The Effects of a Principal's Interactions with Teachers on Teachers' Well-being

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Dedication

This dissertation is dedicated to all the principals, teachers, and educators who are working to provide the best environment and opportunities for all students.

Acknowledgements

The commitment and time dedication to complete this dissertation and Ed.D. program goes well beyond my own and would be an understated misdeed if those who allowed and helped me complete both were not recognized. I would like to whole heartedly thank my wife Allie, daughter Charlotte, and best friend Wrigley, for always being overly supportive and accommodating during every step of this journey. I would like to thank my parents, Drs. Mary and Mathew Reckmeyer, for being incredible role models and providing never ending support throughout my educational career and beyond. I would like to thank my methodologist Dr. Harter for his guidance on my methodology, statistical analysis, well-being content, and throughout this process. I would like to thank my editor Ben Klima for the extraordinary task of refining my content numerous times over the years. I would like to thank my committee members and examiners for sharing their expertise, feedback, and valuable time. Lastly, but definitely not least, I would like to thank my committee chair, Dr. Thessin, for providing her constant availability, patience with my extensive draft revisions, and always keeping me focused on getting across the finish line.

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Abstract of Dissertation

The Effects of a Principal's Interactions with Teachers on Teachers' Well-being

This study explores the effects of a principal's interactions with teachers and the effect on teacher well-being. Due to the predictive nature well-being has on a teacher's personal and work life, including health, productivity, job absenteeism, and engagement (Beck & Harter, 2014; Rath & Harter, 2010; Sears et al., 2014), the understanding of how principals can positively impact teacher well-being is the primary goal of this study. The interactions between the principal and teacher were studied in three categories: interaction frequency, interaction quality, and combined interaction frequency and quality levels.

The data for this study was obtained from Gallup, Inc. in two datasets, one reporting items relating to interaction frequency and quality by a principal with teachers and another reporting teacher Overall Well-being, five well-being elements (Purpose, Community, Social, Financial, and Physical), and a Life Evaluation: Present item. The datasets were merged and cleaned for analysis and consisted of self-reported responses from 415 self-identified teachers from September 4th, 2013 through December 3rd, 2013. The researcher created two composite scores from five interaction frequency items (IF5) and seven interaction quality items (IQ7) to measure interactions by a principal with teachers. Tertiles were created within the IF5 and IQ7 composite means to identify levels of High, Medium/Mixed, and Low interaction types within each composite for a combined interaction type analysis.

A hierarchical multiple regression was used for analysis of the interaction composites and an estimated marginal means comparison was used for analysis of the

combined interaction composites in relation to the well-being dependent variables. Results from the analysis showed that the interaction frequency and quality of a principal with a teacher have significant effects on teacher well-being above and beyond available demographic data. Interaction quality was also found to have a larger affect than interaction frequency. When combining the interaction composites, the high frequency/high-quality interaction group had significantly higher teacher well-being marginal means than any other combination of interaction group types studied. This study contributes to literature on administration practices and provides principals opportunities to create and apply strategies for increasing their interaction frequency and quality with teachers, to increase teacher well-being.

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Chapter 1: Introduction

Well-being is a personal state that every one of us has and is affected by every interaction and experience encountered (Rath & Harter, 2010; Sin & Lyubomirsky, 2009; Suldo, Huebner, Michalowski, & Thalji, in press). Not only is one's well-being influenced by others, it has an effect on every person's well-being interacted with as well. Once someone's well-being has been influenced positively or negatively, their life and the different aspects within it feel the impact (Rath and Harter, 2010; Sears, Agrawal, Sidney, Castle, Rula, Coberley, Witters, Pope, & Harter, 2014).

This concept of a person's well-being affecting everyone else's well-being can be seen each day within our nation's school system. Principals interact with teachers, teachers interact with other teachers, and teachers interact with students — all affecting the others' well-being. By influencing teachers' and students' well-being, ultimately the teachers' and students' health, productivity, social quality, financial outcomes, absenteeism, and engagement are affected (Beck & Harter, 2014; Rath & Harter, 2010; Sears et al., 2014). The outcomes affected by a teacher's or student's well-being, in turn, may directly affect outcomes such as school success (Lyubomirsky, King, & Diener, 2005). A study conducted by Gallup further supports the importance of increasing teacher well-being in the workplace through findings showing teachers are 8th out of 14 occupation groups regarding ranking their workplace environment, or workplace well-being (Lopez & Sidhu, 2013). This study will provide further understanding of how principals may impact teacher well-being, creating opportunities for school principals to refine their managerial and leadership practices to be most effective when interacting with teachers.

The U.S. elementary and secondary school system consists of a primarily consistent organizational structure of a principal, or another single school leader (reference included as 'principal' from here forward), responsible for leadership and managerial duties (Gordon, 2004b; Gordon, 2004c; Price, 2012; Torff & Sessions, 2009). Having the managerial and leadership duties within a school organization, the principal is ultimately responsible for the physical, environmental, and behavioral outcomes produced by the school, employees, and students (Beck & Harter, 2014; Gordon, 2013; Rath & Harter, 2010; Sears et al., 2014). Some current research and information available, specific to principals, focuses on efficiently and effectively leading and managing a school place and employees to improve a school's climate, employee engagement, well-being, or organizational outcomes (Eyal, & Roth, 2011; Fernet, Guay, Senécal, & Austin, 2012; Harris, 2012; Wahlstrom & Louis, 2008). Although the aforementioned research provides suggested leadership methods that may be helpful to improve a school's organizational outcomes, every principal has a different set of skills and talents that may not easily adapt to using or applying studied or taught leadership methods. The research gap from the addressed studies can be filled by finding practices that are applicable by any principal, regardless of leadership or management style.

Some outcomes addressed by leadership studies of principals that affect teachers include: school environment or climate (Harris, 2012; Sorenson, 2013), teacher self-efficacy (Wahlstrom & Louis, 2008), and teacher burnout (Cenkseven-Onder & Sari, 2009; Eyal & Roth, 2011). However, relatively few studies have been completed at this point that address more specific actions of principals (i.e. principal interactions with teachers) and the resulting effects (Devos, Dupriez, & Paquay, 2012; Elma, 20013; Eyal

& Roth, 2011; Mangin, 2007; Reitzug, 1989; Youngs, 2007). Although studies have found ways for principals to positively impact elements of a school organization such as climate, teacher self-efficacy, teacher burnout, and student achievement (Cenkseven-Onder & Sari, 2009; Day & Kington, 2008; Deckert-Pelton, 2003; Eyal & Roth, 2011; Harris, 2012; Sorenson, 2013; Wahlstrom & Louis, 2008; Youngs, 2007), there are still gaps regarding specific actions a principal can participate in (i.e. principal interactions with teachers; more frequent feedback with teachers; amount of communication with teachers) and the outcomes those actions facilitate.

The large effect well-being has on an employee's work and the contagion effect it carries to others (Rath & Harter, 2010) emphasizes the need to close the gap in research regarding school organizational outcomes directly or indirectly affected by teachers. The proposed study will address the specific gap of the outcome of teacher well-being created from the quality and frequency of principal interactions with teachers. The study will include a quantitative analysis of two surveys collected by Gallup, Inc. (referred to as 'Gallup' from here forward) and combined to create a de-identified sample of teachers across the U.S.

Statement of the Problem

The current role of a principal within a school has received many different practices for ways to create a positive and effective school environment for teachers, students, and staff (Bickmore & Bickmore, 2010; Gordon, 2013; Harris, 2012; Price, 2012; Sorenson, 2013), although none are specific to intentional actions with teachers. Also, while there are many leadership styles taught to principals, and recommended responses for different situations (Eyal, & Roth, 2011; Fernet, Guay, Senécal, & Austin,

2012; Harris, 2012; Wahlstrom & Louis, 2008), definitive outcomes from a principal's actions across all employees and variables are still needed. Some leadership styles and situational actions have been thoroughly investigated to examine organizational outcomes and a few specific teacher outcomes, such as turnover, trust, or effectiveness (Day & Kington, 2008; Deckert-Pelton, 2003; Youngs, 2007); however, the lack of practices or guidelines for how to improve teacher and school outcomes (e.g. retention, attendance, healthcare, safety, well-being, engagement, student achievement) in a positive way through intentional individual action by principals, is a gap in our understanding that needs to be addressed.

Further research regarding school principals and their actions, leadership, and potential impact is needed to understand best practices and policies that can positively affect teacher well-being. Outcomes commonly referenced by policies and educational courses for principals include the general realms of leadership, school budgeting, and student achievement (Common Core, 2012; ESSA, 2015; NCLB, 2003). These policies are often created and implemented by different levels and types of government and organizations. Often, they are difficult references for principals to look to for consistent outcome expectations and best practice models for how to meet the implemented expectations. The policies, and included expectations, set for principals do not come with a framework for how align their methods or practices to achieve the intended objectives. With multiple factors affecting principals' decisions, including federal and state policies, advancements in the field of education, and public sentiment, the understanding and knowledge of how to generate consistent internal organizational outcomes (e.g. climate,

culture, safety, well-being) for teachers, students, and staff that will positively impact any expectation set for a principal's school is vital.

The literature studied provided many actions and leadership approaches that affect teachers and school environments. However, none referenced outcomes proven to impact individualized aspects (e.g. teacher and student engagement, teacher health) and general organizational outcomes (e.g. school academic achievement, turnover, financials, etc.) as is the case with well-being (Rath & Harter, 2010). Accordingly, this research study seeks to determine how different types and frequencies of principals' interactions with teachers affect teachers' well-being.

Purpose and Research Questions

The ongoing concern of the public and government with respect to the importance of elementary and secondary education as evidenced by national budget allocations ($71.5 billion in 2019 (Ujifusa, 2018)), national policy reforms (e.g. Common Core (National Governors Association Center for Best Practices, Council of Chief State School Officers, (2010); ESSA (2015); NCLB (U.S. Department of Education, Office of the Secretary, Office of Public Affairs, No Child Left Behind: A Parents Guide, (2003)), and national public surveys (Calderon, Newport, & Dvorak, 2017; Gallup 2018) underscores a significant need for research that presents evidence of ways to generate positive and wide-reaching outcomes. One factor that impacts school organizations at the teacher level, and reverberates throughout the school, is well-being. The area of well-being has been shown to not only explain a person's current state, but also those outcomes that may be caused by having high well-being within personal and workplace environments (Rath & Harter, 2010; Sears et al., 2014). The knowledge that well-being has direct and indirect

impact on organizational outcomes (Rath & Harter, 2010; Sears et al., 2014) provides rationale for further research on how to positively affect well-being within a school organization. Because teachers are both measures (i.e. turnover, absenteeism, etc.) and causes (e.g. teaching students material for testing) of school outcomes, focusing on teacher well-being provides impact on multiple outcomes of the school organization that could be utilized to positively influence success.

To maximize the best outcomes for a school, understanding different variables within a school that affect teacher well-being will allow principals to refine their leadership style, as well as provide additional insight for the education and development of principals' leadership methods to maximize suggested responsibilities, actions, or talents needed to best perform the role. Therefore, the proposed research question for this study is: How does a principal's interactions with a teacher affect a teacher's well-being? Additionally, supporting questions that may provide deeper understanding of outcomes include:

1. To what extent does the quality of interaction by a principal affect a teacher's well-being?
2. To what extent does the frequency of interaction by a principal affect a teacher's well-being?
3. To what extent does the combined frequency and quality of interaction by a principal affect a teacher's well-being?

Potential Significance

The purpose of this study is to gain insight into how a principal affects a teacher's well-being through interactions to provide context to improve principals' leadership and management techniques. The results will provide recommended actions to school principals through research-based activities that generate desired outcomes for which schools, and ultimately principals, are responsible. By improving the outcome of teacher well-being, principals could address a foundational factor within the school place that has an effect on multiple variables that impact school outcomes, such as teachers' and students' well-being and engagement, teacher burnout, and teacher absenteeism (Eyal & Roth, 2011; Gordon, 2004a; Gordon, 2004b; Gordon, 2013; Price, 2012; Rath & Harter, 2010; Sears et al., 2014; Torff & Sessions, 2009). By focusing on improving teacher well-being, principals could maximize their efforts to increase multiple outcomes by improving only one variable within the school organization: teacher well-being.

This study will also investigate principals' actions within a school to create generalized best practice theories for principals by understanding specific actions to generate positive outcomes, specifically, teacher well-being. This implication would also affect and inform principal preparation and training programs to encourage intentional planning of interaction opportunities with teachers. The extended impact of this study may influence policy creation that would emphasize the autonomy of implementation of policies by principals and increase emphasis on people management instead of academic achievement outcomes. This would retain principals' ability to focus on leading and managing the school place, which would ultimately result in desired outcomes that

potentially supplement a principal's ability to implement best practices of people management.

Conceptual Framework

The conceptual framework in this study considers the role of principals' interactions with teachers and their effects on teacher well-being. This framework also intends to provide an understanding of the implications a principal's interactions with teachers and a teachers' well-being have on a school's environment and outcomes. The impact of a principal's interactions within the school place have well-documented implications, including effects on: school environment (Harris, 2012; Sorenson, 2013), teachers and other employees (Eyal, & Roth, 2011; Fernet, Guay, Senécal, & Austin, 2012; Harris, 2012; Wahlstrom & Louis, 2008). These effects on the schools and employees resulted from different principal interactions generated through principals' leadership styles and managerial tasks. The influence of different types of principal interactions provides a foundation for studying principal interactions with teachers to identify how specific interactions affect teachers' well-being. Meanwhile, teacher well-being has been found to have impacts ranging from personal outcomes within the teaching profession, as well as external effects on coworkers and students as explained within the proceeding literature review. Well-being, including teacher well-being, has also been identified as being malleable and impacted by different variables, including interactions with others.

The conceptual link between a principal's interactions and a teacher's well-being provides a lens to focus on measuring outcomes from the impact of a principal's interactions and the effects on teachers' well-being. By focusing the attention of these

interactions specifically on teacher well-being, a principal's intent can be narrowed to a respondent-level outcome instead of a broader school-level outcome. However, knowing the effects of teacher well-being on other school place outcomes provides an understanding of a school-wide impact from this one variable being analyzed. This relationship creates the framework for the current study, as well as a consideration for future studies to underline a specific foundational variable that will have a systemic impact within the school organization.

