	.29***	.35***	.34***	—	
KFQR_15	.28***	.25***	.34***	.29***	—
KFQR_16	.35***	.26***	.45***	.42***	.46***
KFQR_17	.18***	-0.03	.21***	.04	.14***
KFQR_18	.31***	.32***	.34***	.30***	.36***
KFQR_19	.01	.17***	.10**	.04	.11**
KFQR_20	.26***	.30***	.35***	.26***	.28***
KFQR_21	.08*	.02	.11**	.08*	.09*
KFQR_22	.36***	.39***	.38***	.28***	.33***
KFQR_23	.38***	.10**	.37***	.17***	.19***
KFQR_24	.25***	.56***	.27***	.23***	.20***
KFQR_25	.39***	.07*	.36***	.19***	.19***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 17 Continued

KFQ-R Correlation Matrix for Pearson's r

Item	KFQR_16	KFQR_17	KFQR_18	KFQR_19	KFQR_20
KFQR_16	—				
KFQR_17	.20***	—			
KFQR_18	.42***	.15***	—		
KFQR_19	.08*	.08*	.20***	—	
KFQR_20	.33***	.13***	.41***	.27***	—
KFQR_21	.16***	.24***	.10**	.07*	.15***
KFQR_22	.31***	.06	.37***	.19***	.33***
KFQR_23	.26***	.26***	.17***	.05	.18***
KFQR_24	.25***	-.02	.32***	.28***	.36***
KFQR_25	.23***	.26***	.17***	-.00	.15***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 17 Continued

KFQ-R Correlation Matrix for Pearson's r

Item	KFQR_21	KFQR_22	KFQR_23	KFQR_24	KFQR_25
KFQR_21	—				
KFQR_22	.19***	—			
KFQR_23	.32***	.25***	—		
KFQR_24	.07	.45***	.18***	—	
KFQR_25	.31***	.20***	.81***	.11**	—

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Bartlett's test of sphericity provides additional evidence for CFA, yet it is sensitive to large sample sizes (Tabachnick & Fidell, 2013); therefore, analysis was supplemented with the KMO (Watkins, 2018). Bartlett's test of sphericity for the KFQ-R was significant at $p < 0.001$. The KMO test measures sampling adequacy; Kaiser (1974) asserted the minimum score should be 0.60. Kaiser (1974) stated that values in the 0.60s were mediocre, values in the 0.70s were middling, values in the 0.80s were meritorious, and finally, values in the 0.90s were marvelous. The overall KMO value for the KFQ-R was 0.896, which surpasses Kaiser's (1974) minimum score of 0.60.

PCA Iteration 1

The first iteration of PCA revealed six components with initial eigenvalues higher than 1.0 that explained 59.774% of the variance (see Table 18). The same data in Table 18 are shown as a scree plot in Figure 1. Table 19 shows the component loadings of the KFQ-R items, indicating six distinct components instead of the three originally proposed by Ligon (2016). Component 1 consisted of seven items: 11, 13, 7, 10, 8, 5, and 9; item 13 was one of the original four items in the unnamed dimension. Four items loaded in component 2: 14, 6, 4, and 16. Items 18 and 15 appeared next, respectively, and did not load at the minimum value, 0.45, in any of the six components. Three items loaded in component 3: 1, 2, and 3. Five items loaded in component 4: 19, 24, 20, 12, and 22. Component 5 consisted of three items: 23, 25, and 21; component 5 contained two of the original four items in the unnamed dimension: 21 and 25. Finally, item 17 was the only item that loaded

in component 6; item 17 was also one of the original four items that was in the unnamed dimension.

Table 18

Iteration 1 KFQ-R Initial Eigenvalues

Component	Eigenvalue	% of Variance	Cumulative %
1	7.490	29.961	29.961
2	2.093	8.372	38.333
3	1.781	7.124	45.457
4	1.331	5.324	50.781
5	1.168	4.673	55.454
6	1.080	4.320	59.774
7	0.826	3.303	63.077
8	0.794	3.174	66.252
9	0.733	2.933	69.185
10	0.723	2.891	72.075
11	0.690	2.762	74.837
12	0.676	2.703	77.540
13	0.615	2.459	79.999
14	0.600	2.401	82.400
15	0.561	2.243	84.643
16	0.513	2.054	86.696
17	0.482	1.929	88.625
18	0.477	1.909	90.534
19	0.442	1.769	92.304
20	0.426	1.705	94.009
21	0.407	1.629	95.638
22	0.349	1.398	97.035
23	0.305	1.222	98.257
24	0.267	1.066	99.323
25	0.169	0.677	100.000

Figure 1

Scree Plot

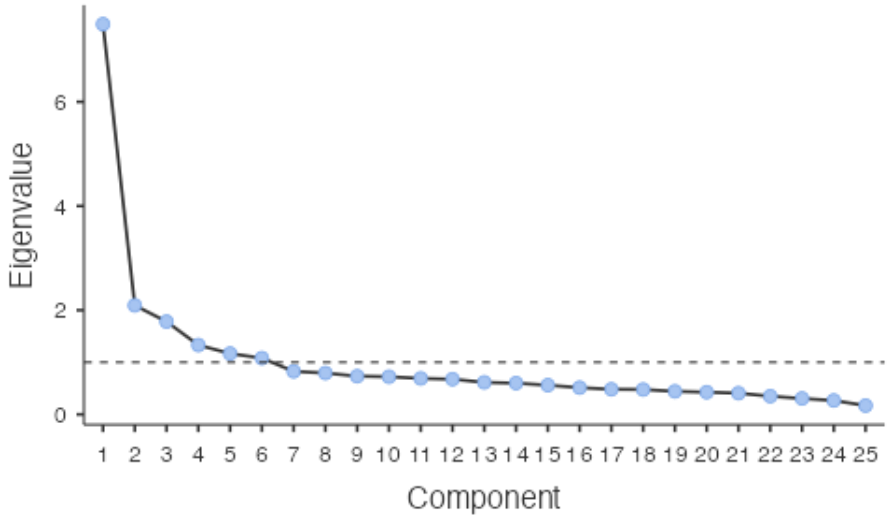


Table 19

Iteration 1 KFQ-R Component Loadings With All Items

Item	Component					
	1	2	3	4	5	6
KFQR_11	**0.786**	0.048	0.071	0.128	0.287	-0.028
KFQR_13	**0.727**	0.216	0.018	0.186	0.232	0.060
KFQR_7	**0.715**	0.172	0.349	0.027	0.050	0.089
KFQR_10	**0.626**	0.183	0.175	0.121	0.032	0.031
KFQR_8	**0.580**	0.218	0.386	0.115	0.015	0.015
KFQR_5	**0.513**	0.259	0.382	0.161	-0.066	-0.012
KFQR_9	**0.492**	0.426	0.035	0.092	0.169	0.291
KFQR_14	0.220	**0.705**	-0.006	0.034	0.096	0.056
KFQR_6	0.086	**0.675**	0.138	0.255	0.027	-0.186
KFQR_4	0.096	**0.616**	0.251	0.168	0.071	-0.311
KFQR_16	0.368	**0.612**	0.120	0.075	0.079	0.302
KFQR_18	0.264	0.442	0.053	0.403	0.010	0.249
KFQR_15	0.296	0.414	0.275	0.155	-0.017	0.302
KFQR_1	0.170	0.046	**0.798**	0.093	0.018	0.061
KFQR_2	0.192	0.157	**0.756**	0.023	0.094	-0.094
KFQR_3	0.138	0.066	**0.755**	0.080	0.130	0.110
KFQR_19	-0.085	-0.064	0.009	**0.717**	-0.069	0.245
KFQR_24	0.208	0.193	0.093	**0.715**	0.123	-0.262
KFQR_20	0.205	0.262	0.082	**0.551**	0.011	0.294
KFQR_12	0.283	0.352	0.076	**0.538**	0.047	-0.346
KFQR_22	0.268	0.223	0.181	**0.534**	0.224	-0.061
KFQR_23	0.230	0.061	0.107	0.068	**0.870**	0.061
KFQR_25	0.244	0.067	0.091	-0.013	**0.863**	0.097
KFQR_21	-0.166	0.120	0.037	0.136	**0.509**	0.416
KFQR_17	0.162	-0.042	0.059	0.035	0.241	**0.641**

Note. Varimax rotation was used. Component loadings above .45 are in bold.

PCA Iteration 2

I retained items with component loading values of 0.45 or greater. Hair et al. (1998) explained that values ±.40 are considered practically important and values ±.50 are considered practically significant. Based on the component loadings in Table 19, I removed item 18 (When I am not the leader of a group project, I contribute at a high level) and item 15 (I evaluate my strengths and weaknesses at work) because they did not meet the minimum value of 0.45 in any of the six

components. I reran the analysis for iteration 2. Bartlett's test of sphericity was significant at $p < .001$. The KMO overall score was 0.886. Both Bartlett's test and KMO scores were meaningful and indicated additional analysis was necessary. With items 18 and 15 removed, 61.601% of the variance was explained in six components. Table 20 shows the eigenvalues without items 18 and 15. Table 21 shows the component loadings without items 18 and 15.

Table 20

Iteration 2 KFQ-R Eigenvalues Without Items 18 and 15

Component	Eigenvalue	% of Variance	Cumulative %
1	6.872	29.879	29.879
2	2.065	8.978	38.856
3	1.734	7.541	46.397
4	1.332	5.79	52.187
5	1.098	4.773	56.96
6	1.067	4.641	61.601

Table 21

Iteration 2 KFQ-R Component Loadings Without Items 18 and 15

Item	Component					
	1	2	3	4	5	6
KFQR_11	0.777					
KFQR_13	0.730					
KFQR_7	0.728					
KFQR_10	0.633					
KFQR_8	0.586					
KFQR_5	0.528					
KFQR_9	0.516					
KFQR_14		0.699				
KFQR_6		0.694				
KFQR_4		0.644				
KFQR_16		0.565				
KFQR_1			0.798			
KFQR_3			0.759			
KFQR_2			0.756			
KFQR_24				0.737		
KFQR_19				0.701		
KFQR_12				0.573		
KFQR_22				0.547		
KFQR_20				0.521		
KFQR_23					0.875	
KFQR_25					0.869	
KFQR_17						0.681
KFQR_21						0.528

Note. Varimax rotation was used.

PCA Iteration 3

As a result of removing items 18 and 15, the component values changed. Item 17 (I question internally the wisdom of the leader's decisions) and item 21 (I act on my own ethical standards rather than those of my work group [team]) were the only two items that loaded in component 6. Effectively measuring the latent variable that items represent requires at least three items to load in a component or factor (Costello & Osborne, 2005). Even though items 17 and 21 had strong component loading values of 0.681 and 0.528, respectively, they had to be

removed. As a reminder, item 17 was originally included in the unnamed dimension, which consisted of four items that did not have a clear theme.

Clearly, components 5 and 6 both had just two items (see Table 21). I removed items 17 and 21 in component 5 before removing items 23 and 25 in component 6 because the values were lower. With items 18 and 15 still removed, I removed items 17 and 21 and reran the analysis for iteration 3. Bartlett's test of sphericity was significant at $p < .001$. The KMO overall score was 0.885. Both Bartlett's test and KMO scores were meaningful and indicated that additional analysis was necessary. With items 18, 15, 17, and 21 removed, 60.146% of the variance was explained in five components. Table 22 shows the eigenvalues without items 18, 15, 17, and 21. Table 23 shows the component loadings without items 18, 15, 17, and 21. In iteration 3, item 16 loaded significantly in components 1 and 3.