Methodology

This quantitative study examines the interactions of a school principal with teachers, and those interactions' effects on teachers' well-being. A sample provided from a panel established by Gallup (2020) was utilized to conduct the surveys. The sample consists of two surveys' respondents that have been merged using a unique identifying variable and cleaned based on qualifying valid data to create a single dataset consisting of 415 respondents. Respondents completed both surveys and self-reported their profession as a teacher. The items used within the manager survey consists of continuous, categorical, and five-point Likert items. The items used from the well-being survey consists of an 11-point ladder item, an overall well-being score, and five well-being element scores. The ladder item ranged from worst life possible (0) to best life possible (10). The overall well-being score and five well-being elements (Purpose, Financial, Community, Physical, and Social) were calculated by Gallup using proprietary calculations. To answer the posed research questions, the items from the manager survey will be used to create two composite scores of interaction quality and frequency. These composite scores were considered independent variables used to identify their predictive

nature when considering the overall well-being score and the five well-being elements. The software Statistical Package for the Social Sciences (SPSS) was used for data analysis.

Delimitations

This study focused on elementary and secondary teachers within the U.S. This study analyzed the interaction type and frequency of principals with teachers and the well-being of teachers. Teachers were selected because they are the primary school-based factor that influence students' academic achievement and school engagement (Gordon, 2013). A person's well-being affects the well-being of others they interact with, which means teachers are a main influencer of students' well-being each day a child is in school. Principals' interactions with teachers were chosen as the independent variable because the manager is responsible for all employees and for employees' outcomes. The datasets used from Gallup were selected because of the established Well-being and Life Evaluation indices and the adequate sample size collected from the Manager and Well-being panel surveys conducted by Gallup (2020). The combined survey samples provided a completed dataset ready for analysis and a sample with the desired participant target.

Limitations

Within this study, there were some limitations that were acknowledged and considered in the results and discussion. The sample was obtained from a self-reported occupation item. The occupation survey item consisted of the option 'Teacher' was not detailed enough to explain the exact teacher type (e.g. full-time, substitute, etc.), grade taught (pre-school, kindergarten, ninth, etc.), school level (elementary, middle, high

school), or school type (public or private), which prevents further understanding of possible differences between stated categories. The self-reporting of participant occupation also creates the possibility of improper reporting by the respondent. In connection to the self-reported occupation limitations, the context of the school and environment is not collected or known. The self-reported occupation item and lack of school context input creates a limitation from the unknown variable of the environment and state the participants were in when participating in the study.

Another limitation came from the use of the dataset collected and provided by Gallup, which is the need to connect the term manager to the principal of a school. Some participants may think of their manager as their department chair or assistant principal, as possible examples, even though research indicates the school principal is typically assumed to occupy this role (Gordon, 2004a; Gordon, 2004b). A lack of specifying or understanding the leadership style being applied by principals also limits the results from being stated as representative of all leadership styles. It is also possible that the data represents principals of one leadership style overwhelmingly more than others. A limitation from using a dataset merged from two separate survey datasets also exists. A final limitation is the lack of ability to properly generalize the findings across all U.S. elementary and secondary education due to not knowing the actual level of school, locality of school, or size of school to assess fair participation of all teacher and school types. The researcher considered these limitations within the discussion of the findings.

Summary

This chapter presented an overview of the importance of a principal and his/her leadership within a school organization, principal interactions within a school

organization, teacher well-being, and the existing gap in current literature regarding the relationship between principal interactions with teachers and the effect on teacher well-being. The problem this research is addressing is the lack of understanding of how specific actions by principals affect the school environment, employees, and students, resulting in broad and varying outcomes. To resolve this problem, the specific action of a principal's interactions with teachers is being investigated, with a focus on the outcome of teacher well-being. This chapter introduced the aspects of this research study to include the problem, the research purpose and questions, the significance of the current research, the conceptual framework used, and the methodology being applied. The following chapter will provide a thorough examination and synthesis of literature regarding relevant topics of well-being, principal interactions, teacher well-being, principal and teacher interactions, and the effect of principal interactions with teachers on teacher well-being.

Chapter 2: Literature Review

Introduction

The school organization is no exception to the effects of employee well-being with respect to teachers and school outcomes (Cenkseven-Onder & Sari, 2009; King & McInerney, 2014; Saaranen, Tossavaine, Turunen, & Vertio, 2006). The well-being of an organization's employees greatly affects aspects of the organization's efficiency, turnover, product quality, and budget (Beck & Harter, 2014; Rath & Harter, 2010; Sears et al., 2014). Although the scientific realm of well-being is a relatively recent area of study (Harris, 2012; Rath & Harter, 2010), there is abundant research investigating well-being (Beck & Harter, 2014; Boehm & Lyubomirsky, 2008; Harter & Agrawal, 2012; Lyubomirsky, King, & Diener, 2005; Rath & Harter, 2010; Sears et. al., 2014; Sin & Lyubomirsky, 2009; Van Horn, Taris, Schaufeli, & Schreurs, 2004), along with the impact of well-being on and within organizational outcomes, including: employee health and healthcare costs, turnover, absenteeism, productivity, employee engagement, and product outcomes (Rath & Harter, 2010; Sears et. al., 2014). The established impact and importance of well-being within an organization illustrates the need for research regarding teacher well-being, to better understand similarities and differences of the influences and impact within the school organization. The purpose of this study is to provide insight into school principals' best practices to positively affect teachers' well-being, and in turn, their schools' outcomes, along with building a foundation of research for future studies regarding a principal's impact on positive well-being outcomes within schools.

An important force affecting an employee's well-being within an organization has been found to be the manager (Gallup, 2012a; Gallup, 2012b; O'Boyle & Harter, 2014); in schools the equivalent managerial role for a teacher is the principal (Gordon, 2004a; Gordon, 2004b; Price, 2012; Torff & Sessions, 2009). When thinking about the manager's direct or indirect (i.e. employee engagement) impact and effect on employees' well-being, and the compounding effect on an organization's budget, production, and climate (Beck & Harter, 2014; Gallup, 2012b; Rath & Harter, 2010; Robison, 2013a; Robison, 2013b; Sorenson, 2013), there is a lack of direct outcomes easily transferrable to a school organization, which creates a need for investigation to establish the impact on a school, its environment, and its outcomes. Specifically, there is a need for further investigation regarding a principal's effect on teachers' well-being to help leadership planning and actions to achieve the most positive outcomes for the teachers and schools.

This literature review was conducted and continually updated between June 2014 and April 2020, and included literature spanning from 1970 through 2018. Resources were found searching databases, including: Eric (EBSCO), Education Source, JSTOR, Academic Search Premier, Academic Search Complete, Education Source, Primary Search, Teacher Reference Center, and Google Scholar. The research from those databases was found using search terms and phrases including, but not limited to: principal interaction, teacher well-being, well-being, intervention, interaction, interaction affects, intervention affects, school climate, school social models, relationships, leadership, supervisor, and mental health. Along with the database search, reference lists from the documented searches were used to expand and exhaust the literature surrounding the topics searched. Due to the amount of literature surrounding the topics of

well-being and education, the literature included in this review was conducted throughout the world, but was isolated to relevant to the topics within the current study that could be generalized to the current study's framework (i.e. principals' effects on schools, employees, or teachers; general effects on and of well-being) to the extent possible.

This literature review will present relevant literature regarding this quantitative study of principal interaction with teachers and the effects on teacher well-being within schools. For a complete list of literature review citations by theme see Appendix A. This review starts with the presentation of a conceptual framework that connects a school organization's manager's (principal) interaction with his or her employees (teachers) and the school organization's employees' (teachers') well-being. The two subsections of the conceptual framework are *Principal Interactions* and *Teacher Well-being*. The conceptual framework is followed by a section titled, "Well-being." This section covers the overall concept of well-being and its influence and importance in the workplace. The section "Teacher Well-being" investigates the topic of interactions of managers and employees with a narrowed focus on the school organization that includes principal interactions and teacher well-being. The teacher well-being section also provides insight into the connections that have been made between the concepts of principal interactions and teacher well-being and the outcomes that were addressed separately in the broader sections devoted to each. The next section, "Principal Interaction," focuses on the related research of the conceptual framework idea of principal interactions and their effects within the school organization with respect to leadership, environment, staff, and students. The following section, "Principal-Teacher Interaction," examines specific effects of principal interactions with teachers and the outcomes regarding teacher

workplace and individual outcomes. The final section narrows the literature down to the specific realm of principal interaction and teacher well-being. Being the most relevant research, the study referenced provides the single source of research surrounding principals affecting teacher well-being through their own actions. The lack of specific actionable practices provides support for the necessity of the current study, however. All research examined within this review explains the support, evidence, and gaps in current research that validated the need for the proposed study of principal interactions with teachers and those interactions' effects on teacher well-being.

Conceptual Framework

The conceptual framework of this study explains the importance of teacher well-being and one type of intervention that may affect teacher well-being, specifically, the interactions principals have with teachers as their manager. The impact of well-being on people and organizations has been studied for many years, but more heavily in the past three decades (Lyubomirsky, King, & Diener, 2005). With the manager having a greater influence than other employees within the workplace setting (O'Boyle & Harter, 2014; Price, 2012), the interactions each employee does or does not have with his or her manager have an impact on the employee's well-being (Price, 2012; Rath & Harter, 2010). When narrowed to the educational realm, and specifically to teacher well-being, the effects and outcomes of a principal's interactions with teachers can be viewed through a conceptual framework focusing on principal interactions and teacher well-being.

A technical report from the Gallup Student Poll by Lopez, Agrawal, and Calderon (2010) emphasizes the encompassing nature of well-being as "how we think about and

experience our lives." Using this overarching definition as a foundation for teacher well-being, Lopez, Agrawal, and Calderon (2010) cite findings that explain that well-being is malleable (Sin & Lyubomirsky, 2009; Suldo, Huebner, Michalowski, & Thalji, in press) and the source of individual and organizational success (Lyubomirsky, King, & Diener, 2005) and work (Boehm & Lyubomirsky, 2008; Judge & Hurst, 2008). Because of the recent focus on well-being (Harris, 2012; Rath & Harter, 2010) and new findings leading to an increased understanding of its importance (Beck & Harter, 2014; Boehm & Lyubomirsky, 2008; Lyubomirsky, King, & Diener, 2005; Harter & Agrawal, 2012; Rath & Harter, 2010; Sin & Lyubomirsky, 2009; Sorenson, 2013; Van Horn, Taris, Schaufeli, & Schreurs, 2004), further research is needed to confirm and support findings of how a principal's interactions affect teacher well-being. The simple indication that there is a possible link from an individual's well-being to success in education, the workplace, and quality of life provides more than enough reason for further investigation and research of a teacher's well-being to create the best possible environment for positive and desired outcomes for schools, teachers, and students.

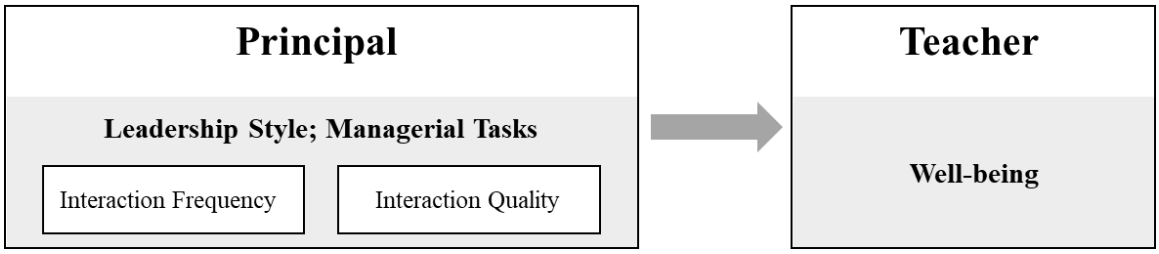
With a working knowledge that peoples' well-being is affected by their interactions with others (Rath & Harter, 2010), the assumption made for this study is that the variable of a principal's interactions with a teacher should affect the dependent variable of a teacher's well-being based on the amount of interaction and quality of those interactions. Along with the specific assumption based on the broad findings relating to the general state of a person's well-being, another more general well-being study conducted by Sin and Lyubomirsky (2009) found connections of positive interventions relating to higher well-being of individuals. These two studies provided a foundation for

the more detailed assertion of this conceptual framework and resulting outcomes expressing the independent variable impacting the dependent variable of this study in a positively correlated way (e.g. more frequent and higher quality interactions of a principal with a teacher will cause higher teacher well-being). Also, understanding that a teacher's well-being can be impacted by factors within a school environment lends to this conceptual framework.

To maximize success in the education system, teachers — and a major influence on teachers — principals (Eyol & Roth, 2011; Gordon, 2013; Mangin, 2007; Price, 2012; Youngs, 2007) — were considered in the proposed study. The conceptual framework that will guide the research and literature review is outlined in Figure 1.

Figure 1

Conceptual Framework



Note. The principal is the teacher's manager, with different methods of performing their role and responsibilities, specifically a principal's leadership style and managerial tasks. For a principal to perform their role, interactions are inevitable and necessary, with frequency and quality making up the different types of interactions. The combination of a principal's role and necessary interactions affect teachers in many ways. In this study, the affected area of focus of the teacher is the teacher's well-being.

Principals

The principal is the leader of a school organization, and widely regarded as the manager (Gordon, 2004a; Gordon, 2004b; Price, 2012; Torff & Sessions, 2009). Studies explaining the effects a principal has on the school organization investigate types of leadership styles (e.g. distributive, transformative, transactional, etc.) and different actions taken by principals, identified as managerial tasks. These two categories explain

many effects on the school organization and, subsequently, teachers within the school organization. By first identifying why interactions occur between principals and teachers, the ability to maximize those interactions is necessary to advance the role of a principal and their best practices for increasing outcomes for which they are responsible. These two categories of a principal's role in a school organization are also inherently tied to interaction with teachers, as the leadership styles and managerial tasks require some level of communication or interaction with teachers by the principal. The current study has attempted to do so through the intermediary of interactions between principals and teachers, with the focus on the outcome of teacher well-being.

Leadership Style. The leadership styles of a principal have been found to affect areas of the school organization (Harris, 2012), including: teacher self-efficacy (Fernet, Guay, Senècal, & Austin, 2012; Wahlstrom & Louis, 2008); teacher experiences and professional development (Youngs, 2007); 'positive sense' of agency, resilience, and commitment for teachers (Day & Kington, 2008); enthusiasm and optimism (McColl-Kennedy & Anderson, 2002); and teacher motivation, well-being, and burnout (Eyal & Roth, 2011). The aforementioned studies and outcomes focused on principal leadership styles, such as distributive (Harris, 2012; Wahlstrom & Louis, 2008) and transformative (Eyal & Roth, 2011; McColl-Kennedy & Anderson, 2002), lends to the conceptual framework by understanding a principal's influence on teachers and the school organization depends on the way a principal applies their leadership. The need to expand details within a principal's leadership style actions will advance understanding of how each specific type of leadership style may impact schools and teachers in specific ways. By understanding the outcomes from previous studies that included principal

leadership styles, the foundational hypothesis of this study, that a principal's interactions with a teacher affects a teacher's well-being, is supported through previous results.

Managerial Tasks. The established point that a principal is a teacher's manager provides a link to what tasks a principal oversees relating to a teacher, which expands the effects a principal has on a teacher and school. In studies relating a principal's interactions to managerial tasks, outcomes impacting teachers ranged from well-being (Martin, Colmar, & Liem, 2012; Parker, Martin, Colmar, & Liem, 2012), to self-efficacy and feelings of depression (Devos, Dupriez, & Paquay, 2012). The managerial tasks most commonly referenced are goal-setting and orientation (Martin, Colmar, & Liem, 2012; Parker, Martin, Colmar, & Liem, 2012). The outcomes showing that a principal setting different types of goals for and with teachers further supports this study's notion of a principal's interactions with a teacher affecting teacher well-being. While Devos, Dupriez, and Paquay's (2012) study included meetings between principals and teachers, they found quality had an influence on outcomes, while frequency did not. This task also lends support that a principal's interactions with a teacher have an influence on teacher outcomes.

One specific managerial role held by principals is teacher supervision and evaluation. Due to the very large body of literature specifically dedicated to this topic, and the inability to narrow the focus of such a widely researched topic to the intentions of this study ("principal interactions with teachers"), studies specific to principal supervision practices were not considered within this review.

Interactions

While investigating interaction in the school organization, it is imperative to understand the known effects and findings regarding interactions, specifically principal interactions, within a school organization. Because principals are widely considered to be the managers within school organizations, (Baglibel, Samancioglu, Ozmantar, & Hall, 2014; Grissom & Loeb, 2014; Gordon, 2004a; Gordon, 2004b; Price, 2014; Ringler, O'Neal, Rawls, & Cumiskey, 2013) there is a need to study the effects of principals' different roles and actions in a school organization. In this study, the primary focus is on principals' interactions with teachers. Principal interactions have been found to have a major impact on different aspects of the school organization, including the environment (Harris, 2012; Sorenson, 2013), teachers (Bickmore & Bickmore, 2010; Day & Kington, 2008; Elma, 2013; Gordon, 2013; Gordon, 2004a; Gordon, 2004b; Price, 2012; Youngs, 2007) and outcomes of a school's students (Reitzug, 1989). Understanding the reach of a principal's ability to affect a school organization and the employees (teachers) will provide a lens with which to interpret the findings and research in this literature review.

In this study, the primary area of focus is the influence a principal's interactions with teachers has on teacher well-being. The impact principal interactions have on the school organization is meaningful. When focusing on different elements of a principal's interactions, findings provide evidence of both frequency and quality affecting school and teacher outcomes. A principal's interactions with teachers has been shown to have positive impacts on different areas of a school organization, including teacher evaluations (Zimmerman & Deckert-Pelton, 2003), perceived support for teachers (Mangin, 2007), beginning teacher experiences and professional development (Youngs, 2007), overall

teacher job satisfaction (Elma, 2013), student achievement — explained as school effectiveness — (Reitzug, 1989), and teacher self-efficacy and depression (Devos, Dupriez, & Paquay, 2012). While studies have already examined the different combinations of interactions, both types together and separate, the positive findings support further investigation of how principal interactions with teachers effect teachers and the school organization. Inclusion of the types of interactions within this conceptual framework emphasizes the importance and difference of the two types.

Teacher Well-being

An employee's well-being has been found to affect their own performance and outcomes, as well as organizational outcomes (Beck & Harter, 2014; Boehm & Lyubomirsky, 2008; Harter & Agrawal, 2012; Lyubomirsky, King, & Diener, 2005; Rath & Harter, 2010; Sin & Lyubomirsky, 2009; Sorenson, 2013; Van Horn, Taris, Schaufeli, & Schreurs, 2004). However, research focused on understanding the variables affecting teacher well-being specifically has not received adequate attention. Further research will help establish methods for principals to increase and sustain positive levels of teacher well-being to achieve desired organizational outcomes related to high employee well-being.

When reviewing teacher well-being, the understanding of the importance and impact is explained through connections to outcomes relative to teachers (Rath & Harter, 2010; Ylitapio-Mantyla, Uusiautti, & Maatta, 2012), the organization (Saaranen, Tossavaine, & Verito, 2006; Van Horn, Taris, Schaufeli, & Schreurs, 2004), and the students they teach (Ylitapio-Mantyla, Uusiautti, & Maatta, 2012). Because well-being is directly transferable to those around an individual and through interactions with a person

(Rath & Harter, 2010), the ripple effect of teacher well-being could theoretically be seen as having an impact on other teachers, school staff, administration, students, and thereby, students' academic achievement. This also means a principal's well-being will affect a teacher's well-being when the two interact. Substantiating this idea, previous studies found one of the largest impacts on an employee's well-being to be said employee's manager (Gallup, 2012a; Gallup, 2012b; O'Boyle & Harter, 2014).

A teacher, like any person or profession, has their well-being affected by many aspects of daily life. Some examples of teacher well-being being affected within the school can be found in studies with independent variables of the 'school administrator' and 'stress' (Cenkseven-Onder & Sari, 2009), principals setting achievement oriented goals for teachers (Parker, Martin, Colmar, & Liem, 2012), and classroom acoustics and self-reported noise exposure (Kristianse, Persson, Lund, Shibuya, & Nielsen, 2013). While situations in their personal life may include experiences with others, financial news, or community involvement (Rath & Harter, 2010), to name a few. These examples show the wide-ranging influence different areas of a teacher's daily experiences may affect their well-being, and the notion of principal interactions is not specifically reflected, and therefore, a focus of this study. The large number of variables that have been found to impact a teacher's well-being provides evidence to support the primary research question of this study: To what extent does a principal's interactions with a teacher affect a teacher's well-being?

This conceptual framework provides a roadmap for how to view the research studies and results, and explain the gap in current research, which this study intends to address. The knowledge of the effects of principal interactions on teachers, specifically

on teacher well-being, is not yet understood in a capacity that provides clarity on what type of principal interactions have any effects on teachers, and if there are effects, what those effects are. To properly understand why the study of teacher well-being is important, the concept and current research regarding well-being must first be understood.

Well-being

Well-being has become an increasingly important and researched area of people's lives and its role in the workplace over the past 30 years (Lyubomirsky, King, & Diener, 2005). In particular, the past 15 years have seen increased investigation into the subject of well-being. This body of research has produced findings related to individual, managerial, and organizational effects and outcomes on well-being. Recognition of the increasing importance of well-being has grown because of the expanded awareness and knowledge of the outcomes. These outcomes include improved health, interactions, productivity, feelings, experiences, and environments (Boehm & Lyubomirsky, 2008; Harter & Agrawal, 2012; Lopez, Agrawal, & Calderon, 2010; Lyubomirsky, King, & Diener, 2005; Sin & Lyubomirsky, 2009; Van Horn, Taris, Schaufeli, & Schreurs, 2004), which are covered within this section.

Because well-being can be found in a variety of areas within a person's life, different types and areas of well-being have been defined and studied. One such study was done by Van Horn, Taris, Schaufeli, and Schreurs (2004). The quantitative study performed included 1,252 Dutch teachers who responded to a structured questionnaire. The questionnaires were used in a cross-sectional study and analyzed through confirmatory factor analysis and second-order factor analysis to confirm findings. The

goal of the study was to understand the nature, causes, and consequences of a proposed multidimensional model for occupational well-being. Van Horn et al. (2004) identified five dimensions (affective, cognitive, professional, social, and psychosomatic) that make up occupational well-being. The findings showed the core three dimensions were professional, social, and affective well-being. Two other dimensions that also contributed (although not as strongly), were cognitive and psychosomatic well-being. These findings have provided both a deeper understanding of occupational well-being and the more detailed areas that contribute to occupational well-being's overall make-up. The researchers Van Horn et al. (2004) also explained that occupational well-being may be studied and understood as a single concept but is manifested in various states. This finding suggests that many different areas within a workplace setting should be investigated to understand all the variables affecting occupational well-being. The proposed study addresses this idea by focusing on principals' interactions with teachers and the effects of these interactions on teachers' well-being.

Limitations of the Van Horn et al. (2004) study included a specific workgroup (teachers), which prevents generalization to other workplaces, an *a priori* design with outcomes applicable only to the five well-being dimensions and scales used, and measures being self-reported that may have caused common method variance due to the exclusive use of structured questionnaires for all measures based on subjective responses. The importance of these findings contributes to the need for more research involving the effects of workplace variables on the different facets involved in the overall outcome described as occupational well-being. Conducting research to uncover the factors that contribute to the variables that make up occupational or other types of well-being will

provide a more comprehensive understanding of how to generate positive well-being, thereby leading to positive outcomes. The proposed study will advance this area of research by focusing on principals' interactions with teachers and the interactions' effects on teacher well-being.

Lyubomirsky, King, and Diener (2005) conducted a meta-analysis with cross-sectional, longitudinal, and experimental studies that concentrated on the effects that well-being has on success, rather than the effects that variables have on well-being. Lyubomirsky, King, and Diener (2005) analyzed 225 studies and articles that included 293 sample groups with more than 275,000 participants and 313 independent effect sizes in their meta-analysis. To compare studies and results used in this meta-analysis, the researchers calculated comparable measures by using effect sizes generated through t-statistics, p-values, and other relevant or similar statistics. Lyubomirsky, King, and Diener (2005) also applied weights to the meta-analysis studies based on sample size, along with controls for demographic information.

The study found evidence that high positive affect (PA), happiness, or subjective well-being may cause success. Other findings included individuals high in subjective well-being were evaluated more positively by superiors, demonstrated superior performance and productivity, handled managerial jobs better, and were less likely to exhibit counterproductive workplace behavior or experience job burnout. Other findings cited by Lyubomirsky, King, and Diener (2005) found similar and more specific outcomes, such as PA at work being directly related to reduced absenteeism, the causal relationship between PA and strong work performance is bidirectional, and high subjective well-being related to later financial prosperity. The findings from

Lyubomirsky, King, and Diener's (2005) study have been generalized to explain high subjective well-being, specifically happy people, appearing to be more successful in work and relationships, and healthier than their less-happy peers. The findings from this study underscore the malleability of well-being, the importance of high well-being versus low well-being, and the need to advance the knowledge with respect to generating high well-being, specifically in the workplace, which is what the proposed study seeks to accomplish.

A study supporting the findings from Lyubomirsky, King, and Diener (2005), Boehm and Lyubomirsky (2008) conducted a similar meta-analysis that used cross-sectional, longitudinal, and experimental studies to investigate the possibility of happiness — explained as being interchangeable with higher well-being — promoting career success. The more specific findings were concerned with the idea that happiness precedes and may cause workplace success, rather than the inverse idea that workplace success causes happiness. Although there is no statistical testing of the studies included in this analysis, the findings have provided an appropriate amount of evidence in their own merit to substantiate the results and support further research. The overall findings from Boehm and Lyubomirsky's study concluded that well-being leads to success at work. Specific evidence cited in the study explained that happy employees have more engaging autonomous jobs, are more satisfied with their jobs, and demonstrate superior performance. This supported broader findings of a positive correlation between happiness and workplace success and outcomes.

The study by Boehm and Lyubomirsky (2008) explained participants from the studies in the meta-analysis included a diverse range of workplaces with a majority from

a Western, English-speaking nation with small exceptions from other geographic locations (e.g. dormitories, cricket players, sales-based organizations, and others). This is seen as a positive attribute of the meta-analysis due to the internal validity produced; however, the external validity is affected. This limitation does not change the significance of the outcomes as they have provided evidence that can be used to support the need for more research regarding well-being and its influence on the workplace. As similarly stated by Lyubomirsky, King, and Diener (2005), Boehm and Lyubomirsky (2008) have indicated the importance of well-being in the workplace and how positive outcomes for well-being and the workplace may be produced. The effects and causation of well-being were explained by Boehm and Lyubomirsky (2008) and Lyubomirsky, King, and Diener (2005), but further research into how to achieve higher well-being is needed to support and build on these findings. The proposed study attempts to fill this gap in research by investigating if different types and frequency of principal interactions with teachers affect teacher well-being.

Sin and Lyubomirsky (2009) conducted a study that focused on ways to generate positive well-being. This study was a meta-analysis that concentrated specifically on positive psychological interventions with the aim to enhance well-being and alleviate depressive symptoms. Sin and Lyubomirsky (2009) viewed these interventions as methods or activities that generate positive feelings, behaviors, or cognitions. The analysis consisted of 4,266 individuals within 51 interventions. Of those 51 interventions, 49 independent studies with 4,235 individuals were specific to well-being. To analyze all these studies, the researchers used the sample sizes, effect sizes, and one-tailed Z's associated with significance levels to verify significance along with random and

fixed-effects models. To create the most valid comparison possible, researchers used heterogeneity testing and weighting for moderator analysis. The biggest limitation of this study was the ability to compare different studies and interventions with consistency and reliability. Reliance on other researchers' outcomes without complete knowledge of the full extent the limitations and external variables may have affected results from studies included in their analysis further impairs the reliability of Sin and Lyubomirsky's (2009) results. With an unknown number of external variables affecting variance in results and outcomes, reliance on results from other studies could equate to major faults with analysis and findings. However, without consistent comparable criterion across studies, as well as the lack of understanding of the extent of impact external variables may have had on results used in these instances, the findings from this study provide the need for more research to confirm these results.

Sin and Lyubomirsky's (2009) findings explained the importance of positive interventions being significantly related to enhancing well-being and decreasing depressive symptoms. The findings provided support for further research into how to positively affect well-being. When Sin and Lyubomirsky's (2009) findings are taken in context with the findings from Boehm and Lyubomirsky (2008) and Lyubomirsky, King, and Diener (2005), it emphasizes the importance of understanding how to positively increase a person's well-being. This understanding could provide outcomes that reach beyond that of creating a well-being measure to creating applications for increasing well-being in the workplace. The proposed study will expand on the investigation of impacts of workplace variables on an employee's well-being and provide a potential

explanation for the variability of employee well-being within and across organizations, specifically teachers' well-being within schools.