Table 22

Iteration 3 KFQ-R Eigenvalues Without Items 18, 15, 17, and 21

Component	Eigenvalue	% of Variance	Cumulative %
1	6.755	32.167	32.167
2	1.872	8.912	41.079
3	1.678	7.991	49.07
4	1.268	6.038	55.108
5	1.058	5.038	60.146

Table 23

Iteration 3 KFQ-R Component Loadings Without Items 18, 15, 17, and 21

Item	Component				
	1	2	3	4	5
KFQR_7	0.745				
KFQR_11	0.738				
KFQR_13	0.722				
KFQR_10	0.651				
KFQR_9	0.607				
KFQR_8	0.574				
KFQR_5	0.527				
KFQR_1		0.790			
KFQR_2		0.762			
KFQR_3		0.756			
KFQR_6			0.732		
KFQR_4			0.703		
KFQR_14			0.638		
KFQR_16	0.483		0.495		
KFQR_19				0.731	
KFQR_24				0.716	
KFQR_20				0.550	
KFQR_22				0.543	
KFQR_12				0.538	
KFQR_25					0.909
KFQR_23					0.905

Note. Varimax rotation was used.

PCA Iteration 4

As a result of removing items 18, 15, 17, and 21, the component values changed. Items 25 (I assert my views on important issues, even though they may conflict with those of the leader) and 23 (I assert my views on important issues, even though they may conflict with coworkers) remained in component 5, as shown in Table 23. I removed items 25 and 23 because they were the only two items in component 5 and reran the analysis for iteration four. Bartlett's test of sphericity was significant, $p < .001$. The KMO overall score was 0.901. Both Bartlett's test and KMO scores were meaningful and indicated additional analysis was necessary. With items 18, 15, 17, 21, 25, and 23 removed, 56.450% of the variance was

explained for four components. Table 24 shows the eigenvalues without items 18, 15, 17, 21, 25, and 23. Table 25 shows the component loadings without items 18, 15, 17, 21, 25, and 23. In iteration 4, item 16 again loaded significantly in components 1 and 3. Also, item 12 loaded significantly in components 3 and 4.

Table 24

Iteration 4 KFQ-R Eigenvalues Without Items 18, 15, 17, 21, 25, and 23

Component	Eigenvalue	% of Variance	Cumulative %
1	6.401	33.688	33.688
2	1.782	9.381	43.069
3	1.411	7.428	50.497
4	1.131	5.953	56.450

Table 25

Iteration 4 KFQ-R Component Loadings Without Items 18, 15, 17, 21, 25, and 23

Item	Component			
	1	2	3	4
KFQR_11	0.789			
KFQR_13	0.781			
KFQR_7	0.690			
KFQR_9	0.659			
KFQR_10	0.602			
KFQR_16	0.522		0.470	
KFQR_8	0.504			
KFQR_5	—	—	—	—
KFQR_1		0.798		
KFQR_2		0.767		
KFQR_3		0.758		
KFQR_6			0.748	
KFQR_4			0.727	
KFQR_14			0.580	
KFQR_19				0.740
KFQR_24				0.693
KFQR_20				0.556
KFQR_22				0.537
KFQR_12			0.487	0.510

Note. Varimax rotation was used.

PCA Iteration 5

As a result of removing items 18, 15, 17, 21, 25, and 23, the component values changed. Because item 5 (I evaluate activities that are necessary for organizational goal achievement) did not load at the minimum value of 0.45, I removed it and reran the analysis for iteration 5. Bartlett's test of sphericity was significant at $p < .001$. The KMO overall score was 0.892. Both Bartlett's test and KMO scores were meaningful and indicated additional analysis was necessary. With items 18, 15, 17, 21, 25, 23, and 5 removed, 57.297% of the variance was explained for four components. Table 26 shows the eigenvalues without items 18, 15, 17, 21, 25, 23, and 5. Table 27 shows the component loadings without items 18, 15, 17, 21, 25, 23, and 5. In iteration 5, item 16 again loaded significantly in components 1 and 3. Also, item 12 loaded significantly in components 3 and 4, as before.

Table 26

Iteration 5 KFQ-R Eigenvalues Without Items 18, 15, 17, 21, 25, 23, and 5

Component	Eigenvalue	% of Variance	Cumulative %
1	6.008	33.376	33.376
2	1.77	9.834	43.210
3	1.403	7.794	51.004
4	1.133	6.293	57.297

Table 27

Iteration 5 KFQ-R Component Loadings Without Items 18, 15, 17, 21, 25, 23, and 5

Item	Component			
	1	2	3	4
KFQR_11	0.791			
KFQR_13	0.784			
KFQR_7	0.694			
KFQR_9	0.664			
KFQR_10	0.605			
KFQR_16	0.534		0.459	
KFQR_8	0.513			
KFQR_1		0.801		
KFQR_2		0.772		
KFQR_3		0.767		
KFQR_6			0.756	
KFQR_4			0.731	
KFQR_14			0.576	
KFQR_19				0.741
KFQR_24				0.698
KFQR_20				0.555
KFQR_22				0.530
KFQR_12			0.494	0.509

Note. Varimax rotation was used.

PCA Iteration 6

The component values changed as a result of removing items 18, 15, 17, 21, 25, 23, and 5. After identifying the remaining component loadings in the four components that had a value of at least 0.45, I grouped the narrative component items together to examine themes. Table 28 shows the 18 KFQ-R items grouped by component. I examined item 16, in components 1 and 3, and item 12, in components 3 and 4. In Table 28, items 16 and 12 appear in the components where they loaded the strongest, components 1 and 4, respectively. Items 16 and 12 do not convey a similar theme, in my opinion. I decided to keep items 16 and 12 in their strongest components and examine item 8. Item 8 in component 1 seemed out of place considering that the other items in component 1 appeared to have a critical

thinking disposition theme. I decided to remove item 8 and conduct PCA iteration six.

Table 28

Iteration 6 KFQ-R Items Grouped by Components

Component	KFQ-R Item
1	11. I help the leader to see the potential and risks of ideas and plans
	13. I help my team to see the potential and risks of ideas and plans
	7. I generate and evaluate new ideas that contribute to the organizational goals
	9. I try to solve problems rather than rely on the leader
	10. I develop competencies in my work to increase my value to the organization
	16. I finish assignments that go beyond my job duties
	8. My involvement at work energizes coworkers
2	1. I think about how my work adds to society
	2. Alignment between my personal and organizational goals helps me stay involved at work
	3 I spend time thinking about how my work contributes to my personal fulfillment
3	6. I contribute my best at work
	4. I am committed to my work role
	14. The leader can give me an assignment without supervision, knowing I will complete it
4	19. I do what the leader requests regardless of my beliefs
	24. I work to achieve the leader's needs and goals
	20. I emphasize coworkers' contribution, even when I do not receive credit
	12. When starting a new assignment, I strive to succeed at tasks that are important to the leader
	22. I strive to understand the leader's perspectives

As a result of removing items 18, 15, 17, 21, 25, 23, 5, and 8, the component values changed. Bartlett's test of sphericity was significant at $p < .001$. The KMO overall score was 0.882. Both Bartlett's test and KMO scores were meaningful and indicated additional analysis was necessary. With items 18, 15, 17, 21, 25, 23, 5, and 8 removed, 58.064% of the variance was explained for the four components. Table 29 shows the eigenvalues without items 18, 15, 17, 21, 25, 23,

5, and 8. Table 30 shows the component loadings without items 18, 15, 17, 21, 25, 23, 5, and 8. The additional significant loadings for items 16 and 12 moved from component 3 to component 2 in iteration 6 and appear in Table 30.

Table 29

Iteration 6 KFQ-R Component Loadings Without Items 18, 15, 17, 21, 25, 23, 5, and 8

Component	Eigenvalue	% of Variance	Cumulative %
1	5.597	32.923	32.923
2	1.740	10.233	43.156
3	1.403	8.250	51.407
4	1.132	6.657	58.064

Table 30

Iteration 6 KFQ-R Component Loadings Without Items 18, 15, 17, 21, 25, 23, 5, and 8

Item	Component			
	1	2	3	4
KFQR_11	0.797			
KFQR_13	0.785			
KFQR_7	0.682			
KFQR_9	0.666			
KFQR_10	0.607			
KFQR_16	0.534	0.464		
KFQR_6		0.756		
KFQR_4		0.731		
KFQR_14		0.582		
KFQR_1			0.802	
KFQR_2			0.783	
KFQR_3			0.775	
KFQR_19				0.746
KFQR_24				0.698
KFQR_20				0.549
KFQR_22				0.523
KFQR_12		0.496		0.509

Note. Varimax rotation was used.

PCA Iteration 7

After confirming all items loaded at the minimum value of 0.45 and examining the remaining 17 narrative items, item 16 loaded significantly in two components. Additionally, it seemed that item 16 (I finish assignments that go beyond my job duties) was out of place in component 1 with items that seemed to focus on critical thinking disposition. Item 16 had a stronger loading in component 1 where it seemed incongruent. I removed item 16 and ran iteration 7. The component values changed by removing items 18, 15, 17, 21, 25, 23, 5, 8, and 16. Bartlett's test of sphericity was significant at $p < .001$. The KMO overall score was 0.871. Both Bartlett's test and KMO scores were meaningful and indicated additional analysis was necessary. With items 18, 15, 17, 21, 25, 23, 5, 8, and 16 removed, 59.019% of the variance was explained for the four components. Table 31 shows the eigenvalues without items 18, 15, 17, 21, 25, 23, 5, 8, and 16. Table 32 shows the component loadings without items 18, 15, 17, 21, 25, 23, 5, 8, and 16. In iteration 7, item 12 loaded significantly only in component 2.

Table 31

Iteration 7 KFQ-R Component Loadings Without Items 18, 15, 17, 21, 25, 23, 5, 8, and 16

Component	Eigenvalue	% of Variance	Cumulative %
1	5.220	32.623	32.623
2	1.738	10.861	43.484
3	1.379	8.616	52.100
4	1.107	6.919	59.019

Table 32

Iteration 7 KFQ-R Component Loadings Without Items 18, 15, 17, 21, 25, 23, 5, 8, and 16

Item	Component			
	1	2	3	4
KFQR_11	**0.814**	0.039	0.157	0.115
KFQR_13	**0.790**	0.145	0.070	0.202
KFQR_7	**0.681**	0.117	0.386	0.023
KFQR_9	**0.665**	0.244	0.046	0.102
KFQR_10	**0.624**	0.168	0.207	0.082
KFQR_6	0.113	**0.765**	0.090	0.146
KFQR_4	0.087	**0.754**	0.209	0.049
KFQR_12	0.226	**0.584**	0.055	0.412
KFQR_14	0.405	**0.539**	-0.036	0.032
KFQR_1	0.132	0.049	**0.809**	0.121
KFQR_2	0.185	0.198	**0.779**	-0.016
KFQR_3	0.159	0.045	**0.779**	0.091
KFQR_19	-0.081	-0.053	-0.026	**0.791**
KFQR_24	0.151	0.414	0.076	**0.635**
KFQR_20	0.319	0.128	0.117	**0.580**
KFQR_22	0.309	0.283	0.191	**0.490**

Note. Varimax rotation was used. Component loadings above .45 are in bold.