A study by Harter and Agrawal (2012) explored causal relationships with well-being elements that build on the findings from Sin and Lyubomirsky (2009), Boehm and Lyubomirsky (2008), and Lyubomirsky, King, and Diener (2005). The study from Harter and Agrawal (2012) consisted of 11,500 U.S. Gallup Panel members (national probability-based panel of U.S. households that agreed to participate regularly in Gallup surveys by phone, web, and mail) from September 2010 to March 2012. The measures used for analysis included in the Gallup Panel American Workforce Survey were the employee engagement index using Gallup's $Q^{12®}$ metric, Gallup's Well-being Finder, Gallup's annual Health Experiences Survey, and a one-time survey measuring the Big Five personality factors: conscientiousness, extroversion, emotional stability, agreeableness, and intellectance (the degree to which a person seems creative, adventurous, and analytical). These measures were analyzed in the quantitative longitudinal study by linear and logistic regression for causal analysis while controlling for demographics and personality types.

The results from this study indicated well-being strongly predicts overall life evaluation, daily experiences, employee engagement, and turnover intentions (i.e., the likelihood an employee will leave his or her job), with a slightly weaker predictive link to unhealthy days, sleep disorders, anxiety/depression, and diabetes. These predictive outcomes, as measured by Harter and Agrawal (2012), highlight the need to understand the interactions that affect well-being. Understanding what affects well-being can increase desirable outcomes in a person's personal life and workplace. This range of

results linking employee well-being to organizational outcomes emphasizes the impact of teacher well-being on educational policy, leadership within school organizations, and the importance of focusing on outcomes and measures regarding teachers and principals. The need for further understanding of impacts of workplace variables on well-being supports the need for the proposed study regarding principals' interactions with teachers and the interactions' effects on teacher well-being.

By understanding how to maintain high employee well-being, the productivity, turnover, and health-related measures within the workplace can be shifted to provide positive outcomes for both the organization and the employees (Rath & Harter, 2010). The economic implications of turnover, absenteeism, and healthcare costs may prove to have a major impact on an organization's budget and finances (Rath & Harter, 2010). With the ever-growing concerns regarding school organizations' budgets, any possible implications that may provide a positive effect on cost savings would be beneficial. The proposed study expands the knowledge of how to attain a positive well-being outcome by studying principals' interactions with teachers and the interactions' effects on teacher well-being.

The advancing knowledge in the field of well-being has amplified the importance of how we view and understand well-being, the effects it has, and what effects cause higher and lower well-being in people. The proposed study will expand the research supporting the importance of employee well-being in the workplace by focusing on the certain types and frequency of managers' interactions with employees, in this case principals interacting with teachers, and the outcome these interactions influence with respect to employee well-being. To understand the importance of teacher well-being and

the research that has already been conducted, the following section will highlight research, studies, and articles and their relation to the proposed study.

Teacher Well-being

The emphasis on well-being within the workplace has gained more attention in recent years, and the educational organization is not an exception. Even though well-being is not a new field of study, there is no agreed-upon consensus of how to describe and analyze the topic. Well-being has been described, thought of in various contexts, and defined differently, as shown below. Due to the focus of this study, this section will analyze and discuss well-being in the context of the school environment with a focus on teachers and the teaching profession.

The impact of well-being in the workplace and on employees underscores the importance of and need for understanding teachers' well-being and the predictive nature relating well-being to variables within the school organization. By understanding the factors that affect teachers' well-being, a school organization can help create a better working environment and improved outcomes for teachers. The next section provides background to substantiate the research question being addressed in this study: To what extent does principals' interactions with teachers affect teacher well-being?

A study by Grenville-Cleave and Boniwell (2012) examined the role of teachers' perceptions of their own well-being compared with the well-being perceptions of employees in other professions. This mixed-methods study asked 298 participants from different roles and in different professional fields to take an online quantitative survey and participate in qualitative semi-structured interviews. The research included independent t-tests and thematic analysis. Findings indicated a significant difference

between teachers' perceived control and well-being and non-teachers' control and well-being. Teachers had a lower perceived difference in control and well-being while connections with others had a larger emphasis than non-teachers. The connections included relationships with colleagues, managers, pupils, parents, and other professionals. These connections were also found to "rise above" issues caused by lack of control over one's work; however, the lack of strong statistical testing and the small sample raise concern with respect to the reliability of the findings (Grenville-Cleave & Boniwell, 2012). The findings made by Grenville-Cleave and Boniwell (2012) regarding teacher perceptions of their own well-being and the importance of connections to others increases the need for further research to maximize teachers' perceived importance of connections with others to possibly increase teacher well-being. The current study attempts to fill this need by investigating principals' interactions with teachers, and the effects on teacher well-being.

Well-being in the school environment does not have a definition specific to this situation, so understanding what it means to the people it describes and pertains to is important. Ylitapio-Mantyla, Uusiautti, and Maatta (2012) conducted a qualitative study that investigated this idea in North-Finnish early-childhood education teachers. The study consisted of four female teachers and data from nine group meetings between autumn 2002 and spring 2004. A memory-work method was used to collect responses to questions and a narrative approach to reading responses during coding and analysis provided the researchers with a lens to 'experience' the situation and understand the situation and responses. Researchers also took a critical perspective, which provided them with the opportunity to ask questions from multiple, diverse points of view.

Findings from this study explained the assumption that "employees have to be mentally, physically, and socially healthy in order to experience well-being at work," (Ylitapio-Mantyla, Uusiautti, & Maatta, 2012). According to Ylitapio-Mantyla, Uusiautti, and Maatta (2012), further analysis of the interviews revealed the source of human well-being is meaningful work. Teachers' well-being is important due to its concern being with the children and not only the teachers since a teaching role requires incumbents to interact with and educate children of various ages. This study gives context to the personal feelings teachers have about their own well-being within the teaching field and provides a foundational view of the importance of teachers' well-being with respect to students' outcomes and the school environment in general. Because of the significance of teacher well-being and the source of these findings, a deeper understanding of teacher well-being and how it is affected is needed.

There were multiple limitations in the study by Ylitapio-Mantyla, Uusiautti, and Maatta (2012). The first being the type of data collection method used during the interviews. A memory-work method relies on more distant memories, which have been shown to be prone to manipulation and false memories. Second, the sample size was extremely small, even for a qualitative study. Third, the location and sample size of this study severely hampers the ability to generalize the findings across cultures and environments without validation from other cases. Lastly, researchers' interpretation of the data, by using an empathetic narrative approach, left researchers' interpretations up to them, which could lead to bias or misinterpretation because of the subjective nature of the approach. This is because a different researcher may see or understand the responses in a completely different light using the same method. The limitations of this study also raise

concerns with respect to validity; however, these concerns only serve to highlight the need for more studies to investigate and validate the full nature and effects of teacher well-being on teacher, student, and school-based outcomes. The proposed study will close a gap that has been exposed by this research through an investigation of principals' interactions with teachers and the effects those interactions have on teacher well-being.

A study by Saaranen, Tossavaine, Turnnen, and Vertio (2006) found well-being to consist of multiple factors and effects, supporting the findings from Van Horn, Taris, Schaufeli, & Schreurs (2004). 'Occupational well-being' was found to consist of four categories defined by the school's staff and occupational health nurses: "working community's positive atmosphere, motivation for work and the quality of working conditions, professional abilities and adequate education, and private life conditions," (Saaranen, Tossavaine, Turunen, & Vertio, 2006). The researchers arrived at this definition through a qualitative study completed over multiple years, encompassing the responses and views of participants with different perspectives and roles surrounding the school environment and workers within it. The study methodology and participants consisted of focus groups and individual interviews of principals, teachers, school assistants, school nurses, and occupational nurses in Finland. The findings of this study included a positive working community's atmosphere, appreciation of one's own work and that of others, and support from the working community, all promoting 'occupational well-being.' The Saaranen, Tossavaine, Turunen, and Vertio (2006) study provides a base for creating an overall well-being reference in relation to the school environment.

Limitations of this study included vague descriptors of variables and outcome definitions, a very brief explanation of the interview coding and categorization process, a

lack of control for factors that may have differed in different time periods, and a restricted location of Finland. The limitations of this study are minimal and do not negate the findings; however, the need for a quantitative study to prove possible external validity is needed. This gap in research and the contributions of the findings of this study demonstrate a need and provide support for further investigation of how teacher well-being is affected and how it affects the school environment and those within it.

In a different perspective of teachers' well-being, 'subjective well-being' is thought of as being interested in "why individuals evaluate their lives in a positive way," (Diener, 1984). This perspective contains aspects of positive affect, negative affect (emotional), and life satisfaction (cognitive), and consists of "the relative presence of positive affect, absence of negative affect, and satisfaction with life," (Myers & Diener, 1995). Cenkseven-Onder and Sari (2009) studied the subjective well-being of teachers in a quantitative study of 161 elementary teachers conducted in Turkey. The questionnaire consisted of the Positive-Negative Affect Scale (Watson, Clark, & Tellegen, 1988), Life Satisfaction Inventory (Diener, Emmons, Larsen, & Griff, 1985), Quality of School Life Scale (Sari, 2007), and the Teacher Burnout Scale (Seidman & Zager, 1986). The results from the questionnaires were analyzed using a stepwise regression analysis. Cenkseven-Onder and Sari (2009) found that teachers' subjective well-being was predicted by certain sub-scales of the Quality of School Life Scale, including "Administrator." The cognitive aspect of teachers' subjective well-being, explained as life satisfaction levels, was found to be significantly predicted by the variables "status," "coping work-related stress," and "school administrator."

These findings are significant to the study being presented in this paper because they emphasize the effects that administrators have on teachers' well-being. The ability to isolate the specific ways administrators, including principals, affect teachers' well-being will provide opportunities to generate more positive well-being for teachers. The lack of limitations explained in this study, along with being a limitation of its own, calls into question the steps taken and confounding variables that may have been present. Another limitation is the small and constrained sample used in the study by Cenkseven-Onder and Sari (2009), which prohibits generalization of the results to the U.S. public school system due to policy and cultural differences between countries. Although the limitations held the results to the school system in Turkey, findings by Cenkseven-Onder and Sari (2009) have generated strong support for the importance of and need for research involving principals' interactions with teachers and the effects of those interactions have on teachers' well-being.

Along with Saaranen, Tossavaine, Turunen, and Vertio's (2006) contribution to well-being within the school environment, King and McInerney (2014) completed a study that focused on work-avoidance effects on student academic and broader well-being outcomes. The relational effect of a person's well-being having external effects on another's well-being (Rath & Harter, 2010) combined with King and McInerney's (2014) study that found relationships between student well-being and academic outcomes illustrates the need for understanding how to increase teachers' well-being because of the daily interactions between teachers and students. This quantitative, longitudinal study consisted of four separate studies that included 3,299 secondary and high school students in the Philippines. One of the four studies specifically measured well-being and its

relationship to achievement and work-avoidance goals using the Achievement Goal Questionnaire, teacher involvement, autonomy support, structure subscales from the Rochester Assessment Package, and two well-being scales: 5-item Life Satisfaction Scale (Diener, Emmons, Larsen, & Griff, 1985) and the 10-item Positive and Negative Affect Schedule (PANAS) short form (MacKinnon, Jorm, Christian, Korten, & Jacomb, 1999).

The study by King and McInerney (2014), which focused on well-being, found students' work avoidance goal to be negatively related to the positive affect index of well-being among students and positively related to the negative affect index of well-being. The indices were statistically significantly correlated, but structural equation modeling only produced a moderately statistically significant result. These results should be interpreted with caution but lend support to the importance of further investigation into well-being effects and outcomes. Results also revealed a relationship to the effects of antecedents (social support from teachers, parents, peers, etc.) contributing to achievement and well-being. This outcome underscores the need for higher teacher well-being playing an important role in students' achievement and well-being. The limitations of this study, specifically the location and demographics of the participants, prohibit these results from being generalized to all school types (i.e. elementary, middle, primary), students, and environments. Although the proven scales used provide a strong assumption that results may be similar across schools in the U.S., further investigation of work avoidance goal effects on well-being and achievement is needed.

From the two studies discussed above, well-being in a school environment has been found to have multiple effects, as well as the possibility of being affected by different factors within the school. Turner, Zanker, and Braine (2012) supplement these

findings through a mixed-methods study examining the differences in ‘mature’ training teachers’ well-being (at least a one-year gap between attaining undergraduate degree and entering teaching profession) and training teachers’ well-being who went straight from their schooling into the teaching profession. The study took place in England, consisted of a total of 90 science and design and technology secondary teachers in the quantitative section with a pre and post-test, and included seven teachers in the qualitative interview.

The results from this study were not specific enough to provide a concrete outcome of differences between the two types of training teachers but it did offer insight that more than half of training teachers found their teaching placements enjoyable even though they all indicated that the position was stressful and challenging. No statistical significance testing was done, but qualitative results supported the findings. Another finding from their research was that 28 of 48 participants said exhaustion was consistently present. This may suggest a long-term issue that could have a negative effect on teacher well-being or is an indicator of teacher burnout in the future.

The limitations of this study provide cause for further research to confirm results and generate external validity for other teachers and schools. One major issue with the study is the lack of in-depth statistical significance or validation testing. Other limitations are the small sample size, short time frame (two tests over 22 weeks), and outside variables being acknowledged but not considered. A link between well-being in the school environment, specifically teachers, and factors affecting it are supported and need to be studied more to uncover the specific outcomes and causes. The present study attempts to close this gap explained by the Turner, Zanker, and Braine (2012) study.

The possible connection to teacher burnout inferred from characteristics that teachers say they experienced in the Turner, Zanker, and Braine (2012) study is substantiated by Jones and Youngs (2012). Jones and Youngs (2012) supported and expanded on the finding of work avoidance being positively linked to a negative affect index of well-being (King & McInerney, 2014) through their quantitative exploratory study of daily emotions of beginning teachers. The study analyzed the surveys that 42 teachers in 1st through 8th grades completed, which was conducted in three districts in Michigan and Indiana and taken from a larger longitudinal study that included 242 teachers. Two separate surveys from two different time points were used to investigate the emotional responses and beliefs of work-to-job satisfaction based on Affective Events Theory (AET). Findings showed that mean levels of positive affect and skill are positively associated with commitment, while negative affect and tiredness seem predictive of teacher burnout. The latter result expands on the findings of studies mentioned earlier.

The effects on teacher well-being and factors that affect it can be indirectly linked to burnout in teachers. Jones and Youngs (2012), along with Turner, Zanker, and Braine (2012), cite tiredness and exhaustion, respectively, as outcomes seen in beginning teachers that negatively relate to well-being. The categorization of these descriptors by the two groups of researchers is similar enough to consider in future research and it provides a connection to teacher well-being and burnout along with similar factors that are indicators and effects of both.

The limitations of the Jones and Youngs (2012) study include the intended selection of the sample used, which decreases the environmental factors and external

validity. However, because Jones and Youngs' (2012) findings were similar to other research, the limitation of not using a truly randomized sample to limit external confounding variables is partially negated. The continued measurements over multiple points in time also contribute to the validation of results and provide strong confidence in them, while emphasizing the need for future research.

Milfont, Denny, Ameratunga, Robinson, and Merry's (2008) study validate the importance of well-being and the indirect connection to teacher burnout in the studies discussed above. The study examined 129 teachers from three secondary schools in New Zealand. This quantitative study used the Youth2007 Teachers Survey that included the Copenhagen Burnout Inventory (CBI) and the World Health Organization (WHO) Well-being Index to examine the relationship between teacher well-being and burnout. The findings confirm the negative relationship between burnout and well-being. The in-depth literature review of teacher burnout and well-being and the extensive statistical analysis of the construct validity and results lend more confidence and significance to these findings.

The limitations of this study include the location, due to one country's educational policies and culture providing context, relatively small sample size, and the cross-sectional type of study, meaning no causal links can be established from burnout to teachers' health and well-being. However, even with the limitations, the validity of the CBI, the extensive statistical significance testing, and the acceptable sample size, the relationship from burnout to well-being is more than enough to warrant research on the possible effects of well-being on burnout as well as the factors that may affect well-being.

Milfont, Denny, Ameratunga, Robinson, and Merry (2008) defined burnout as "a syndrome of psychological problems experienced as a result of chronic work stress." Ragnarsdóttir and Jóhannesson (2014) investigated the components of burnout as described by Milfont, Denny, Ameratunga, Robinson, and Merry (2008) and their connection to teacher well-being. This longitudinal quantitative study consisted of 2,836 upper-secondary teachers of grades 11 through 14 in Iceland over five years. They used three surveys and analyzed the results with descriptive statistics and t-tests. Findings from this study revealed that, after implementation of a new curriculum, "significantly longer working days, increased pressure, workload and stress among teachers" resulted in "lower job satisfaction and less opportunity to serve students with special education needs," (Ragnarsdóttir & Jóhannesson, 2014). From these findings, the implications on teacher well-being were inferred by Ragnarsdóttir and Jóhannesson (2014) based on teacher workplace situations and previous research. This inference can be considered a limitation of the study. However, it also provides another reason for investigation of what else may affect teacher well-being with the aim of preventing or mediating any factors that negatively affect a teacher's well-being. This would also affect results produced by decreased teacher well-being.

A second limitation is the lack of ability to follow individual participants across years, which only allows for analysis at the school level instead of statistical tests being run at an individual level across time. Another limitation was the different methods of administering surveys from 2008 (faculty meetings) to the 2010 and 2012 (all teachers given the opportunity to participate) waves. The number of participants and difference in mandatory versus voluntary response can produce a difference in results between waves.

Although the limitations necessitate more in-depth studies that control for these issues, the results indicated a need for more focus and consideration for the impact teacher well-being has on teacher, school, and student outcomes, along with the effects that may raise or lower teacher well-being, such as principal interaction.

Two other factors that have been hypothesized to affect teacher well-being, other than those discussed by Ragnarsdóttir and Jóhannesson (2014), are coping and buoyancy (Parker & Martin, 2009). Buoyancy is defined as "individuals' self-perception of their ability to successfully deal with setbacks and challenges that are typical of the ordinary course of life," (Martin & Marsh, 2008). This study proposed a model to analyze coping that predicts teacher engagement and well-being through mediation of buoyancy.

The study included 515 teachers from 18 schools in Australia. The semi-exploratory and confirmatory quantitative study used multi-level hierarchical linear modeling between the teacher and school levels for statistical analysis. Findings showed the coping strategies of planning and mastery orientation positively predicted buoyancy, while coping strategies of disengagement and failure avoidance negatively predicted buoyancy. In turn, buoyancy was a strong predictor of work-related engagement and well-being. Also, the cognitive coping strategies of failure avoidance and mastery orientation were better predictors of engagement and well-being than behavioral coping strategies of planning and self-handicapping.

These findings help explain factors that affect a teacher's well-being but can also be mostly controlled by the teacher and do not consider outside factors apart the school organization that may also affect well-being. This study provides insight into factors that must be accounted for and controlled for when looking at outside factors that may

increase or decrease a teacher's well-being. The limitations of this study include all data being self-reported and the hypothesized model mostly based on conceptual rationale. These factors may have affected the co-variation and created a more confirmatory analysis instead of exploratory. Further analysis of factors that lie outside of the teachers' immediate control but are of control by other school- or education-based roles, such as administration or implemented policies may prove to have equal or greater impact on teacher well-being.

In a similar study that added to Parker and Martin's (2009) findings, Parker, Martin, Colmar, and Liem (2012) conducted a study that added to the need of the current study focusing on the effects principal interactions have on teacher well-being. This longitudinal quantitative study contained 430 primary and secondary teachers from the non-government educational sector in Australia. These included large Catholic or independent schools. Response rates were close to 100% and researchers collected data through surveys that contained the Maslach Burnout Inventory (MBI) and the Motivation and Engagement Scale-Work (MES-W). Researchers analyzed these results using structural equation modeling and confirmatory factor analysis.

The findings pertinent to the study explained in this paper were the evidence of recursive paths between teachers' well-being and goal orientation and coping. The extensive statistical testing provided a strong sense of reliability regardless of the possible bias from self-reported data collection. Links to past studies in their literature review gave the indication that, to raise teachers' goal orientation principals need to set achievement-oriented goals for teachers. The suggested impact of principals on teachers'

workplace and links from aspects of the workplace to teacher well-being provide strong support for the investigation of the impact principals can have on teacher well-being.

Teacher well-being has been found to be affected by daily coping and buoyancy of teachers (Parker & Martin, 2009), work stress (Milfont, Denny, Ameratunga, Robinson, & Merry, 2008; Ragnarsdóttir & Jóhannesson, 2014), work avoidance (King & McInerney, 2014), and job satisfaction (Jones & Youngs, 2012). Simbula (2010) provided more evidence of these results through a study of the daily fluctuations and levels of various factors contributing to teacher well-being such as exhaustion, work engagement, coworkers' support, job satisfaction, mental health, work-family conflict, and motivation. Simbula (2010) explained these factors as being components of teacher well-being.

Simbula's (2010) quantitative study consisted of 61 Italian public school teachers using a multi-level analysis. Findings showed day-level work engagement mediated day-level coworkers' support impacting different aspects of teacher well-being, such as day-level job satisfaction and mental health. Also, day-level exhaustion was found to mediate the relationship between day-level work/family conflict and day-level job satisfaction and mental health. Further findings also supported previous research cited that social support has beneficial effects on individuals' well-being and job satisfaction (Matthiesen, Aasen, Holst, Wie, & Einarsen, 2003).

These findings, specifically those pertaining to support and coworkers, provided strong evidence of the impact of individuals' actions on another person's well-being and other related factors that are also found within a teacher's workplace environment. This adds to the need to investigate the possible daily and long-term effects of principals'

interaction with teachers and the effect the interaction has on teachers' well-being. Limitations within this study include all data being self-reported, the location being limited to Italy due to differences in education structure and policies, and the lack of cross-level interactions. These may have increased the common method effects and prevented the ability to expand the results to other education systems.

Adding to the effects reported by (Jones & Youngs, 2012; King & McInerney, 2014; Milfont, Denny, Ameratunga, Robinson, & Merry, 2008; Parker & Martin, 2009; Ragnarsdóttir & Jóhannesson, 2014; Simbula, 2010) on teacher well-being, Kristianse, Persson, Lund, Shibuya, and Nielsen (2013) conducted a quantitative field study analyzing classroom acoustics and self-reported noise exposure on teachers' well-being. The participants of the study included 283 public school teachers in 10 different schools across Copenhagen, Denmark. Kristianse, Persson, Lund, Shibuya, and Nielsen (2013) used a multilevel mixed-model regression to analyze questionnaire data.

The findings from the analysis uncovered significant associations between 'high RT' noise exposure and low job satisfaction, lack of energy after work, and interest in leaving the job (Kristianse, Persson, Lund, Shibuya, & Nielsen, 2013). These variables were all explained as contributing to a teacher's well-being. Another finding showed noise exposure being associated with a lack of motivation and sleepiness of teachers. This study examined a previously untested variable of teachers' exposure to noise that should be monitored and re-tested to validate the potential effects. If validated, effects should be included or controlled for in future studies that involve teachers' well-being, if only to assure the impact is confounding or simply to verify the validity of these results.

The limitations of the study include a possible validity issue that was untested when the Fatigue Inventory was translated from Swedish to Danish. Questions included in this inventory may not hold equal meaning across cultures or languages. Also, the sample used was not random and could be susceptible to external validity being compromised. The strength of the statistical analysis makes the use of this study warranted when conducting future studies involving teacher well-being.

Van Petegem, Creemers, Rossel, and Aelterman (2005) deviated from the impact different factors and situations have on teacher well-being explained by Kristianse, Persson, Lund, Shibuya, and Nielsen (2013) through a study that focused on the characteristics teachers may exhibit and the relationship of those characteristics to well-being. The study was a quantitative design that used two questionnaires and had 260 teachers participate from 19 Flemish technical and vocational training schools. The two questionnaires were the Questionnaire of Teacher Interaction (QTI), designed by Wubbels, Creton, Brekelmans, and Hooymayers (1987) and the teacher well-being questionnaire, designed by Aelterman, Engels, Van Petegem, and Verhaeghe (2003).

Van Petegem, Creemers, Rossel, and Aelterman (2005) analyzed survey results using a multivariate analysis of covariance and a simple analysis of covariance. Findings from this study showed a positive relationship between the years of teaching experience and well-being and a significant positive relationship between dominant-cooperating interpersonal teacher behavior (teacher perceives him or herself as leading and helpful/friendly) and well-being. Conversely, a negative relationship with well-being was found when a teacher considered his or her interpersonal behavior as submission-

opposition, explained as, "[a] teacher has dissatisfied and uncertain behaviour" (Van Petegem, Creemers, Rossel, & Aelterman, 2005).

The limitations of this study are: teachers self-reporting data, which could result in shared-method variance; the lack of longitudinal data points to measure consistency of teachers' self-reporting; and the location and small sample size, which create an external validity issue when attempting to extrapolate results to U.S. public schools due to vocational and technical school specializing in niche learning. Regardless of the limitations, the results of this study indicated a link to teacher well-being and behavior characteristics that can be found within a classroom. This supports a strong need to continue research into factors that may increase or decrease teacher well-being, such as principals' interactions.

Similar to Van Petegem, Creemers, Rossel, and Aelterman (2005), a study conducted by Yiğit (2013) examined relationships between well-being and characteristics that are needed in situations common to the school environment. Yiğit (2013) examined the relationship between teacher candidates' levels of social problem-solving skills and well-being. The quantitative study included 318 voluntary undergraduate teacher candidates at Konya University. Yiğit (2013) analyzed results from the questionnaire that included the Subjective Well-being Scale (Tuzgöl-Dost, 2004) and the short form of the Social Problem-Solving Inventory (SPSI) developed by D'Zurilla and his colleagues through a relational scanning method.

Yiğit (2013) explained the findings as higher subjective well-being being related to "increased levels of self-efficiency and positive determination; decreased levels of pessimism, in confidence about problem solving, irritation and annoyance occurring in

difficult situations." The study also found candidates with high levels of well-being have more positive behaviors and behave in rational ways, while inadequate approaches to solving problems, such as foregoing help or rushing, are seen less. (Yiğit, 2013). There was also a positive relationship between approaching a problem in a positive way and well-being and a negative relationship between a negative approach to a problem and well-being.

The major limitation of this study is the lack of translation of the complete transcript and inability to assess the reliability of the methodology, analysis, and translation of results and findings. The other limitations included the convenience of the sample created an issue with external validity. This study has given a recent view of possible relationships of teacher well-being and correlations to problem solving, which has provided stronger support for finding factors, like principal interaction, that may affect teacher well-being levels.

Kunter, Frenzel, Nagy, Baumert, and Pekrun (2011) studied similar relationships as Yiğit (2013) and Van Petegem, Creemers, Rossel, and Aelterman (2005) by investigating the link between teacher well-being and enthusiasm. The quantitative study encompassed 650 mathematics teachers of all school levels in Germany. Researchers collected data using questionnaires that focused on well-being and enthusiasm. Kunter, Frenzel, Nagy, Baumert, and Pekrun (2011) used confirmatory multi-group factor analysis and structural equation modeling to analyze the three independent data sets and demographics of students in the teachers' classes.

Findings from Kunter, Frenzel, Nagy, Baumert, and Pekrun's (2011) analysis showed teacher enthusiasm was systematically linked to occupational well-being.

Findings also showed students ascribed high enthusiasm to teachers who self-reported high enthusiasm. The link provided a clear indication that students can easily distinguish the difference in teachers and their teaching characteristics. The effects in the sample groups were consistent in the results regarding teacher occupational well-being, which lent a high generalizability to the findings. Placing importance on teacher well-being can be explained when the well-being antecedents being tested in one of the three samples provided a link also consistent to the other sample groups. When the entire study is discussed, students can clearly see the compound impact of the effects on the antecedents of teachers' well-being and teachers' overall occupational well-being within the classroom.

The results regarding teacher enthusiasm from Kunter, Frenzel, Nagy, Baumert, and Pekrun (2011) are significant because findings from Long and Hay (2006) stated, "[teacher] enthusiasm leads to better work performance, which is in turn reflected by better student achievement and motivational development." Because a teacher's well-being can play a vital role on a student's academics and school career, further investigation of how to positively affect teachers' well-being is warranted. The limitations of this study are stated as not being able to make direct comparisons across groups, comparative conclusions had to be taken with caution, and the enthusiasm questionnaire had two versions, which potentially created comparison reliability issues. The researchers attempted to address these limitations through extensive statistical modeling and testing. The confidence in these results was sufficient to provide support for additional research and the importance in learning more about what affects teacher well-being.