After iteration 7, I verified that all 16 retained items had the minimum value of 0.45 and reviewed the narrative items again for themes. Table 33 contains the 16 items grouped by my initial themes. Items in component 1 seem to have a critical thinking disposition theme. Component 2 consists of a work engagement theme. Items in component 3 seem to have an experienced meaningfulness theme. Finally, component 4 seems to have a co-productive orientation theme.

Table 33

Retained KFQ-R Items Grouped by Components

Component	KFQ-R Item
1 Critical thinking disposition	7. I generate and evaluate new ideas that contribute to the organizational goals
	9. I try to solve problems rather than rely on the leader
	10. I develop competencies in my work to increase my value to the organization
	11. I help the leader to see the potential and risks of ideas and plans
	13. I help my team to see the potential and risks of ideas and plans
2 Work engagement	4. I am committed to my work role
	6. I contribute my best at work
	12. When starting a new assignment, I strive to succeed at tasks that are important to the leader
	14. The leader can give me an assignment without supervision, knowing I will complete it
3 Experienced meaningfulness	1. I think about how my work adds to society
	2. Alignment between my personal and organizational goals helps me stay involved at work
	3. I spend time thinking about how my work contributes to my personal fulfillment
4 Co-productive orientation	19. I do what the leader requests regardless of my beliefs
	20. I emphasize coworkers' contribution, even when I do not receive credit
	22. I strive to understand the leader's perspectives
	24. I work to achieve the leader's needs and goals

Reliability

Reliability means that an instrument's score consistently measures the construct or dimension being assessed (DeVellis, 2012). In other words, a score should not change if the instrument has not changed. An often-used measure of reliability to assess an instrument's quality is coefficient alpha, or Cronbach's coefficient alpha. Because Cronbach never aspired for fame and was embarrassed that the formula became synonymous with him (Cronbach & Shavelson, 2004), I used the label coefficient alpha. In general, the minimum acceptable reliability score for coefficient alpha is .70. Table 34 shows the coefficient alpha scores for the initial KFQ-R dimensions. Ligon's (2016) KFQ-R has three dimensions that

measure followership: critical thinking disposition, work engagement, and an unclassified dimension.

Table 34

Original KFQ-R Coefficient Alpha

Dimension	α
Critical thinking disposition (all odd number items)	.78
Work engagement (all even number items)	.83
Unnamed (items 13, 17, 21, 25)	.56
Critical thinking disposition (without items 13, 17, 21, 25)	.73

The coefficient alpha for the critical thinking disposition dimension, including the four items in the unnamed dimension, is .78; excluding the four items the reliability score is.73. The coefficient alpha for the work engagement dimension is .83. The coefficient alpha for the unnamed dimension is .56. The critical thinking disposition and work engagement dimensions indicate internal consistency scores with high reliability. At .56, the reliability of the unnamed dimension is below the usual threshold of .70 for acceptability. The unclassified, or unnamed, dimension has four items, which are discussed in more detail in the following paragraph.

In previous attempts to validate the KFQ, other researchers found more than two dimensions (Blanchard et al., 2009; Favara, 2009; Gatti et al., 2014). Likewise, Ligon's (2016) analysis revealed three dimensions of the KFQ-R: critical thinking disposition (nine items), work engagement (12 items), and an unnamed dimension (four items). These four items comprise the unnamed dimension:

- Item 13: I help my team to see the potential and risks of ideas and plans.
- Item 17: I question internally the wisdom of the leader's decisions.
- Item 21: I act on my own ethical standards rather than those of my work group (team).
- Item 25: I assert my views on important issues, even though they may conflict with the leader.

My three dissertation committee members and I reviewed and discussed the four items that comprise the unnamed dimension to determine whether we could identify a theme. We did not have consensus on a theme; thus, we decided that I should analyze the KFQ-R considering the two named dimensions and one

unnamed dimension. The four items were originally included in the critical thinking disposition dimension in Ligon's (2016) EFA. In Table 34, it is interesting to note that removing the four items from the critical thinking disposition dimension lowered the reliability score from .78 to .73. The four items add value to the KFQ-R, yet they do not imply an obvious theme.

The data for this study were deemed reliable; Table 35 shows the coefficient alpha scores for the current KFQ-R. The critical thinking disposition dimension has a coefficient alpha score of .82. The coefficient alpha score of the work engagement dimension is .69, lower than the generally accepted value of .70, yet is acceptable for exploratory research (Hair et al., 1998). The experienced meaningfulness dimension has a coefficient alpha score of .76. Like the work engagement dimension, the co-productive orientation dimension coefficient alpha score of .60 is lower than the usual threshold; Hair et al. explained that this value is acceptable for investigative research.

Table 35

Current KFQ-R Coefficient Alpha

Dimension	α
Critical thinking disposition	.819
Work engagement	.691
Experienced meaningfulness	.760
Co-productive orientation	.597

Table 36 provides the reliability scores for the EMI (Ricketts & Rudd, 2004). The EMI has three dimensions to measure critical thinking disposition: engagement (11 items), cognitive maturity (eight items), and innovativeness (seven items). The coefficient alpha for the engagement dimension is .87 and the coefficient alpha for the cognitive maturity dimension is .76. Finally, the coefficient alpha for the innovativeness dimension is .78. These internal consistency scores indicate acceptable reliability.

Table 36

EMI Coefficient Alpha

Dimension	α
Engagement (items 2, 3, 5, 7, 8, 9, 14, 17, 18, 19, 22)	.87
Cognitive maturity (items 1, 11, 13, 16, 20, 24, 25, 26)	.76
Innovativeness (items 4, 6, 10, 12, 15, 21, 23)	.78

Table 37 shows the reliability scores of the CTDS (Sosu, 2013). The CTDS has two dimensions to measure critical thinking disposition: critical openness (seven items) and reflective skepticism (four items). The coefficient alpha for the critical openness dimension is .77. The coefficient alpha for the reflective skepticism dimension is .75. Both dimensions have acceptable internal consistency scores.

Table 37

CTDS Coefficient Alpha

Dimension	α
Critical openness (items 1, 2, 3, 4, 5, 6, 7)	.77
Reflective skepticism (items 8, 9, 10, 11)	.75

Table 38 provides the reliability scores for the UWES (Schaufeli et al., 2006). The UWES has three dimensions to measure work engagement: vigor (three items), dedication (three items), and absorption (three items). The coefficient alpha for the vigor dimension is .89. The coefficient alpha for the dedication dimension is .86. Finally, the coefficient alpha for the absorption dimension is .74. These internal consistency scores indicate acceptable reliability.

Table 38

UWES Coefficient Alpha

Dimension	α
Vigor (items 1, 2, 5)	.89
Dedication (items 3, 4, 7)	.86
Absorption (items 6, 8, 9)	.74

Internal Validity

After conducting factor analysis and examining reliability for the KFQ-R, I then evaluated internal validity. Validity assesses how accurately a scale measures a specific variable or dimension (DeVellis, 2012). In this section, I explain the six types of validity examined in this study: face, construct, criterion, content, convergent, and nomological.

Face validity, which is a matter of judgement, implies that the instrument measures the intended variable (Cozby & Bates, 2015). For this study, face validity confirmed that the four instruments used (i.e., the KFQ-R, EMI, CTDS, and UWES) measured their intended constructs. The EMI (Ricketts & Rudd, 2004) and the CTDS (Sosu, 2013) measure critical thinking disposition, one dimension of the KFQ-R (Ligon, 2016). The UWES (Schaufeli et al., 2006) measures work engagement, another dimension of the KFQ-R. Ligon determined that the EMI and UWES were valid to use as measures for her study; this study followed her design and also used the EMI and UWES. Lamm (2016) explained that the EMI innovativeness dimension was unreliable even with 10 years of additional factor analysis, qualitative research, and further testing. In Table 36, the coefficient alpha score for the EMI innovativeness dimension is .78, which is reliable. Recognizing the value of the EMI and trusting the empirical findings, I added the CTDS to supplement reliability and validity for the critical thinking disposition dimension.

Construct validity assesses the construct being examined (Bocarnea et al., 2021). Referring to Table 33, I applied construct validity and reviewed the grouped items, considered the wording of the items, and made notes about potential themes. I discussed the potential themes with my dissertation chair and methodologist. Finally, I added construct themes to the numbered components. I replaced my initial constructs with the current names after I further examined the items and searched the literature.

Criterion validity measures the construct(s) against future outcomes (Cozby & Bates, 2015). It is possible that items that measure work engagement behaviors predict work engagement. Table 39 shows the criterion validity correlation matrix between the KFQ-R four dimensions, the EMI three dimensions, and the CTDS

two dimensions for critical thinking disposition and the KFQ-R four dimensions and the UWES three dimensions for work engagement. All scores were highly significant, indicating strong criterion validity. The KFQ-R critical thinking disposition (CTD) subscale showed significant correlation with the critical thinking disposition subscales of engagement (ENG), cognitive maturity (MAT), and innovativeness (INN) on the EMI and with critical openness (CO) and reflective skepticism (RS) on the CTDS. Likewise, the KFQ-R work engagement (WE) subscale correlated significantly with the work engagement subscales of vigor (VIG), dedication (DED), and absorption (ABS) on the UWES.

Table 39

Criterion Validity Among Four Scales

Dimension	KFQR_CTD	KFQR_WE	KFQR_EM	KFQR_CPO	EMI_ENG	EMI_MAT	EMI_INN	CTDS_CO	CTDS_RS	UWES_VIG	UWES_DED	UWES_AB
KFQR_CTD	—											
KFQR_WE	0.907***	—										
KFQR_EM	0.831***	0.830***	—									
KFQR_CPO	0.871***	0.923***	0.796***	—								
EMI_ENG	0.786***	0.826***	0.738***	0.797***	—							
EMI_MAT	0.775***	0.825***	0.737***	0.807***	0.981***	—						
EMI_INN	0.780***	0.824***	0.738***	0.798***	0.988***	0.983***	—					
CTDS_CO	0.752***	0.783***	0.713***	0.766***	0.940***	0.944***	0.939***	—				
CTDS_RS	0.741***	0.787***	0.712***	0.763***	0.935***	0.939***	0.934***	0.980***	—			
UWES_VIG	0.697***	0.731***	0.692***	0.692***	0.817***	0.814***	0.817***	0.846***	0.839***	—		
UWES_DED	0.726***	0.773***	0.716***	0.733***	0.871***	0.869***	0.871***	0.899***	0.895***	0.946***	—	
UWES_ABS	0.735***	0.757***	0.697***	0.723***	0.867***	0.864***	0.869***	0.895***	0.890***	0.906***	0.926***	—

Note. CTD = critical thinking disposition, WE = work engagement, EM = experienced meaningfulness, CPO = co-productive orientation, ENG = engagement, MAT = cognitive maturity, INN = innovativeness, CO = critical openness, RS = reflective skepticism, VIG = vigor, DED = dedication, ABS = absorption.