The relationship of teacher well-being to a teacher's connections with others (Grenville-Cleave & Boniwell, 2012; King & McInerney, 2014), characteristics (i.e. high enthusiasm) (Kunter, Frenzel, Nagy, Baumert, & Pekrun, 2011), emotions (King & McInerney, 2014; Jones & Youngs, 2012), behavior, such as buoyancy and coping strategies (Parker & Martin, 2009), or goal setting (Parker, Martin, Colmar, & Liam, 2012), provide an important link and understanding of the effects of well-being within the everyday functioning of a classroom and school organization. With the teacher as a direct connection to students and their academic and well-being outcomes (Kunter, Frenzel, Nagy, Baumert, & Pekrun, 2011; Long & Hay, 2006; King & McInerney, 2014), being able to create the best possible school environment for students and teachers — including the teacher and effects the teacher may have — is vital to creating the best learning environment for students. Future research investigating the impact on teachers' well-being is needed to fully understand ways to promote and sustain positive well-being for better outcomes within schools. The present study will provide findings that will fill the gap in current research regarding one point of impact on teacher well-being — specifically, a principal's interactions with teachers.

Principal Interaction

The position of a principal has the ability to affect every aspect of the school organization, which arguably makes it the most important role within the school (Gordon, 2013; Gordon, 2004a; Gordon, 2004b; Supovitz, Sirinides, & May, 2010; Torff & Sessions, 2009). Determining how a principal affects different aspects of a school is important in terms of generating the best outcomes for students and teachers. Principal interactions are the most personal way of initiating change and can take a myriad of

approaches, as compared to implementing policies or changing guidelines or rules. The effects of principal interactions in a school environment (Beck & Harter, 2014; Price, 2012; Rath & Harter, 2010; Sorenson, 2013; Youngs, 2007) determine outcomes for everyone in the organization (Cenkseven-Onder & Sari, 2009; Jones & Youngs, 2012; Kristiansen, Persson, Lund, Shibuya, & Nielsen, 2013; Kunter, Frenzel, Nagy, Baumert, & Pekrun, 2011; Sears, Agrawal, Sidney, Castle, Rula, Coberley, Witters, Pope, & Harter, 2014). With teacher, student, and organizational outcomes the primary focus of government and the public to measure schools' efficiency and success, finding new practices for principals to implement in a school organization is always a pressing need.

The role of the principal within a school has been an ongoing subject of study to understand best leadership practices and their impact on different aspects of a school organization. A school principal has been found to have both direct and indirect effects on student achievement (Hallinger & Heck, 1996; Leithwood & Jantzi, 2000), as well as "an array of school conditions" as stated by Leithwood, Louis, Anderson, and Wahlstrom (p.12, 2004).

Effects of school leadership, referenced as principal leadership (Leithwood, Louis, Anderson, & Wahlstrom, 2004), on student learning has been consistently found through multiple and differentiated studies. Qualitative studies by Gezi (1990), Mortimore (1993), and Scheurich (1998) found larger effects on student learning as well as other school conditions, although they were conducted in school settings that are not generalizable to all schools. These studies were conducted in a case study setting that encapsulated typically high-achieving schools and environments. Quantitative studies found school leadership being the cause of about 25% of the school-level variable

variation on student learning, after controlling for other student factors (Creemers & Reezigt, 1996).

Indirect impacts on student learning by principals has also been found through the effects principals have on the conditions within the school that affect student learning. Multiple studies have been conducted with the focus of determining types and areas of successful school leadership needed to impact the school organization (Conger & Kanungo, 1998; Hallinger & Heck, 1999; Leithwood, 1996). One of these areas is the development of people (Leithwood, 1996). The impact principals have on their employees' development, motivation, and productivity extends to the direct experiences the employees have with the principals and others in leadership roles (Lord & Maher, 1993). Adding to development, motivation, and productivity, when a principal displays high emotional intelligence, employees were found to have increased enthusiasm and optimism, reduced frustration, all of which indirectly improves performance (McColl-Kennedy & Anderson, 2002). The importance of a principal within a school organization has been emphasized through qualitative and quantitative studies, along with the effects of leadership techniques on organizational outcomes found in multiple studies.

There is abundant research investigating well-being (Beck & Harter, 2014; Boehm & Lyubomirsky, 2008; Harter & Agrawal, 2012; Lyubomirsky, King, & Diener, 2005; Rath & Harter, 2010; Sin & Lyubomirsky, 2009; Sears, Agrawal, Sidney, Castle, Rula, Coberley, Witters, Pope, & Harter, 2014; Van Horn, Taris, Schaufeli, & Schreurs, 2004) and principals' impact on teachers (Bickmore & Bickmore, 2010; Day & Kington, 2008; Elma, 2013; Gordon, 2013; Gordon, 2004a; Gordon, 2004b; Price, 2012; Youngs, 2007), but research is limited regarding principals' direct impact through the types of

their interactions with teachers and the interactions' effects on teachers' well-being. The proposed study will fill this gap in research by focusing on the impact principals' interactions with teachers have on teachers' well-being. A principal's interactions within a school can affect the school in ways that can change the environment as well as teacher and student outcomes positively or negatively. Harris (2012) studied distributive leadership within a school organization and the outcomes associated with it. The research included an analysis of empirical evidence that pertained to distributive leadership by principals with a specific focus on student learning outcomes from recent literature. Harris (2012) concluded that the findings signaled a potential for distributive leadership to have positive effects on teacher and student outcomes with an inevitable shift from leadership as a position to leadership as an interaction. To properly use distributive leadership within a school, "Principals will need to build a high degree of reciprocal trust to negotiate successfully the fault lines of formal and informal leadership practice," (Harris, 2012).

Harris' (2012) review of empirical evidence was focused only on the U.K. but it lends support for further study of the school organization, including teacher and student outcomes affected by the leadership roles within the school organization. Specifically, if a distributive leadership approach is taken, as Harris (2012) suggested could be successful if done correctly, it would force interaction among the principal and the staff. This provides additional rationale for investigating the effects of principal interactions on teachers. There is a need for further investigation because of the lack of a complete solution or suggestions from Harris (2012) of what the best outcomes may be.

A principal's interactions within the school environment affect teachers and students every day. Thus, it is important to understand how certain interactions affect teachers and students, along with the principal's routines and the roles principals play. The benefits of understanding the effects principals have on schools will help policy makers, superintendents, parents, and every person involved in the organization make better decisions about how to generate the best outcomes for everyone in the school environment.

Principal-Teacher Interaction

Principals' interactions with teachers has been a topic of interest within the education field for many years. Interaction between principals and teachers can have different effects on each group and can produce different outcomes. These outcomes may be wanted or unwanted; however, the outcomes of these interactions are important for understanding what type and frequency of interactions are helpful and useful for the school environment, specifically with respect to teachers. Although, the focus of the effects of principals' interactions and leadership styles has varied, the current study is concerned with principals' interactions with teachers and the interactions' effects on teachers' well-being. The following literature will explain and support the importance of principals' interactions with teachers and the need for the current study to research the effects those interactions have on teachers' well-being.

Mangin (2007) studied the relationship between principal interactions, knowledge, and support on teacher leaders through a qualitative exploratory and comparative case study. The study consisted of five districts, including 15 principals, 12 math teacher leaders, and six supervisors. Mangin's (2007) study produced three types of

interaction frequencies (high, moderate, and low) and three types of interaction quality based on certain criteria (high, moderate, low), which lead to three types of interaction levels. These levels were crossed with the knowledge a principal held regarding their position to create a principal typology (high, moderate, low) to indicate the predicted level of support for teacher leaders. Mangin (2007) provided an in-depth and fully explained rationale behind the definitions of the types of interaction, such as formal (regularly scheduled meetings), informal (in the hallway or on as-needed basis), high frequency (weekly or more frequently), moderate frequency (monthly or sometimes more if meeting was not directly related to teacher leader's work), and low frequency (a few times a year or less), and the respective coding that was created, as well as the outcomes. The quality of interactions was based on three categories determined by the researcher: (a) informational updates from the teacher leader; (b) directives from the principal; and (c) dialogue about instructional needs, goals, and approaches. The highest quality of interaction occurred when dialogue was present, moderate quality was determined as a combination of directives and updates, with the lowest quality of interaction being isolated to including only directives or updates. The findings from Mangin's study explained a clear link between principals' level of knowledge, interaction, and support: the more knowledge and interactions a principal has with teachers, the more support provided to teachers.

Mangin's (2007) sample has benefits and limitations. The benefits gave the study more breadth with respect to the types of teacher roles, district type, and district context. However, the limitation of not having a random sample detracts from the external validity. Mangin (2007) combined interview data from three types of participants to

create the different levels of frequency and quality used, giving more validity to test against effects they may have on teachers. By conducting this study in five districts, Mangin (2007) provided a stable base to retest the interaction types in a quantitative form to validate the findings. The different types of principal interaction frequency and quality generated a model of how to classify interactions for analysis, along with definitions that can be tested and refined. The Mangin (2007) study provided a foundation for findings of principal interactions directly affecting teacher leaders. These findings further underscored the need to investigate other possible affects principal interactions have on teachers, such as teacher well-being, along with best practices on how to increase interactions between principals and teachers.

With findings similar to Mangin (2007), Bickmore and Bickmore (2010) examined a school district with a focus on teacher induction programs at two middle schools, along with the impacts and roles for successful or positive implementation and perception. The analysis included a focus on people versus programs having effects on new teachers, which provided insight into the importance and impact a principal has on teachers. A full explanation of the sample involved within the two middle schools was not provided. However, a detailed guide of the mixed-method design of a 33-question survey to analyze the effectiveness and proper implementation of the induction program and a collection of artifacts and brief administrator interview analysis provided additional insight into the outcomes and findings. The research uncovered a link of people, mentors, interdisciplinary teams, and administrators as having more positive influence in induction than activities, professional development, and orientation. Within that finding, teaching teams and mentors were found to be most helpful for new teachers. The qualitative

interview findings provided similar results and included an indication that mentors and administrators contributed most to new teachers' personal needs. The research also found that climate was a supporting and contributing factor to teachers' personal and professional needs in the induction process. The research demonstrated a direct link between the climate of the school and the administrators within that school.

The strength of Bickmore and Bickmore's (2010) study was the mixed method that found outcomes supporting each other. The small sample size hindered the study, but the detailed sample tables provided a good understanding of the data referenced in the article. Potential difficulties regarding unsupervised programs or inconsistent implementation prohibit the ability to assure effective and sustained outcomes in a long-term situation. The Bickmore and Bickmore (2010) study supported further investigation of the impact administrators have, with a focus on principals, and it underscored the need for continued research, which the present study provides.

Bickmore and Bickmore (2010) studied what affected the induction of new teachers in middle schools and produced results that can potentially be extrapolated across the middle schools within the district; however, more research is needed to test the external validity of high schools, elementary schools, and other districts. The research conducted thus far has demonstrated the ability and need to conduct future studies analyzing principal or administrator interactions in relation to school climate, variables pertaining to teachers' emotions, and teachers' personal needs. The combined quantitative and qualitative focus on the administrators' effects on the personal needs of teachers, as well as their effects on the school climate, which in turn, affects teachers'

personal needs, lent a strong case for studying and extrapolating the impact of principal interaction on teachers' personal needs and well-being.

With a comparative sample differing from but relating to the outcomes of Mangin (2007) and Bickmore and Bickmore (2010), Reitzug (1989) examined the interaction effects of principals on teachers in one "ordinary" and one "effective" elementary school. The effective school was characterized as having a mathematics and reading achievement mean score between 10 and 20 percentiles higher than the ordinary school. The study found that the effective school had 10.4% more interactions between the principal and teachers, along with 26.5% more time spent in the interactions. These findings pointed to the importance of interactions between the principals and teachers. Reitzug's (1989) study had a very limited literature review, which did not provide enough background as to why the method, variables, and research were used and conducted. However, the mixed method provided a strong case for further investigation into the outcomes found.

Reitzug (1989) explained the link between higher frequency of principal interaction along with what could be seen as high quality based on the difference in length of interactions and the qualitative responses provided by teachers in an "effective" school. While Reitzug's (1989) study is 25 years old, it still provided credence to the importance of principals' interactions and the need for further research that could prove promising in explaining why instruction or academic achievement is higher across schools with more frequent principal interactions.

With a wider sample that encompassed grades from kindergarten to 12th, Wahlstrom and Louis (2008) studied variables present in principal-teacher interactions and teacher-teacher relationships. It consisted of a quantitative study of 4,165 survey

results from primary and secondary teachers from a national research project from Learning From Leadership: Investigating the Links to Improved Student Learning, funded by the Wallace Foundation. A stepwise linear regression of "relationships among practices such as shared leadership and professional community with contextual variables such as trust and efficacy," (Wahlstrom & Louis, 2008, p. 458) was conducted for analysis. The assumption was to find impacts on teachers' classroom instructional practices and to find mixed results regarding Standard Contemporary Practice, Focused Instruction, and Flexible Grouping Practices effects on teachers' practice. While teachers' trust in principals had little to no impact on the variables listed when professional communities and shared leadership were present, teachers' self-efficacy strongly predicted focused instruction. This finding highlights the need for understanding how different types of principal leadership have different effects on teachers. This, in turn, lends support for the present study of the specific type of principal leadership relating to principals' interactions with teachers and the interactions' effects on teachers' well-being.

Wahlstrom and Louis' (2008) study supports previous work by Marks and Louis (1997) exhibiting the importance of the impact of teacher empowerment on classrooms. The large and widespread sample of data used provides a clear indication of the variables tested in this study. The link found between the types of teacher-teacher relations provides a base of knowledge for further research of teacher interactions and relationships. It also highlighted a gap in research by identifying the link between teachers' trust in principals being important and, when a professional community does not exist within a school, the effects of a principal's interactions on different aspects of a school environment and teachers were not examined by Wahlstrom and Louis (2008) and

are still needed. The present study will attempt to bridge that gap by investigating the effects of principals' interactions on teachers and their effects on teachers' well-being.

Price (2012) offers an analysis of a national comprehensive data set provided from the Schools and Staffing Survey data set of Elementary Principals and Elementary Teachers from 2003-2004 from the National Center of Education Statistics (NCES) that encompassed principal and teacher interactions relating to attitudes and school climate. The literature review gives an in-depth explanation of the theories applied, the variable effects and research history, and the application of both elements in the school environment within the findings. Using the findings from the literature review, Price (2012) explained the bridge between the organizational theory of the enterprise workplace and the school workplace by placing a principal in the supervisor role and the teacher in the subordinate role. The evidence and support through recent and past research identified by Price (2012), covering principal and school climate effects on the school organization, is adequate, but additional research is needed to confirm a relationship. Even though Price's (2012) findings had a similar outcome regarding principal and school climate effects on the school organization as previous work, due to the causal comparative assumptions made and lack of satisfactory statistical analysis of relationships between an enterprise environment and a school organization, further research is needed to validate Price's (2012) conclusion.