* $p < .05$, ** $p < .01$, *** $p < .001$

Content validity is closely related with the construct or dimension being measured (DeVellis, 2012). A scale's content should reflect the specific construct of that particular scale and not a related construct. Ligon (2016) strengthened content validity of the KFQ-R by examining and revising Kelley's (1988) original 20 questions with 25 statements; results showed that most of the items demonstrated construct validity. Item 12 (When starting a new assignment, I strive to succeed at tasks that are important to the leader) loaded in components 3 and 4 in iteration 4 (see Table 25). Item 12 loaded in components 3 and 4 in iteration 5 (see Table 27). In iteration 6, item 12 loaded in components 2 and 4. In iteration 7, item 12 loaded exclusively in component 2. Item 16 also loaded in more than one component but was rejected.

Convergent validity measures the similarity of theoretically related instruments (DeVellis, 2012). Convergent validity indicates a positive association with other instruments that measure a similar or related construct. The KFQ-R showed significant convergent validity with the three additional instruments: EMI (Ricketts & Rudd, 2004), CTDS, (Sosu, 2013), and UWES (Schaufeli et al., 2006) used in this study (see Table 39).

Finally, nomological validity examines proposed construct relationships and seeks to identify the pattern one variable has on another variable (Hagger et al., 2017). To examine nomological validity for the KFQ-R, I conducted four linear regressions. With linear regressions, and numerous statistical tests, model fit must be examined. One measure of model fit is the adjusted R^2 value, which denotes how much the dependent variable explains variability in the model (Wall, 2020). While some of the results were significant, they were not all meaningful according to the adjusted R^2 value. In Linear Regression 1, work engagement, experienced meaningfulness, and co-productive orientation significantly predicted critical thinking disposition ($p < .001$, adjusted $R^2 = 0.847$); the adjusted R^2 value of 85% was meaningful. In Linear Regression 2, critical thinking disposition, experienced meaningfulness, and co-productive orientation significantly predicted work engagement ($p < .001$, adjusted $R^2 = 0.900$); the adjusted R^2 value of 90% was meaningful. In Linear Regression 3, work engagement and critical thinking

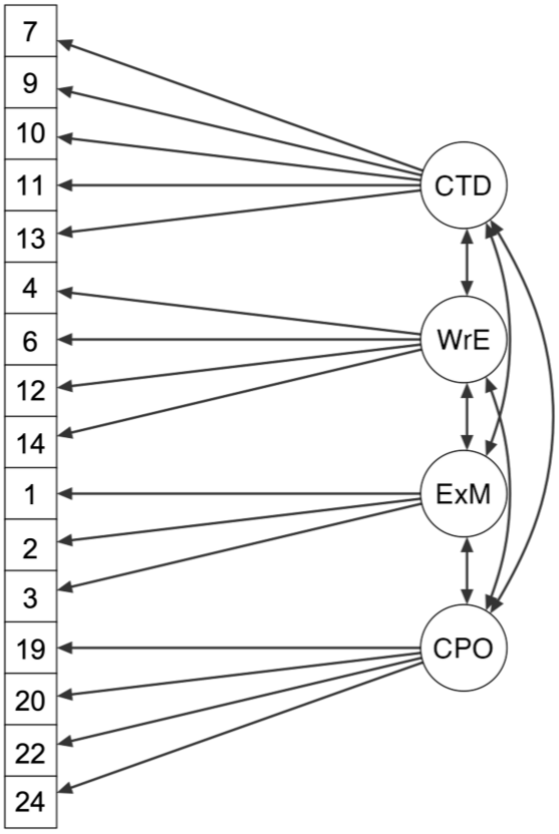
disposition significantly predicted experienced meaningfulness (p <. 001, adjusted $R^2 = 0.724$); the adjusted R^2 value of 72% was meaningful. Finally, in Linear Regression 4, critical thinking disposition and work engagement significantly predicted co-productive orientation (p < .001, adjusted $R^2 = 2.665$); the adjusted R^2 value of 2.65% was not meaningful.

Path Diagram

Figure 2 shows the path diagram based on analysis of the KFQ-R in the current study. The findings presented earlier in this chapter showed that the four identified dimensions (i.e., critical thinking disposition, work engagement, experienced meaningfulness, and co-productive orientation) are correlated with each other. The path diagram is an additional visual representation.

Figure 2

Current KFQ-R Path Diagram



Hypotheses

The four hypotheses that were considered for this study were answered.

$H1_0$: There is no significant correlation between the structure of the 25-item KFQ-R and the dimensions of critical thinking disposition and work engagement.

Hypothesis 1_0 was rejected. The KFQ-R correlated significantly with the critical thinking disposition and work engagement dimensions.

H1a: There is a significant correlation between the structure of the 25-item KFQ-R and the dimensions of critical thinking disposition and work engagement.

Hypothesis 1a was partially accepted. The current study findings showed that the KFQ-R is a 16-item instrument with four dimensions. The 16 items loaded in four distinct dimensions: critical thinking disposition, which correlated with the EMI (Ricketts & Rudd, 2004) and CTDS (Sosu, 2013); work engagement, which correlated significantly with the UWES (Schaufeli et al., 2006); experienced meaningfulness, and co-productive orientation. Experienced meaningfulness and co-productive orientation are new findings; thus, there were no additional instruments that measured those dimensions.

$H2_0$: There is no significant convergent validity between the emerged dimensions of the 25-item KFQ-R and the critical thinking disposition scales (i.e., Critical Thinking Disposition Scale and University of Florida Engagement, Cognitive Maturity, and Innovativeness inventory) and the work engagement scale (i.e., Utrecht Work Engagement Scale).

Hypothesis 2_0 was rejected. The findings of this study showed there was significant convergent validity between the retained 16 items and the EMI (Ricketts & Rudd, 2004) and CTDS (Sosu, 2013) for critical thinking disposition and the UWES (Schaufeli et al., 2006) for work engagement.

H2a: There is significant convergent validity between the emerged dimensions of the 25-item KFQ-R and the critical thinking disposition scales (i.e., Critical Thinking Disposition Scale and University of Florida

Engagement, Cognitive Maturity, and Innovativeness inventory) and the work engagement scale (i.e., Utrecht Work Engagement Scale).

Hypothesis 2a was partially accepted because the updated KFQ-R has 16 items, not 25 items. This study showed that the five items that loaded in the critical thinking disposition dimension had significant convergent validity with the EMI (Ricketts & Rudd, 2004) and CTDS (Sosu, 2013). The four items that loaded in the work engagement dimension correlated significantly with the UWES (Schaufeli et al., 2006).

Research Questions

Two research questions guided this study. Additional discussion appears in Chapter 5.

RQ_1: Does the structure of the 25-item KFQ-R support the hypothesized dimensions of critical thinking disposition, work engagement, and an additional unnamed dimension?

RQ_1 was not supported. Analysis revealed that the KFQ-R has four distinct dimensions that seem to consist of the following themes: critical thinking disposition, work engagement, experienced meaningfulness, and co-productive orientation.

RQ_2: Do the named dimensions of the 25-item KFQ-R show significant convergent validity with the critical thinking disposition scales (i.e., Critical Thinking Disposition Scale and University of Florida Engagement, Cognitive Maturity, and Innovativeness inventory) and the work engagement scale (i.e., Utrecht Work Engagement Scale)?

RQ_2 was supported. Table 39 shows the significant convergent validity among the four instruments used in this study (i.e., the KFQ-R, EMI, CTDS, and UWES).

Summary

In summary, the purpose of this study was to advance the theory of followership by examining the validity of the three-dimension structure of the 25-item KFQ-R (Ligon, 2016) by conducting factor analysis with data from employees at St. Jude Children's Research Hospital. This chapter contained a presentation of

the demographic descriptive statistics, step-by-step factor analysis, data-related descriptive statistics, reliability, validity, and answers to the research questions. The six basic steps of CFA were conducted. Step 1 was to define the factor model; the factor model was defined by Ligon (2016), yet I sought to determine the number of factors with the new dataset from the current sample. Step 2 was to collect measurements; data were collected in December 2022. Step 3 was to obtain the correlation matrix (see Table 17). The fourth step of CFA was to fit the model to the data. Step 5 was to evaluate model adequacy; finally, Step 6 was to compare with other models (DeCoster, 1998). Steps 4, 5, and 6 were conducted as an iterative process, as explained in this chapter. The following descriptive statistics were examined and reported: mean, standard deviation, number in the sample, and missing cases. Additionally, I calculated coefficient alphas and conducted factor analysis.

Chapter 5 – Discussion

Everyone in an organization is a follower to someone else (Dean & Huizinga, 2022). Knowing a person's follower style can help managers better understand the drivers of behaviors, which provides context to how employees approach work. Kellerman (2008) explained that context is critically important for workplace relationships and interactions. The purpose of the current study was to advance the theory of followership by examining the validity of the three-dimension structure of the 25-item KFQ-R (Ligon, 2016) by conducting factor analysis with data from employees at St. Jude Children's Research Hospital. This chapter contains further discussion on the two research questions, limitations, implications, and recommendations.

Research Question 1

Kelley's (1992) followership questionnaire (KFQ) is the most popular assessment to measure followership, yet it lacks solid empirical support. Ligon (2016) created the KFQ-R, which resulted in an expanded instrument from the original KFQ: 25 items, instead of 20 questions, and three dimensions, instead of two.

> RQ_1: Does the structure of the 25-item KFQ-R support the hypothesized dimensions of critical thinking disposition, work engagement, and an additional unnamed dimension?

In this section, I discuss the findings on the KFQ-R structure and dimensions to answer RQ_1. The first three sections explain the KFQ-R structure findings: retaining 16 items, updating the scale, and rewording two items. The next two sections contain the KFQ-R dimensions findings: retaining the identified dimensions and incorporating the new dimensions.

Retaining 16 Items

The results showed that the KFQ-R (Ligon, 2016) does not need to be administered with the original 25 items. As explained in the previous chapter, I removed nine KFQ-R items and retained 16 items. Ligon recommended removing eight items and retaining 17; thus, the KFQ-R can be condensed. Table 40 shows

each item by dimension and whether it was retained or removed. Ligon and I both recommended removing items 8, 15, and 18. Of the four items (i.e., 13, 17, 21, and 25) that originally loaded in Ligon's unnamed dimension, results showed that only item 13 should be retained because it loaded significantly in the critical thinking disposition dimension. Items 23 and 25 loaded together in component 5 (see Table 23) yet were removed because they were the only two items in the component; the minimum is three items in a component (Costello & Osborne, 2005). Additionally, the loading values of 0.909 for item 25 and 0.905 for item 23 indicated multicollinearity, which occurs when variables are too highly correlated to each other. Pallant (2011) recommended removing items with values of approximately .8 or .9.

Table 40

KFQ-R Retained and Removed Items

Item	Ligon (2016)					Current Study				
	CTD	WE	UN	REM		CTD	WE	EM	CPO	REM
1	X				Add to society			X		
2		X			Involved			X		
3	X				Fulfillment			X		
4		X		X	Committed		X			
5	X				Necessary					X
6		X			Contribute best		X			
7	X				Contribute to org goals	X				
8		X		X	Energize coworkers					X
9	X				Solve problems	X				
10		X			Increase value	X				
11	X			X	See risks	X				
12		X		X	Start new		X			
13			X		See risks team	X				
14		X			Complete		X			
15	X			X	Strengths/weaknesses					X
16		X			Beyond duties					X
17			X		Question wisdom					X
18		X		X	Not leader					X
19	X				Regardless of beliefs				X	
20		X		X	Coworker contribution				X	
21			X		Own ethics					X
22		X		X	Understand leader				X	
23	X				Assert views/coworkers					X
24		X			Achieve leader goals				X	
25			X		Assert views/leader					X

Note. CTD = critical thinking disposition, WE = work engagement, UN = unnamed, REM = removed, EM = experienced meaningfulness, CPO = co-productive orientation.

Updating the Scale

Kelley's (1992) original scale uses a line that resembles a ruler with marks at set increments with numbers from 0 on the far left, then 1, 2, 3, 4, 5, and 6 on the

far right. On the left, 0 is labeled *rarely*; 3, in the middle, is labeled *occasionally*; and 6, on the right, is labeled *almost always*. Ligon (2016) used the following scale: 1 (*rarely*), 4 (*occasionally*), and 7 (*almost always*). I agreed with Ligon's choice to change "rarely" from 0 to 1. It seems that the value of 0 better indicates never or not at all because 0 is the complete absence of something. In my opinion, 1 means something but not a large amount; the label "rarely" is an appropriate label for the value of 1; however, Kelley and Ligon's scales leave too much room for interpretation on a quantitative instrument without labels for every number value. In November 2022, I contacted Dr. Kelley at two different email addresses requesting his input and did not receive a response. Colangelo (2000) updated the KFQ scale and used the label "never" for the value of 0. Novikov's (2016) study used an updated KFQ scale with labels for every number value that resulted in the scale that I used: 0 (*never*), 1 (*once in a while*), 2 (*sometimes*), 3 (*occasionally*), 4 (*often*), 5 (*almost always*), and 6 (*always*). This scale reduces ambiguity.

Rewording Two Items

Results showed that item 12 (When starting a new assignment, I strive to succeed at tasks that are important to the leader) cross-loaded in two components in PCA iteration 6 (see Table 30). Item 12 loaded in component 2, the work engagement dimension, with a value of 0.496 and in component 4, the new co-productive orientation dimension, with a value of 0.509. In iteration 7, item 12 loaded only in the work engagement dimension (see Table 32). Iteration 6 indicated that item 12 needed to be examined. I recommend removing "to the leader" at the end of item 12; it seems that "to the leader" is the confounding portion of the item that caused it to load in the new co-productive orientation component. The updated item 12 would read: When starting a new assignment, I strive to succeed at tasks that are important. The updated version implies work engagement.

Next, item 20 (I emphasize coworkers' contribution, even when I do not receive credit) needed to be reviewed. Item 20 on the KFQ-R (Ligon, 2016) is Kelley's (1992) original question 13: Do you help out other coworkers, making them look good, even when you don't get any credit? Three areas of ambiguity need to be examined: (a) helping, (b) recognizing others' contributions, and (c)

waiving credit. Kelley's original question asks about the willingness to help others, recognize others' contributions, and forego receiving credit. Ligon's updated item removes the aspect of helping, which eliminates one area of ambiguity. Ligon's item 20 contains two remaining confounding concepts: (a) recognizing others' contributions and (b) waiving credit. Item 20 could possibly become two or three separate statements; if they loaded in the co-productive orientation dimension, they may strengthen coefficient alpha from .597 to a higher value (see Table 35).

Additionally, of the 16 retained items, results showed that item 10 (I develop competencies in my work to increase my value to the organization) loaded in the critical thinking disposition dimension, not the work engagement dimension as Ligon (2016) and Kelley (1992) maintained. Item 10 on the KFQ-R is the updated version of Kelley's question 6: Do you actively develop a distinctive competence in those critical activities so that you become more valuable to the leader and the organization? The phrase "those critical activities" in Kelley's question 6 relates to his question 5: Instead of waiting for or merely accepting what the leader tells you, do you personally identify which organizational activities are most critical for achieving the organization's priority goals? Both Kelley's question and Ligon's item suggest critical thinking disposition because of the word "competence." It stands to reason that most organization employees completing a followership assessment would discern that competence shares more meaning with skills and thinking than with commitment and engagement.

Retaining the Identified Dimensions

The findings of this study showed that the KFQ-R (Ligon, 2016) does not have three dimensions as originally presented, but four dimensions. When conducting principal component analysis (PCA) the first time, I allowed jamovi (The jamovi project, 2021) software to generate the components, which would later become named dimensions, without bias. I did not limit the system to three components, or dimensions, based on Ligon's findings. Through seven PCA iterations, I methodically examined the correlations and component loadings matrices. The first iteration showed six components with eigenvalues above 1 that explained 59.774% of variance (see Table 18). The last iteration showed four

components with eigenvalues above 1 that explained 59.019% of variance (see Table 31). The four components, or dimensions, consist of the following themes: (a) critical thinking disposition and (b) work engagement, as originally identified, and, additionally, seem to consist of the following two new themes (c) experienced meaningfulness and (d) co-productive orientation (see Table 33).

The critical thinking disposition dimension contains five items: 7, 9, 10, 11, and 13. Items 7, 9, and 11 originally measured critical thinking disposition; item 10 originally measured work engagement; and item 13 was originally in the unnamed dimension. Interestingly, item 13 had a strong component loading in every PCA iteration. In the original KFQ-R, nine items measure critical thinking disposition. Additionally, the critical thinking disposition dimension was the strongest in every PCA iteration with eigenvalues that ranged from 7.490 to 5.220. Table 35 shows that the coefficient alpha for the critical thinking disposition dimension is .819, above the preferred minimum of .70 (Cronbach & Shavelson, 2004). In the linear regression for nomological validity, critical thinking disposition significantly predicted ($p < .001$) the remaining three dimensions: work engagement, experienced meaningfulness, and co-productive orientation.

The work engagement dimension consists of items 4, 6, 12, and 14 (see Table 33). All four items originally measured work engagement. Table 35 shows that coefficient alpha for the work engagement dimension is .691, just below the preferred minimum of .70 (Cronbach & Shavelson, 2004), yet acceptable for exploratory research (Hair et al., 1998). In the original KFQ-R, the 12 even-number items measure work engagement. In the linear regression for nomological validity, work engagement significantly predicted ($p < .001$) the remaining three dimensions: critical thinking disposition, experienced meaningfulness, and co-productive orientation.

Incorporating the New Dimensions

The current results showed that the experienced meaningfulness dimension has three items: 1, 2, and 3 (see Table 33). In the original KFQ-R, items 1 and 3 measure critical thinking disposition; item 2 measures work engagement. Items 1, 2, and 3 loaded significantly and always together in every PCA iteration; no other

items loaded with these items. Table 35 shows that coefficient alpha for the experienced meaningfulness dimension is .760, above the preferred minimum of .70 (Cronbach & Shavelson, 2004). In the linear regression for nomological validity, experienced meaningfulness significantly predicted ($p < .001$) the two original KFQ-R dimensions: critical thinking disposition and work engagement. I labeled this dimension *experienced meaningfulness* because the items are deeper than working in an organization position. The three items connote fulfilling a significant purpose, contributing to society, feeding the soul through purposeful work, spurring work engagement and critical thinking disposition, making a difference, and intentionally cultivating alignment between work and personal values.

The co-productive orientation dimension consists of four items: 19, 20, 22, and 24 (see Table 33). In the original KFQ-R, item 19 measured critical thinking disposition and items 20, 22, and 24 measured work engagement. Table 35 shows that coefficient alpha for the co-productive orientation dimension is .597, below the preferred minimum of .70 (Cronbach & Shavelson, 2004), yet acceptable for exploratory research (Hair et al., 1998). In the linear regression for nomological validity, co-productive orientation significantly predicted ($p < .001$) the two original KFQ-R dimensions of critical thinking disposition and work engagement, which supports empirical findings in fields such as followership, leadership, employee engagement, organizational effectiveness, and positive organizational behaviors (Friedman, 2014; Mulligan & Taylor, 2019). I labeled this dimension *co-productive orientation* because the items seem to focus on engaging with the leader, meeting the leader's goals and objectives, understanding the leader's point of view, recognizing the context of a situation, and presumably acknowledging to the leader the work others have accomplished.

The new co-productive orientation KFQ-R dimension demonstrates and supports two of the themes discussed in Chapter 2: (a) followers affect leaders and the organization and (b) followers have agency. Co-productive orientation involves promotive voice, which is a follower's discretionary effort to generate, examine, and offer solutions to improve organizational efficiency (Liang et al., 2012). Co-

productive behaviors also involve felt obligation for constructive change, which implies a personal obligation to enact prosocial and beneficial change (Morrison & Phelps, 1999). Carsten and Uhl-Bien (2012) explained that co-productive behaviors include engaging with the leader, solving problems, and offering new ideas. Carsten et al. (2014) reported that co-productive followers were more appreciated by leaders and contributed in more helpful ways than passive followers. Passive followers do not exercise agency or voice and look to their leader for direction. As established, the leadership process inherently involves leaders and followers, both equally important (Gentry et al., 2014; Hamlin, 2016; Hurwitz & Hurwitz, 2020; Kellerman, 2016). Therefore, a co-productive orientation directly supports the relational nature of followers and leaders contributing to the current knowledge culture. Power distance is an important factor when considering co-productive behaviors; some organizational or location-specific cultures do not value follower input.

The new experienced meaningfulness KFQ-R dimension supports two of the Chapter 2 work engagement themes: work engagement stems from intrinsic motivation and work engagement fosters a strong organizational culture. Hackman and Oldham (1976) explained that experienced meaningfulness is a component of the job characteristics model and describes the degree to which employees experience their jobs as valuable, meaningful, and worthwhile. Experienced meaningfulness of work is also a component of the Barrick et al. (2012) purposeful work behavior theory. Experienced meaningfulness of work is a psychological state that consists of three dimensions: (a) skill variety, or using different activities, skills, and talents to perform the work; (b) task identity, which describes completing a product or outcome, or accomplishing identifiable units of the work; and (c) task significance, which refers to recognizing the impact of personal work on the internal organization or the external environment (Hackman & Oldham, 1976). Experienced meaningfulness of work contributes to affective commitment (Kaur & Mittal, 2020) and work engagement (Meng et al., 2022).

Kaur and Mittal (2020) encouraged organizations to offer opportunities for employees to experience meaningfulness at work, which perpetuates a virtuous

cycle of employee fulfilment and high-performing organizations. Nazir et al. (2021) found that the self-determination theory (Deci & Ryan, 2014) helped explain how and why corporate social responsibility (CSR) involvement supported employee engagement. Specifically, Nazir et al. found that autonomy, competence, and relatedness are enhanced when employees participate in CSR activities, which are socially responsible initiatives in an organization. The CSR initiatives and projects enable employees to solve problems, make decisions, learn new skills, and enhance relationships, thus deepening experienced meaningfulness and employee engagement. As indicated in the literature reviewed in Chapter 2, when autonomy, competence, and relatedness are encouraged and supported, strong organizational cultures and high performing organizations are the outcomes. Stein et al. (2019) provided qualitative data from a field study whereby meaningful work experiences cultivated self-realization and worthiness; alternatively, lack of meaningful work experiences resulted in alienation and anomie, which is uncertainty of work value.

Could co-productive orientation be a component of work engagement? Wirtz et al. (2017) found that as followers' level of work engagement increased so did positive influence on the leader. Effective followers strengthen leaders (Hurwitz & Hurwitz, 2015). Similarly, Burke (2017) explained that the most important organizational relationship is between a manager and employee. Gallup's research showed that employees join an organization and leave because of the manager (Gandhi & Robison, 2021).