Price's (2012) study provided a detailed and comprehensive background for the variables and applicable areas of this study, but the research included encompassed the last 30 years. It also included multiple references to research conducted over 60 years ago, which raises concerns about current application. While the thorough review offers a

solid foundation of research, more current articles would provide more relevant application to Price's study and analysis. Also, there is a limited amount of research regarding principal interaction. This gap in research provides room for investigation into the more detailed effects of principals' interactions and the specific areas of the school environment that are affected, such as teacher well-being.

Along with the connection from an enterprise work environment to a school organization, the explanation of policy implications provides useful information on why Price's (2012) study is relevant, along with actual in-school effects (student academic achievement outcomes, teacher retention). While somewhat dated, Price (2012) uses a larger, convenient dataset from NCES, which is a compilation of state, district, and school data within the U.S. — it provides easy analysis from a reliable source. This is both a positive and a negative because the data are reliable and expansive but not particularly current. Price's study would have benefited if she had collected her own data, rather than using the NCES dataset. Overall, the study represents a solid resource that focuses on school environment, teacher and principal attributes, and student achievement, while combining multiple theoretical approaches with analysis of similar variables in future studies (principal effects on teacher psychological/sociological attributes) and the outcomes of those variables. The current study is supported through the explanation of future research along with the connection of principals' effects on the school organization, which includes teachers.

Zimmerman and Deckert-Pelton (2003) explained teachers' desire and expressed need for more principal interaction. A qualitative study using a constant comparative method with 86 educators from five northwest Florida counties in kindergarten through

12th grade studied teachers' perceptions of the principal's role in professional evaluation. The findings of the study showed four key domains to a successful evaluation process: 1. Interactions between principal and educator, 2. Consistent evaluations, 3. Principal commitment to effective professional evaluation, and 4. Principal knowledge in pedagogy, content, and evaluation. The first finding showed the emphasis on the importance teachers place on principal interactions with them to properly understand their position and abilities. These findings provided a need to analyze the well-being between teachers who are not receiving enough interaction and those who are, along with addressing the type of interaction that may be occurring between principals and teachers and if they are meaningful and helpful.

Limitations within the Zimmerman and Deckert-Pelton (2003) study include a lack of coding explanation, no quantitative testing to validate reliability of coding or questions, and the sample only including more highly educated teachers. These limitations and findings uncovered a perceived impact of principals' interactions on teachers, which warrants more research and validation of assumptions. The implications of the research from this study gave a wide range of possible impacts from principal interaction that all need to be identified, and particularly germane to this study, teacher well-being.

Supporting the assertions made for more research on the impact of principals' interactions on teachers, Youngs (2007) researched how elementary school principals' actions and beliefs influenced new teachers' experiences. This qualitative study involved six elementary teachers and other first- and second-year teachers regarding tenure, mentors, and other elementary teachers from three Connecticut districts. Youngs (2007)

found that half of the principals "strongly promoted new teachers' instructional growth in their direct interactions with [teachers] and by facilitating their work with mentors and grade members." Principals who had more direct interactions and teamwork encouragement with beginning teachers generated more positive impact for teachers. Evidence of the differences in beginning teachers' experiences and professional development were also explained as being influenced by the amount and type of principals' professional backgrounds, beliefs, and actions regarding leadership, induction, teacher evaluations, and responses to policies. The two biggest limitations of this study were the lack of a random sample and small sample size. These limitations prevented generalizing Youngs' (2007) findings across other schools; however, the study provides additional foundation for more research.

These results from Youngs (2007), along with Zimmerman and Deckert-Pelton (2003), support the notion that principals' interactions with teachers have an impact on multiple areas within a school organization. The underlying trend from these two studies explained not just an impact on teachers but the ability for principals to have a positive or negative impact on different aspects of teachers' feelings, emotions, or jobs. This trend underscores the need to study teacher well-being and the effects of a principals' interactions with teachers on teachers' well-being.

Day and Kington (2008) conducted a study that found similar results as Youngs (2007) and Zimmerman and Deckert-Pelton (2003), further illustrating the need for further research into the effects of principals' interactions with teachers on teachers' well-being. Day and Kington (2008) administered a mixed-methods longitudinal study between 2001 and 2006. Descriptive and teacher-generated 'effectiveness' histories data

were gathered through a ‘critical incident’ work line from 300 teachers working in 100 primary and secondary schools in England. Day and Kington (2008) conducted two in-depth interviews with 295 teachers in the sample between autumn 2002 and summer 2005. Teachers self-reported self-efficacy, motivation, job satisfaction, and commitment through the two in-depth interviews. Day and Kington coded the interviews at the document level and analyzed the data through a combination of statistical and descriptive data with a data matrix. They grouped teachers into four separate scenario pools based on their ‘identity dimensions’ (Professional, Situated/socially located, Personal) — dimensions in relative balance, one dominant dimension, two dominant dimensions, and three conflicting dimensions.

Findings showed three common factors to all scenarios when teachers reported a ‘positive sense’ of agency, resilience, and commitment. The three factors were school/departmental leadership, supportive colleagues, and family, respectively. These same teachers were also more likely to report high motivation and high self-efficacy, except if they were in scenario four. The other major finding from the study that pertained to this study was the higher proportion of teachers within scenario one being more positive regarding their well-being. The longitudinal factor of this study limits the ability to account for any confounding variables that may have a major impact in a school organization or on an individual teacher over the years the study was conducted. The lack of statistical testing also prohibited validation of results outside of face validity of the interview coding and interpretations. Even though the limitations of the study need further quantitative research to validate the findings, this has exposed a gap in research and supported previous findings from Youngs (2007) and Zimmerman and Deckert-

Pelton (2003) involving a possible connection and importance of principals' interactions and teacher well-being. The current study will attempt to bridge the gap in this research and show the relationship between principal interaction and teacher well-being.

Elma (2013) provided another study that supported the need and importance of research investigating principal interactions with teachers and the resulting effects on teachers' well-being. Elma (2013) studied the predictive value of teachers' perceptions of organizational justice on job satisfaction. Organizational justice was defined by Elma as a combination of several definitions that include fairness, strategies, discrimination, relationships, and policies originating from management roles toward employees, and the employees' perceptions of the implemented policies. These components fell into three sub-types of organizational justice: procedural; interactional; and distributive. This idea of organizational justice ties into the way managers interact with employees and create situations that affect them, in this case, principals as the managers and teachers as the employees. This quantitative study consisted of 3,427 primary teachers targeted through a stratified sampling of all primary teachers in Turkey. Of those 3,427 teachers, 686 were sent surveys; 514 of which were returned. The surveys included the organizational justice and job stratification scales. Elma (2013) analyzed the data using bivariate correlations and multiple regression analysis.

Elma's (2013) findings uncovered a significant relationship between interactional and procedural justice on teachers with respect to principals. Teachers' job satisfaction dimensions were positively significant between all organizational justice types, while interactional justice was found to have the strongest relationship. Interactional justice and

procedural justice were also found to have significant predictive values on overall job satisfaction.

The limitations of this study included the location of the sample being limited to Turkey due to the cultural and political differences of public schooling policies and control, the sample consisting of only primary teachers, no post-tests being conducted to assure validity and reliability, and all data being self-reported by participants. With these limitations in mind, the findings have provided sufficient evidence to warrant further investigation of the effects of principal interactions with teachers on teachers' well-being, due to interactional justice having involved specific interaction, primarily inclusions and positive sentiments, between principals and teachers in the application of organizational procedures (Elma, 2013). Teachers were found to perceive this type of justice as the most predictive and related the highest type of organizational justice to overall job satisfaction and its dimensions. Teachers found a principal's interactional justice to be the most crucial for their job satisfaction, the importance of this relationship to a teacher's well-being cannot be overlooked and thus, warrants further investigation.

Fernet, Guay, Senécal, and Austin (2012), similar to Elma (2013), studied teachers' perceptions and relationships to specific environmental and motivational outcomes. The focus of the Fernet, Guay, Senécal, and Austin (2012) study examined burnout and self-efficacy in teachers in relation to perceived school environmental and motivational factors. A longitudinal quantitative study was conducted with two questionnaires and two time points for data collection. The participants included 806 French-Canadian public elementary and high school teachers. Participation was voluntary

and all 806 participants completed the questionnaire at time one while 433 completed the second questionnaire at time two.

The study found "teachers' perceptions of students' disruptive behaviors and school principal's leadership behaviors are related to changes in self-efficacy, which in turn negatively predict changes in three burnout components: emotional exhaustion, depersonalization, and personal accomplishment," (Fernet, Guay, Senécal, & Austin, 2012). From this finding, Fernet, Guay, Senécal, and Austin (2012) explained, "the issue in burnout and its correlates provides insights into how to develop effective interventions to promote teachers' well-being." Fernet, Guay, Senécal, and Austin (2012) went on to emphasize the importance of the findings when using the Self-Determination Theory lens as placing "greater emphasis on interpersonal elements in the work environment, such as managerial climate and leadership, which influence employee well-being." The findings, theory, and inferences from Fernet, Guay, Senécal, and Austin's (2012) study have provided strong evidence of the need for further investigation of principals' effects on teachers' personal variables through the analysis and explanation of work environment, managerial effects, and ways to promote teacher well-being. This supports the present study of principal interactions with teachers and the effects on teacher well-being.

Devos, Dupriez, and Paquay (2012) conducted a quantitative study that, similar to Day and Kington (2008), Youngs (2007), Zimmerman and Deckert-Pelton (2003), and Elma (2013), found predictive relationships to principal interactions with teachers. The study consisted of two quantitative studies in a French community in Belgium that included elementary, primary, and middle school teachers. There were 110 first-year teachers in study one and 185 teachers in their first three years of teaching in study two.

Both studies used questionnaires that were analyzed by Devos, Dupriez, and Paquay (2012) through regression analysis and predictive power. Results relevant to the present study from Devos, Dupriez, and Paquay (2012) showed the frequency of interactions with mentors or meetings with the principal were not related to teachers' self-efficacy or feelings of depression. However, the quality of the meetings or interactions were found to predict the outcomes significantly. The significance of these findings provided a small view of which interactions with principals affect teachers when seen in a certain context.

The findings from Devos, Dupriez, and Paquay (2012) supported the current study investigating principal interactions with teachers and the effects on teachers' well-being by confirming there is an effect on a portion of the teaching population from certain types of interactions with principals. The limited sample of teachers within their first three years of teaching and the location being specific to Belgium, due policy nuances of school structure and student learning within phases of school different from the United States, provide a gap in the research, which the present study attempts to fill. Other limitations of this study that provided confounding variables to account for in the current study include: other forms of support a teacher may receive that can affect well-being, selection bias due to voluntary participants, and the design being prohibitive of making causal relations.

Principal Interaction and Teacher Well-being

Principal interactions within the school organization and teacher well-being are receiving more attention from the public and current research studies as separate focal points. However, the combination of principal interactions with teachers and the proceeding effects on teacher well-being is an area of study that does not have a large

amount of completed research. The research that has been conducted provides a small window of insight into what the possible outcomes are, the importance of the subject, and gaps that exist in the existing research. The following study explains the only relevant, similar research that has been done to examine the effects of principals' interactions with teachers on teachers' well-being. This study also provides evidence of the need for the proposed study to understand the effects principals' interactions have on teachers' well-being.

Eyal and Roth (2011) conducted a study where they proposed and emphasized the importance of autonomous motivation as a strong driver for increasing teachers' well-being, along with other aspects of their job. The gap in the research is explained as "not differentiating the impact of leadership on teachers' autonomous versus controlled motivations, and their relations to teacher well-being," (Eyal, & Roth, 2011). They investigated autonomous motivation as being predicted by principals' leadership styles, specifically transformational versus transactional. The quantitative study consisted of 122 elementary teachers in professional development courses in Israel. A questionnaire assessed teachers' self-reported perceptions of motivation, burnout, and principals' leadership. Researchers analyzed the data using structural equation modeling and confirmatory factor analysis to test measures used.

Findings from Eyal and Roth (2011) indicated that principals' leadership styles play a significant role in teachers' motivation and well-being. Researchers found a negative correlation between transformational leadership and burnout while they found no correlation from transactional leadership. They found a positive significance between transformational leadership and autonomous motivation, with a negative correlation from

transactional leadership and autonomous motivation (opposite correlations found between controlled motivation and both leadership styles). The connection and findings explained by Eyal and Roth (2011) from transformational leadership, autonomous motivation and increasing teachers' well-being provide support for the present study of the types and quality of interactions between principals and their effects on teachers' well-being. The gap in research explained by Eyal and Roth (2011), along with the findings presented underscore the need for reducing the gap in research because of the narrow focus on only two types of leadership and not the details of what the styles entailed (i.e. interactions).

The importance of the effects of principal interactions combined with the importance of teacher well-being illustrate the need for further investigation into the effects of principals' interactions with teachers on teachers' well-being. The array of effects that principals' interactions have on personal and emotional variables of teachers provide evidence that the issue requires attention from policy makers and superintendents to facilitate better environments and outcomes within the school organization. The present study represents a body of knowledge to fill a gap in research and attempts to provide relevant information to policy makers, superintendents, principals, and teachers as to the importance of principal and teacher interactions and the interactions' effects on teacher well-being.

The impact principal interactions have on school organizations' environment, such as climate and aspects within it, such as teachers (Bickmore & Bickmore, 2010; Price, 2012; Reitzug, 1989), is an important and powerful variable. The different types of principal interactions (Mangin, 2007) and teachers' perceptions of principals' interactions impact on organizational justice (Elma, 2013), program implementation and beginning

teacher support and experiences (Bickmore & Bickmore, 2010; Youngs, 2007), environmental and motivational outcomes (Fernet, Guay, Senècal, & Austin, 2012), emotional outcomes (Devos, Dupriez, and Paquay, 2012), school "effectiveness" (Reitzug, 1989), and evaluation processes (Zimmerman & Decker-Pelton, 2003) provide additional support for the need for more research regarding the effects these interactions have specific teacher variables, such as well-being. The proposed study examines the relationship between principal interactions and teachers to bridge the gap of this knowledge in current research.