Research Question 2

> The second research question that guided this study concerned validity.
>
> RQ_2: Do the named dimensions of the 25-item KFQ-R show significant convergent validity with the critical thinking disposition scales (i.e., Critical Thinking Disposition Scale and University of Florida Engagement, Cognitive Maturity, and Innovativeness inventory) and the work engagement scale (i.e., Utrecht Work Engagement Scale)?

The KFQ-R (Ligon, 2016) showed significant convergent validity with the EMI (Ricketts & Rudd, 2004), CTDS (Sosu, 2013), and UWES (Schaufeli et al., 2006). Table 39 shows criterion validity data. The validity section in Chapter 4

demonstrated the KFQ-R's validity. The dimensions of co-productive orientation and experienced meaningfulness are new findings, thus there were no additional instruments used to measure those dimensions. The five items that loaded in the critical thinking disposition dimension had significant convergent validity with the EMI (Ricketts & Rudd, 2004) and the CTDS (Sosu, 2013). The four items that loaded in the work engagement dimension correlated significantly with the UWES (Schaufeli et al., 2006).

Limitations

In this section, I discuss the limitations of the study that I first outlined in Chapter 1 and those captured after study completion: population education, education categories, demographics, and organization sector. The first limitation is the educated workforce at St. Jude. The percentage of participants who have a bachelor's degree was 32.9%, those with a master's degree was 32.5%, those with a doctorate degree was 22.5%, and those with multiple doctorate degrees was 1.7%; combined, these four groups comprised 89.6% of the sample. The second limitation is that I could have included more categories in the education section; two participants informed me that they did not complete the education section because associate's degree was not a choice. During usability testing, 11 people reviewed and edited the survey, none of whom caught the oversight. Also, I considered including additional categories of multiple bachelor's degrees and multiple master's degrees; however, I did not want to burden the participants with too many education choices. Receiving one doctorate degree is an enormous effort that only 2.1% (U.S. Census Bureau, 2022) of the U.S. population has accomplished. Those with more than one doctorate degree are elite. The third limitation of the study was the number of female participants (72.7%); this gender statistic may not represent the ratios at most organizations. Finally, likewise, St. Jude is in the nonprofit organization sector, which does not represent the majority of organizations.

Implications

In this section, I provide further information on the implications and significance of the findings. The significance of this study was its contributions to

the validity and reliability of the KFQ-R (Ligon, 2016) followership self-assessment and its examination of the two named dimensions (i.e., critical thinking disposition and work engagement) and the unnamed dimension. First is a discussion of the four dimensions and how they expand the understanding of followership, followed by a discussion of additional analysis.

Colangelo's (2000) factor analysis of the KFQ (Kelley, 1992) showed four dimensions: active engagement, independent critical thinking, passion, and team mindedness. The dimensions of passion and team mindedness were new findings and were named by Colangelo. An exact comparison of the KFQ questions and KFQ-R items cannot be made because Ligon (2016) updated the KFQ questions. The new dimensions discovered in this study parallel Colangelo's findings. Co-productive orientation aligns with Colangelo's dimension of team mindedness and contains similar KFQ questions and KFQ-R items. Colangelo explained that team mindedness is a characteristic that helps others accomplish organizational tasks. Co-productive orientation contains four items that support helping a leader and colleagues (see Table 33). Experienced meaningfulness aligns with Colangelo's dimension of passion. Colangelo explained that passion is a characteristic that involves enthusiasm and alignment between personal and organizational goals. Similar KFQ questions and KFQ-R items loaded in the experienced meaningfulness dimension.

The current findings support the accepted position that leadership is a process that involves leaders and followers (Hurwitz & Hurwitz, 2020; Kellerman, 2007; Kelley, 1992; Shamir, 2007). These and other findings discussed in previous chapters indicate that measurable followership characteristics are not confined to two dimensions: critical thinking disposition and work engagement. Blanchard et al. (2009) labeled a new third dimension from their study: *attitude and affect.* Experienced meaningfulness, passion, co-productive orientation, team mindedness, and attitude and affect, as well as critical thinking disposition and work engagement, all support an exemplary followership mindset and exemplary followership behaviors that contribute to organizational commitment and job satisfaction.

A vital component of Kellerman's (2016) model is context. It is unknown whether the context of St. Jude Children's Research Hospital, located in Memphis, TN, significantly affects the four dimensions (i.e., critical thinking disposition, work engagement, co-productive orientation, and experienced meaningfulness) of the KFQ-R. St. Jude is known worldwide (St. Jude Children's Research Hospital, n.d.-f) and has a noble and compelling mission to eradicate pediatric cancer and other catastrophic diseases that affect children. The factor loadings may be higher for the St. Jude workforce, and it is possible that the St. Jude workforce scored higher in the four domains because of three contexts: (a) St. Jude is in the nonprofit sector, (b) it has a noble mission, and (c) it has organizational and academic hierarchies. The two original dimensions (i.e., critical thinking disposition and work engagement) may or may not be as affected by hierarchy as the two new dimensions (i.e., co-productive orientation and experienced meaningfulness). Ligon (2016) recommended that the KFQ-R be tested in a flat organization. It would be interesting to determine whether the eigenvalues are similar, the items load in the same components, and the same 16 items are retained as recommended in this study in the context of a flat organization.

As a result of the current study, the updated version of the KFQ-R (Ligon, 2016) should be named the KFQ-RV2; the letter V indicates "version" and the number 2 indicates the second version, which designates this and subsequent versions, as the most recent version. The KFQ-RV2 uses an updated scale and measures four dimensions of followership (i.e., critical thinking disposition, work engagement, co-productive orientation, and experienced meaningfulness) with 16 items (see Table 33). When administering the KFQ-RV2, I recommend that the original item 12 be worded as follows: When starting a new assignment, I strive to succeed at tasks that are important. The KFQ-R item 20 should be examined and updated as two or three statements. See Appendix K for the KFQ-RV2; the KFQ-R item 12 is the KFQ-RV2 item 10; the KFQ-R item 20 is the KFQ-RV2 item 14.

Statistical Software

There were two main reasons why I decided to use jamovi software and not SPSS. First, I discovered jamovi during my coursework and wanted to try it as an alternative to SPSS. In addition, I had to learn a new software to analyze data for this study, either AMOS with SPSS or jamovi. I decided to use jamovi because AMOS does not operate on an Apple MacBook Pro computer (IBM Corporation, n.d.), which is what I use. AMOS must be used in conjunction with SPSS to perform factor analysis. An advantage of using jamovi is that it was a free download. In my opinion, jamovi is intuitive and easy to use; there are numerous online videos and documents available as helpful resources. I searched "jamovi" in the ProQuest database on February 6, 2023. For ProQuest dissertations and theses, there were 308 jamovi results; for peer-reviewed scholarly articles, there were 1,704 jamovi results. In a Google Scholar search for "jamovi" on the same day, there were 15,100 jamovi results. My methodologist had not heard of jamovi and supported my using it after doing her own research; she ran an analysis in SPSS and verified my jamovi results.

Suggestions for Future Research

This section contains nine suggestions for future research on the KFQ-RV2 based on the current study: (a) reword two items; (b) retain 16 items in four dimensions; (c) use the updated scale; (d) refine the new dimensions; (e) update the scoring; (f) conduct factor analysis with additional instruments for the new dimensions; (g) administer in organizations that are flat, as well as those with hierarchy; (h) encourage more male participation; and (i) administer in other industries and locations. Earlier in this chapter, I presented my reasoning on the value of rewording KFQ-RV2 items 10 and 14, originally items 12 and 20 respectively; the KFQ-RV2 will be a stronger instrument after removing confounding and unclear wording. The second suggestion is to retain the 16 items that loaded in the four dimensions (see Table 33). Using fewer items reduces survey fatigue and makes the KFQ-RV2 more comprehensive (Ligon, 2016). The third suggestion is to administer the KFQ-RV2 using the updated quantitative scale discussed earlier, in which every numerical response option has a descriptor label

to increase certainty and remove ambiguity for participants. The fourth suggestion is to review and refine the two new dimensions: experienced meaningfulness and co-productive orientation. Different descriptive or conceptual words may better describe the new dimensions. Fifth, the KFQ-RV2 scoring should be updated. Sixth, the KFQ-RV2 needs to have factor analysis, reliability, and validity analysis and to be tested with instruments that measure the two new dimensions (i.e., experienced meaningfulness and co-productive orientation). The seventh suggestion is to administer the KFQ-RV2 in organizations that are flat, as well as those with hierarchy; Ligon made this same suggestion. St. Jude has organizational and academic hierarchy, which most likely influenced the way participants answered the survey. It would be interesting to see data in the co-productive orientation dimension, especially, from a flat organization. The eighth suggestion is to administer the KFQ-RV2 with more male participation. Female participants comprised almost 73% of the population in the current study. The final recommendation is to administer the KFQ-RV2 in other industries and locations. St. Jude is in Memphis, TN, the southeastern United States; St. Jude is also a nonprofit research hospital. Because industries and regional areas have distinct cultures, data from other areas of the United States and around the world would add to the body of knowledge of the KFQ-RV2.

Summary

In conclusion, the findings of this study contributed to the limited body of followership knowledge. This study was the first to employ confirmatory factor analysis on the KFQ-R and conclude that it is a 16-item instrument with an updated scale that measures four dimensions: critical thinking disposition, work engagement, experienced meaningfulness, and co-productive orientation. As a result of the findings, the updated instrument should be named the KFQ-RV2. With a mean of 819 cases, this study had strong voluntary organizational participation, which helped confirm two issues previous researchers (Blanchard et al., 2009; Favara, 2009; Gatti et al., 2014; Ligon, 2016) found with the KFQ: factor loadings are inconsistent and it measures more than two dimensions. Likewise, the unnamed dimension from Ligon's research has been expanded and identified. This study

helps researchers and practitioners recognize the importance and advantages of fostering a culture of exemplary followers. Additionally, this study elevated followership by providing a valid followership self-assessment that yields reliable data, which supports the recommendation of Crawford et al. (2020) to apply scientific rigor to followership. There are few areas of study that apply to everyone all the time. Because everyone is a follower, this study transcends position title, industry, and business sector to show that followers are equal and vital partners in the leadership process.

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Appendix A

Revised Kelley Followership Questionnaire

1 = Rarely, 4 = Occasionally, 7 = Almost always

1. I think about how my work adds to society
2. Alignment between my personal and organizational goals helps me stay involved at work
3. I spend time thinking about how my work contributes to my personal fulfillment
4. I am committed to my work role
5. I evaluate activities that are necessary for organizational goal achievement
6. I contribute my best at work
7. I generate and evaluate new ideas that contribute to the organizational goals
8. My involvement at work energizes coworkers
9. I try to solve problems rather than rely on the leader
10. I develop competencies in my work to increase my value to the organization
11. I help the leader to see the potential and risks of ideas and plans
12. When starting a new assignment, I strive to succeed at tasks that are important to the leader
13. I help my team to see the potential and risks of ideas and plans
14. The leader can give me an assignment without supervision, knowing I will complete it
15. I evaluate my strengths and weaknesses at work
16. I finish assignments that go beyond my job duties
17. I question internally the wisdom of the leader's decisions
18. When I am not the leader of a group project, I contribute at a high level
19. I do what the leader requests regardless of my beliefs
20. I emphasize coworkers' contribution, even when I do not receive credit
21. I act on my own ethical standards rather than those of my work group (team)
22. I strive to understand the leader's perspectives

23. I assert my views on important issues, even though they may conflict with coworkers
24. I work to achieve the leader's needs and goals
25. I assert my views on important issues, even though they may conflict with those of the leader

Appendix B

University of Florida Engagement, Cognitive Maturity, and Innovativeness

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

1. I listen carefully to the opinions of others even when they disagree with me (cognitive maturity)
2. I look for opportunities to solve problems (engagement)
3. I am interested in many issues (engagement)
4. I enjoy learning about many topics (innovativeness)
5. I am able to relate to a wide variety of issues (engagement)
6. I ask lots of questions in a learning environment (innovativeness)
7. I enjoy finding answers to challenging questions (engagement)
8. I am a good problem solver (engagement)
9. I am confident that I can reach a reasonable conclusion (engagement)
10. I strive to be well informed (innovativeness)
11. I am likely to change my opinion when I am given new information that conflicts with my current opinion (cognitive maturity)
12. I enjoy solving problems (innovativeness)
13. I try to consider the facts without letting my biases affect my decisions (cognitive maturity)
14. I am able to apply my knowledge to a wide variety of issues (engagement)
15. I enjoy learning even when I am not in school (innovativeness)
16. I can get along with people who do not share my opinions (cognitive maturity)
17. I am able to explain things clearly (engagement)
18. I ask good questions when trying to clarify a solution (engagement)
19. I present issues in a clear and precise manner (engagement)
20. I consider how my own biases affect my opinions (cognitive maturity)
21. I search for the truth even when it makes me uncomfortable (innovativeness)
22. I keep on working on things until I get them right (engagement)
23. I will go out of my way to find the right answers to a problem (innovativeness)

24. I try to find multiple solutions to problems (cognitive maturity)
25. I ask many questions when making a decision (cognitive maturity)
26. I believe that most problems have more than one solution (cognitive maturity)

Appendix C

Critical Thinking Disposition Scale

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

1. I usually try to think about the bigger picture during a discussion (critical openness)
2. I often use new ideas to shape (modify) the way I do things (critical openness)
3. I use more than one source to find out information for myself (critical openness)
4. I am often on the lookout for new ideas (critical openness)
5. I sometimes find a good argument that challenges some of my firmly held beliefs (critical openness)
6. It is important to understand other people's viewpoint on an issue (critical openness)
7. It is important to justify the choices I make (critical openness)
8. I often re-evaluate my experiences so that I can learn from them (reflective skepticism)
9. I usually check the credibility of the source of information before making judgements (reflective skepticism)
10. I usually think about the wider implications of a decision before taking action (reflective skepticism)
11. I often think about my actions to see whether I could improve them (reflective skepticism)

Appendix D

Utrecht Work Engagement Scale

0 = Never; 1 = Almost never, a few times a year or less; 2 = Rarely, once a month or less; 3 = Sometimes, a few times a month; 4 = Often, once a week; 5 = Very often, a few times a week; 6 = Always, every day

1. At my work, I feel bursting with energy (vigor)
2. At my job, I feel strong and vigorous (vigor)
3. I am enthusiastic about my job (dedication)
4. My job inspires me (dedication)
5. When I get up in the morning, I feel like going to work (vigor)
6. I feel happy when I am working intensely (absorption)
7. I am proud to do the work that I do (dedication)
8. I am immersed in my work (absorption)
9. I get carried away when I am working (absorption)

Appendix E

Permission to Use the KFQ-R

CENTRAL BAPTIST COLLEGE

February 4th, 2022

Dear Colleague,

Thank you for your interest in Kelley Followership Questionnaire –Revised (KFQ-R).

You have my permission to use KFQ-R with a proper citation.

Please note that the basis of my study is Kelley's (1992) two-dimensional model and his original questionnaire.

Please share with me the results of your study and the KFQ-R's data for further analysis. Please find below my full dissertation and published article to help with your research.

I wish you well in your research endeavor.

Sincerely,

Kateryna V. Ligon Pitchford, Ph.D.

Associate Professor of Business
Central Baptist College
501 College Avenue
Conway, AR 72034
USA
katya_ligon@yahoo.com

MISSION STATEMENT
Central Baptist College is committed to transforming lives through education that integrates Christian faith and academic excellence in a Christ –centered environment.

Appendix F

Southeastern University IRB Approval

SOUTHEASTERN UNIVERSITY

NOTICE OF APPROVAL FOR HUMAN RESEARCH

DATE:	November 14, 2022
TO:	Sherrie Lynn, Debra Dean, Joshua Henson
FROM:	SEU IRB
PROTOCOL TITLE:	Elevating Followers: Confirmatory Factor Analysis on the Revised Kelley Followership Questionnaire
FUNDING SOURCE:	NONE
PROTOCOL NUMBER:	22 BE 15
APPROVAL PERIOD:	Approval Date: November 14, 2022 Expiration Date: November 13, 2023

Dear Investigator(s),

The Institutional Review Board (IRB) for the protection of human subjects has reviewed the protocol entitled, Elevating Followers: Confirmatory Factor Analysis on the Revised Kelley Followership Questionnaire. The project has been approved for the procedures and subjects described in the protocol.

Any changes require approval before they can be implemented as part of your study. If your study requires any changes, the proposed modifications will need to be submitted in the form of an amendment request to the IRB to include the following:

Description of proposed revisions;
If applicable, any new or revised materials;
If applicable, updated letters of approval from cooperating institutions

If there are any adverse events and/or any unanticipated problems during your study, you must notify the IRB within 24 hours of the event or problem.

At present time, there is no need for further action on your part with the IRB.

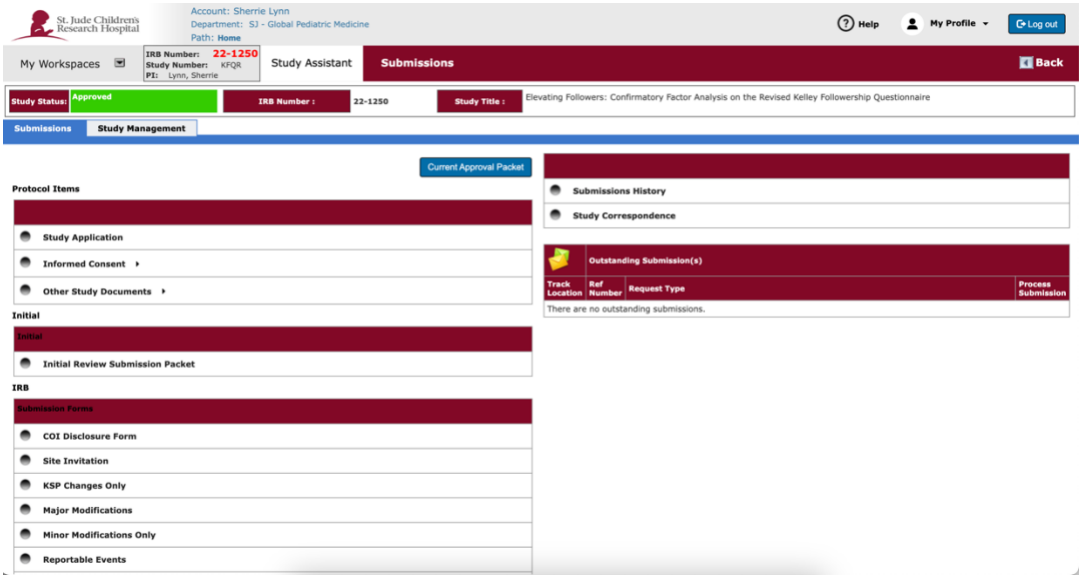
This approval is issued under Southeastern University's Federal Wide Assurance 00006943 with the Office for Human Research Protections (OHRP). If you have any questions regarding your obligations under the IRB's Assurance, please do not hesitate to contact us.

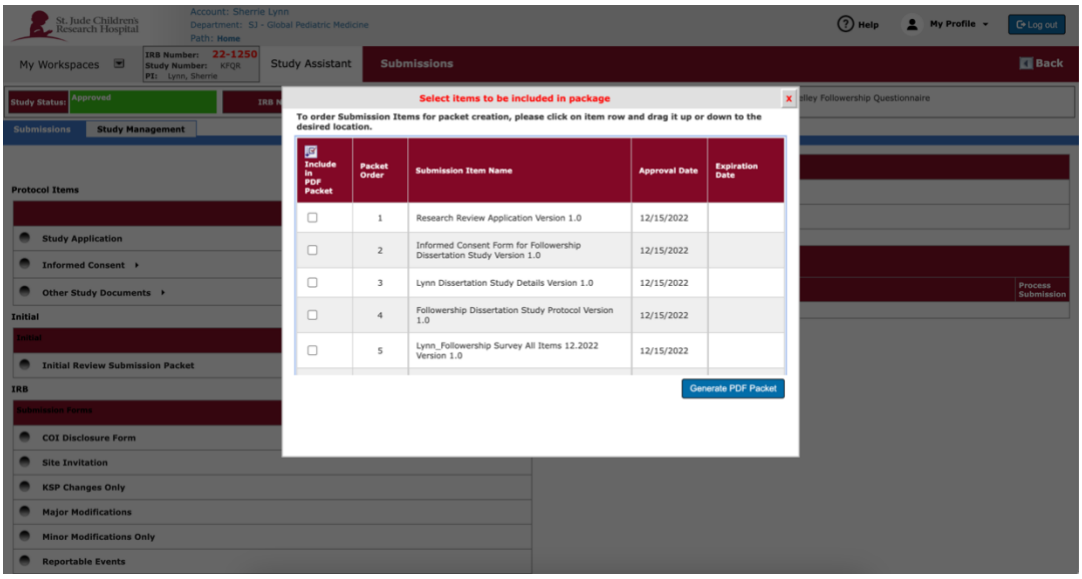
Sincerely,

Rustin Lloyd
Chair, Institutional Review Board
irb@seu.edu

Appendix G

St. Jude IRB Approval





Appendix H

Email Invitation

Subject: REMINDER: Please help with my dissertation research study (before Dec. 30, 2022)
Date: Wednesday, December 21, 2022 at 9:16:17 AM Central Standard Time
From: Lynn, Sherrie
To: St. Jude Employees Only
Attachments: image001.jpg, Informed Consent Form for Lynn Dissertation Study.pdf

Thank you to those who have already completed my dissertation survey. I appreciate your participation so much. This is a reminder to please participate if you can.
Sincerely,
Sherrie Lynn

****

Hello St. Jude colleague,

I'm proud to work with you at St. Jude Children's Research Hospital and am pursuing a Ph.D. in organizational leadership. As a fellow employee of a research organization, I invite you to contribute to scientific research by completing this anonymous survey.

This study examines the way you approach (a) working, (b) solving problems, and (c) engaging with your work.

After the demographic questions, you will complete a four-part survey, each part on a separate screen, for a total of 71 multiple-choice (Likert scale) items. The survey will take 10-15 minutes to complete. It is best to complete the survey in one sitting and answer all items; only complete surveys can be used in the study. Please select the choice that most closely reflects your actions, behaviors, or beliefs.

Your voluntary anonymous response will be incredibly helpful to this research study; thank you. There is minimal risk and no compensation for participating. The full informed consent details are attached. Please contact me with any questions.

St. Jude leadership and the St. Jude Institutional Review Board (IRB) have reviewed and approved this survey; however the results are for my dissertation study and will not be shared with anyone at St. Jude. Clicking the survey link indicates your consent to participate; this email serves as your copy of the informed consent. The survey will close Friday, December 30, 2022. Click here to access the survey.

Sincerely,
Sherrie Lynn

Sherrie Lynn
Employee Experience Program Manager | Department of Global Pediatric Medicine
St. Jude Children's Research Hospital | St. Jude Global

St. Jude Global

Appendix I

Informed Consent

Informed Consent Form for Followership Dissertation Study

You are being asked to participate in a research study to help validate a followership self-assessment.

You were asked to participate because St. Jude Children's Research Hospital is the study site, and you are a St. Jude payroll employee. Please read this information and feel free to ask any questions.

St. Jude leadership has reviewed and approved this study. This research is being conducted by a fellow St. Jude employee, Sherrie Lynn, who is a doctoral candidate at Southeastern University.

Background Information
This study examines the way you approach (a) working, (b) solving problems, and (c) engaging with your work.

Procedures
If you agree to participate, click the survey link in the email. After answering a few demographic questions, you will complete a four-part survey, each part on a separate screen, for a total of 71 multiple-choice (Likert scale) items. The survey will take 10-15 minutes to complete. It is best to complete the survey in one sitting and answer all items; only complete surveys can be used in the study.

Voluntary Nature of the Study
Participating in this study is completely voluntary. Your decision to participate or not participate will be respected. There are no penalties or consequences of any kind if you decide to not participate. No one at Southeastern University or St. Jude will treat you differently if you do not participate. Even if you decide to participate now, you may change your mind and stop at any time.

Risks and Benefits of Participating in the Study
There is the minimal risk of psychological stress during the online survey. If you feel stressed during the survey, you may stop at any time. There may not be direct benefits to you, but you will contribute to a scientific study and the body of followership literature.

Compensation
There is no compensation for participating in this study.

Confidentiality
Responses to the survey will be anonymous. You will not be identified. Any information you provide will be anonymous and will be accessed only by the researcher, the study methodologist, and possibly the dissertation chair. Your information will be reported in summary. The data file will be saved in a password-protected cloud-based folder.

Contacts and Questions
If you have questions about the survey, you may contact the researcher, Sherrie Lynn, at sherrie.lynn@stjude.org, salynn@seu.edu, or 901-595-4727. The researcher's dissertation chair is Dr. Josh Henson who can be contacted at jdhenson@seu.edu or (863) 667-5078. You may ask Sherrie Lynn or Dr. Henson any questions now or later.

This document serves as your copy of the informed consent.

Statement of Consent
By clicking the link in the email, you confirm that you have received answers to any questions, are 18 years of age or older, and consent to participate in the survey.

Appendix J

Followership Dissertation Study

What is your employee status?

- ○ Full time (expected/scheduled to work 40 hours per week)
- ○ Part time (expected/scheduled to work 39 hours or fewer per week)

What is your age? _____

What is your gender?

- ○ Male
- ○ Female
- ○ Other _____

What is your race?

- ○ African American/Descent Black
- ○ American Indian/Alaska Native
- ○ Asian
- ○ Caucasian/White
- ○ Hispanic/Latino
- ○ Native Hawaiian/Pacific Island
- ○ Two or more races
- ○ Other _____

What is your highest education level?

- ○ High school diploma/GED
- ○ Bachelor's degree
- ○ Master's degree
- ○ Doctoral degree
- ○ Multiple doctoral degrees

How many years you have worked at St. Jude? _____

How many years you have you worked in your industry/career field? _____

Are you a people manager, meaning do you complete performance reviews for others?

- ○ No
- ○ Yes

What is your position type?

- ○ Staff
- ○ Faculty

Have you completed any of the St. Jude Leadership Academy programs? Check all that apply.

- ☐ Director
- ☐ Leadership Squared
- ☐ Manager
- ☐ Individual contributor: Leading Through Influence (LTI)
- ☐ Not applicable

Page Break

Assessment 1 of 4

	0 Never	1 Once in a while	2 Sometimes	3 Occasionally	4 Often	5 Almost always	6 Always
1. I think about how my work adds to society	○	○	○	○	○	○	○
2. Alignment between my personal and organizational goals helps me stay involved at work	○	○	○	○	○	○	○
3. I spend time thinking about how my work contributes to my personal fulfillment	○	○	○	○	○	○	○
4. I am committed to my work role	○	○	○	○	○	○	○
5. I evaluate activities that are necessary for organizational goal achievement	○	○	○	○	○	○	○
6. I contribute my best at work	○	○	○	○	○	○	○
7. I generate and evaluate new ideas that contribute to the organizational goals	○	○	○	○	○	○	○
8. My involvement at work energizes coworkers	○	○	○	○	○	○	○

9. I try to solve problems rather than rely on the leader	○	○	○	○	○	○	○
10. I develop competencies in my work to increase my value to the organization	○	○	○	○	○	○	○
11. I help the leader to see the potential and risks of ideas and plans	○	○	○	○	○	○	○
12. When starting a new assignment, I strive to succeed at tasks that are important to the leader	○	○	○	○	○	○	○
13. I help my team to see the potential and risks of ideas and plans	○	○	○	○	○	○	○
14. The leader can give me an assignment without supervision, knowing I will complete it	○	○	○	○	○	○	○
15. I evaluate my strengths and weaknesses at work	○	○	○	○	○	○	○
16. I finish assignments that go beyond my job duties	○	○	○	○	○	○	○

17. I question internally the wisdom of the leader's decisions	○	○	○	○	○	○	○
18. When I am not the leader of a group project, I contribute at a high level	○	○	○	○	○	○	○
19. I do what the leader requests regardless of my beliefs	○	○	○	○	○	○	○
20. I emphasize coworkers' contribution, even when I do not receive credit	○	○	○	○	○	○	○
21. I act on my own ethical standards rather than those of my work group (team)	○	○	○	○	○	○	○
22. I strive to understand the leader's perspectives	○	○	○	○	○	○	○
23. I assert my views on important issues, even though they may conflict with coworkers	○	○	○	○	○	○	○
24. I work to achieve the leader's needs and goals	○	○	○	○	○	○	○

25. I assert my views on important issues, even though they may conflict with those of the leader	○	○	○	○	○	○	○

Page Break

Assessment 2 of 4

	1 Strongly disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly agree
1. I listen carefully to the opinions of others even when they disagree with me	○	○	○	○	○
2. I look for opportunities to solve problems	○	○	○	○	○
3. I am interested in many issues	○	○	○	○	○
4. I enjoy learning about many topics	○	○	○	○	○
5. I am able to relate to a wide variety of issues	○	○	○	○	○
6. I ask lots of questions in a learning environment	○	○	○	○	○
7. I enjoy finding answers to challenging questions	○	○	○	○	○
8. I am a good problem solver	○	○	○	○	○

9. I am confident that I can reach a reasonable conclusion	○	○	○	○	○
10.It is important to be well informed	○	○	○	○	○
11. I am likely to change my opinion when I am given new information that conflicts with my current opinion	○	○	○	○	○
12. I enjoy solving problems	○	○	○	○	○
13. I try to consider the facts without letting my biases affect my decisions	○	○	○	○	○
14. I am able to apply my knowledge to a wide variety of issues	○	○	○	○	○
15. I enjoy learning even when I am not in school	○	○	○	○	○

16. I can get along with people who do not share my opinions	○	○	○	○	○
17. I am able to explain things clearly	○	○	○	○	○
18. I ask good questions when trying to clarify a solution	○	○	○	○	○
19. I present issues in a clear and precise manner	○	○	○	○	○
20. I consider how my own biases affect my opinions	○	○	○	○	○
21. I search for the truth even when it makes me uncomfortable	○	○	○	○	○
22. I keep on working on things until I get them right	○	○	○	○	○
23. I will go out of my way to find the right answers to a problem	○	○	○	○	○

24. I try to find multiple solutions to problems	○	○	○	○	○
25. I ask many questions when making a decision	○	○	○	○	○
26. I believe that most problems have more than one solution	○	○	○	○	○

Page Break

Assessment 3 of 4

	1 Strongly disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly agree
1. I usually try to think about the bigger picture during a discussion	○	○	○	○	○
2. I often use new ideas to shape (modify) the way I do things	○	○	○	○	○
3. I use more than one source to find out information for myself	○	○	○	○	○
4. I am often on the lookout for new ideas	○	○	○	○	○
5. I sometimes find a good argument that challenges some of my firmly held beliefs	○	○	○	○	○
6. It is important to understand other people's viewpoint on an issue	○	○	○	○	○
7. It is important to justify the choices I make	○	○	○	○	○

8. I often re-evaluate my experiences so that I can learn from them	○	○	○	○	○
9. I usually check the credibility of the source of information before making judgements	○	○	○	○	○
10. I usually think about the wider implications of a decision before taking action	○	○	○	○	○
11. I often think about my actions to see whether I could improve them	○	○	○	○	○

Page Break

Assessment 4 of 4

	0 Never	1 Almost never, a few times a year or less	2 Rarely, once a month or less	3 Sometimes, a few times a month	4 Often, once a week	5 Very often, a few times a week	6 Always, every day
1. At my work, I feel bursting with energy	○	○	○	○	○	○	○
2. At my job, I feel strong and vigorous	○	○	○	○	○	○	○
3. I am enthusiastic about my job	○	○	○	○	○	○	○
4. My job inspires me	○	○	○	○	○	○	○
5. When I get up in the morning, I feel like going to work	○	○	○	○	○	○	○
6. I feel happy when I am working intensely	○	○	○	○	○	○	○
7. I am proud of the work that I do	○	○	○	○	○	○	○

8. I am immersed in my work	○	○	○	○	○	○	○
9. I get carried away when I am working	○	○	○	○	○	○	○

Appendix K

Kelley Followership Questionnaire – Revised Version 2 (KFQ-RV2)

0 = Never, 1 = Once in a while, 2 = Sometimes, 3 = Occasionally, 4 = Often, 5 = Almost Always, 6 = Always

1. I think about how my work adds to society (experienced meaningfulness)
2. Alignment between my personal and organizational goals helps me stay involved at work (experienced meaningfulness)
3. I spend time thinking about how my work contributes to my personal fulfillment (experienced meaningfulness)
4. I am committed to my work role (work engagement)
5. I contribute my best at work (work engagement)
6. I generate and evaluate new ideas that contribute to the organizational goals (critical thinking disposition)
7. I try to solve problems rather than rely on the leader (critical thinking disposition)
8. I develop competencies in my work to increase my value to the organization (critical thinking disposition)
9. I help the leader to see the potential and risks of ideas and plans (critical thinking disposition)
10. When starting a new assignment, I strive to succeed at tasks that are important (work engagement)
11. I help my team to see the potential and risks of ideas and plans (critical thinking disposition)
12. The leader can give me an assignment without supervision, knowing I will complete it (work engagement)
13. I do what the leader requests regardless of my beliefs (co-productive orientation)
14. I emphasize coworkers' contribution, even when I do not receive credit (co-productive orientation)

15. I strive to understand the leader's perspectives (co-productive orientation)
16. I work to achieve the leader's needs and goals (co-productive orientation)