Conclusion

The purposes of this literature review are to show the major role principals play regarding school organizations and teachers; explain the known impacts of well-being; and expose the current gap in research of the impact that specific types and frequencies of principals' interactions with teachers has on teachers' well-being. This literature review established: a) a conceptual framework that included principal interaction and teacher well-being; b) defined and investigated well-being and the effects on employees, teachers, organizations, and schools; c) bridged the gap between the school and enterprise organizations; d) established the importance and effects of principals' interactions within the school; and, e) pointed out the limited amount of research aimed at understanding if and how a principal's interactions with teachers affects teacher well-being.

Within the sections of this literature review, I made connections with and noted important gaps in the existing body of research to assess the need and relevance of the current study. In the first section of Well-being, the cited research in this chapter exposed well-being as a measure that relates to organizational outcomes important to growing and

sustaining positive improvement, such as employee absenteeism, employee health leading healthcare costs, productivity, turnover, experiences, and environments (Boehm & Lyubomirsky, 2008; Harter & Agrawal, 2012; Lopez, Agrawal, & Calderon, 2010; Lyubomirsky, King, & Diener, 2005; Sears et al., 2014; Sin & Lyubomirsky, 2009; Van Horn et al., 2004). Well-being is also explained in the literature as directly impacting the well-being of others through interactions (Rath & Harter, 2010). The importance of the organizational and personal impacts of well-being is crucial to the school organization due to the outcomes of the school being circular in that a school's outcomes affect students, but the outcomes are also based on results from students. By understanding the importance and impact well-being has on people, it provides us with the ability to fill in gaps in the research and focus on areas most applicable to society, or in this case, a specific job dynamic of principals and teachers.

The second section of Teacher Well-being emphasized types and make up of well-being, impacts on a teacher's well-being, and different effects teacher well-being has on student outcomes and a teacher's professional life. Relevant literature regarding types of and impact on well-being in education environments include the study by Saaranen, Tossavaine, Turunen, and Vertio (2006) supports the notion of possible impacts on 'occupational well-being' with findings that provide evidence of 'support from the working community' as an influencing factor on well-being. While Cenkseven-Onder and Sari (2009) found that teachers' subjective well-being was predicted by "coping work-related stress" and "school administrator." Parker and Martin (2009) adds to the impacts on teacher well-being with their findings explaining buoyancy and coping having a strong correlation with teacher well-being. Teacher well-being has also been

found to be affected by daily coping and buoyancy of teachers (Parker & Martin, 2009), work stress (Milfont, Denny, Ameratunga, Robinson, & Merry, 2008; Ragnarsdóttir & Jóhannesson, 2014), work avoidance (King & McInerney, 2014), and job satisfaction (Jones & Youngs, 2012). Simbula (2010) provided more evidence of these results through a study of the daily fluctuations and levels of various factors contributing to teacher well-being such as exhaustion, work engagement, coworkers' support, job satisfaction, mental health, work-family conflict, and motivation.

When focusing on research investigating the impacts teacher well-being has on other variables, King and McInerney (2014) found effects of antecedents (social support from teachers, parents, peers, etc.) contributing to student achievement and well-being. This finding, taken in consideration with the literature from Rath and Harter (2010) explaining the contagion attribute of well-being between people showcases the importance of creating the highest teacher well-being possible. Along with student outcomes, Jones and Youngs (2012), Turner, Zanker, and Braine (2012), Milfont, Denny, Ameratunga, Robinson, and Merry (2008), and Ragnarsdóttir and Jóhannesson (2014) contributed research showing a possible negative relationship between well-being and burnout in teachers. The classroom environment was also found as a contributor to altering teacher well-being (Kristianse, Persson, Lund, Shibuya, & Nielsen, 2013). Although well-being may be an indirect cause, the notion that it may be a factor of burnout at all predicates the need for further evaluation and understanding of well-being on all fronts. Lastly, teacher well-being literature provided insight into the characteristics of a teacher that are affected by well-being as evidenced by dominant-cooperating interpersonal, or a self-perception of friendliness, (Van Petegem, Creemers, Rossel, &

Aelterman, 2005), increases in positive actions and rational behaviors and decreases in levels of pessimism and in confidence about problem solving (Yiğit, 2013), and enthusiasm (Kunter, Frenzel, Nagy, Baumert, & Pekrun, 2011).

The third section, Principal Interaction, provides an understanding of the importance and wide reach of principals' effects on the school organization. The understanding of the importance of the role of the principal, based on their impact on every aspect of the school organization (Gordon, 2013; Gordon, 2004a; Gordon, 2004b; Supovitz, Sirinides, & May, 2010; Torff & Sessions, 2009). Harris' (2012) findings support this point by explaining the possible effects of principals taking a distributive leadership approach. The effects were explained as promoting more interaction between colleagues and shifting the idea of leadership as a position to it being an interaction. Not only would this affect the relationships between staff and people within the school, it would also increase positive teacher and student outcomes.

The next section covered interactions between principals and teachers. The literature examined in this section explained the types and effects of a principal's interactions with teachers ranging from the school type or experience level of the teacher to the entire school. Mangin (2007) provided a foundation of understanding of interaction types that principals exhibit. Relatedly, studies by Bickmore and Bickmore (2010) and Price (2012) found impacts from principals on aspects of the school climate and environment. Other, larger impacts at the school level were found in Elma's (2013) research, focusing on teachers' perceptions of the impact of organizational justice and Reitzug's (1989) findings of the impact on school "effectiveness." When looking at teacher-specific outcomes, results included links to emotional outcomes (Devos, Dupriez,

and Paquay, 2012) and the evaluation processes (Zimmerman & Decker-Pelton, 2003). Fernet, Guay, Senècal, and Austin's (2012) findings showed principal interaction with teachers affecting self-efficacy, and negatively predicting burnout components.

Eyal and Roth (2011) provided the most germane study in this section and entire literature review. Eyal and Roth's study included measuring interactions between principals and teachers, with a self-reported outcome from teachers relating to motivation, burnout, and the principal's leadership. The outcome was represented as well-being reflected in the teachers' quality and intensity of motivation, affects, and burnout. All three of those aspects were found to be directly related to one or both leadership styles studied (transactional and transformational). With both leadership styles including interaction to exhibit the style, this study sets a stage for the more specific study isolating interactions between principals and teachers to examine the effect on teachers' well-being.

Along with the sections noted above, this literature review also exposed the lack of research regarding the factors impacting a teacher's well-being, which further underscores the need for the proposed study. In addition to filling a gap in research, due to the numerous ways a principal impacts a teacher, the purpose of this study is to find a specific and direct intervention for principals to generate positive change in teachers' well-being. The proposed study will answer the main question of: How do a principal's interactions with a teacher affect a teacher's well-being?

By answering this question, policy makers, superintendents, and administrators will have more informed solutions when creating specific and actionable plans for school growth and principals will have more and better information to apply best practices for

leadership and employee management. The benefits of this research could result in increased teacher well-being, and consequentially, school outcomes and student well-being. To answer these questions, a quantitative analysis of principals' and teachers' interaction quality and frequency, relating to teachers' well-being, will be applied. The purpose of the next chapter will be to explain the quantitative study and methodologies that will be used in this study.

Chapter 3: Methodology

This study examines teachers' perceived frequency and quality of interactions with their principals and the effects on the teachers' well-being. Previous studies have found well-being to be affected through interactions with others (Gallup, 2012a; Harter & Agrawal, 2012; Rath & Harter, 2010; Robison, 2012), as well as being a driver of organizational outcomes such as productivity, absenteeism, health, turnover, and burnout (Harter & Agrawal, 2012; Rath and Harter, 2010; Sears et al., 2014). In addition, research from Rath and Harter (2010) and Harter and Agrawal (2012) explains well-being as being contagious between people. This research, combined with King and McInerney's (2014) findings of student well-being impacting academic performance, emphasizes the importance of a positive, or higher, teacher well-being due to the abundant amount of interactions and the time teachers have with students. This implication of external impacts and the ripple effects of a teacher's well-being impacting students support the need to generate positive well-being for teachers.

The role primarily responsible for creating positive well-being in teachers falls to their managers — principals — as managers have been shown to have a large impact on their employees' well-being (Gallup, 2012a; Gallup, 2012b; Harter & Agrawal, 2012), adding to the importance of a principal's effect on teachers' well-being. To maximize the positive influence principals can have on a school organization's outcomes specific to and influenced by teachers, examining the interactions principals have with teachers can help determine the most effective procedures a principal should practice.

This study applied a correlational, non-experimental quantitative survey design. Correlational research provides insight into the association between two or more

variables or conditions and the strength and direction of the relationship (Ary, Jacobs, Razavieh, & Sorensen, 2006). I obtained two survey datasets from Gallup, both of which employed a survey method from a panel sample to collect data (Gallup, 2020). One survey recorded responses focused on a respondent's manager, while the other was specific to respondents' subjective well-being. These data provide necessary information to understand the effects a principal can have on teachers and teachers' well-being.

Research Questions

The purpose of this study is to assess the self-reported well-being of teachers in the U.S., and the relationship of the teachers' well-being to the perceived quality and frequency of interactions between the teachers and their principals across 507 teachers employed in U.S. educational units. These datasets provided the ability to determine if a relationship exists between a teacher's well-being and the frequency and/or quality of interactions between a teacher and their principal. The research questions that guided this study are:

1. To what extent does the frequency of interactions between a principal and a teacher affect the teacher's well-being?
2. To what extent does the quality of interaction between a principal and a teacher affect the teacher's well-being?
3. To what extent does the combined measure of frequency and quality of interaction between a principal and teacher affect the teacher's well-being?

Population

This research focused on all public and private primary and secondary teachers in the U.S. Pre-K through 12th grade teachers in public and private schools were included to

provide a broad sample of all types of teachers and schools within the U.S. I included a large and general parameter of teachers in the U.S. to offer a baseline of outcomes for further studies of the topic. The data available from the sample obtained by Gallup also provided guidance for the target population of this study. Using a larger sample size and not limiting the population of teachers to specific grades or school types increased the study's generalizability. Before this study was conducted, there has been no research specific to principals' interactions with teachers and the effects on teachers' well-being.

Sample

This study consisted of self-identified teachers who volunteered to be included in Gallup's opt-in survey panel spanning from September 4 – December 3, 2013 (Gallup, 2020). The participants are located throughout the U.S. and are 18 years of age or older, per the parameters of Gallup's panel. The self-select options of occupation within the educator field included Teacher (any level), Professor, and Teacher's assistant (See Appendix B for the full list of occupations). Only respondents who self-selected the general job area of "Education/Training/Library" and the more specific job area of "Teacher (any level)" were included in this study to limit participants to the intended research target of primary and secondary teachers in the U.S. school system. I chose to use the general occupation of "Teacher" from the Gallup panel response options to increase generalizability of outcomes to all teachers, while limiting the participants to educators in primary and secondary schools.

Of the 16,475 participants in the Workforce survey, a total of 671 respondents identified as working in the field of "Education/Training/Library" and "Teachers (all

levels).” Of those 671 respondents, 507 had survey responses match from the Well-being survey dataset when matched with a Gallup Panel respondent unique identifier.

Further methodology regarding the collection and use of the 2013 Gallup Panel can be obtained by request from Gallup (Gallup, 2020).

Instrumentation

For this study, I obtained two panel survey datasets from Gallup, a Well-being survey (Gallup, 2013a) and a Workforce survey (Gallup, 2013b). Participants self-reported all items through web-based and mail survey methods. Of the 507 participants included within the final dataset, all respondents participated using the web-based format.

The Well-being survey dataset provided by Gallup (2013a) consisted of an overall well-being score, five well-being element means, and a Life Evaluation: Present (also referred to as present life evaluation) ladder item. The Well-being survey data were used by Gallup to calculate a set of five well-being element means (Purpose, Financial, Community, Social, and Physical) and an overall well-being score (Sears et al., 2014). Along with the five well-being elements and overall well-being score, an 11-point life evaluation ladder item, “Life Evaluation: Present,” was used as dependent variables in this study.

The five well-being elements as defined by Rath and Harter (2010): Purpose is about “how you occupy your time or simply liking what you do every day,” Financial is about “effectively managing your economic life,” Community is about “the sense of engagement you have with the area where you live,” Social is about “having strong relationships and love in your life,” and Physical is about “having good health and

enough energy to get things done on a daily basis." The Life Evaluation: Present item was created by Cantril (1965) and is a self-anchoring scale that represents a self-judgment of one's current life.

Gallup created the five well-being elements in 2010 (Rath & Harter, 2010). In the most recent research to update and improve the well-being instrument, a study by Sears et al. (2014) was conducted to "develop and validate a comprehensive and actionable well-being instrument that informs and facilitates improvement of well-being for individuals, communities, and nations." The researchers' goal was to create a comprehensive, valid, and reliable measure that demonstrated significant relationships to health and performance outcomes and had diagnostic capability for intervention. The health and performance outcomes of job performance, absenteeism, and hospital admission were identified as available business impact outcomes used for evidence of criterion-related validity. Researchers were also able to reduce the number of items included in the instrument. Researchers analyzed the five well-being elements through an exploratory factor analysis to validate a measurement model as well as through confirmatory analyses to estimate reliability across three samples. The estimated reliability across all three samples (n=9,745, n=1,879, n=1,024) for the well-being elements of purpose (α=0.81, α=0.79, α=0.81) and community (α=0.83, α=0.82, α=0.84) were found to have high reliability, while the elements social (α=0.76, α=0.73, α=0.76), financial (α=0.77, α=0.71, α=0.69), and physical (α=0.75, α=0.74, α=0.74) were lower, but in an acceptable range.

The overall well-being score was found to have the highest reliability across all three samples (α=0.90, α=0.89, α=0.91). Also, the overall well-being score was found to

significantly correlate with prior measurements of well-being and outcome measures of job performance, work absences, and prior hospitalization across all three samples. Due to proprietary methods, Gallup does not disclose the calculations for the overall well-being score and five well-being elements.

The Life Evaluation: Present item is a self-reported life evaluation item presented on an 11-point scale (0 – 10). The item is included in this study to show the current level of self-reported life evaluation.

The Workforce survey dataset recorded self-reported interactions with a principal in the form of general meetings and three specific types of meetings (face-to-face, phone, digital communication), along with categories of the perceived frequency of each type of interaction (see Appendix C). The five items describing the frequency of these manager meetings were recoded and summed to create an interaction frequency composite variable. Also, I used a set of seven items within the Workforce survey to construct an interaction quality composite variable (see Appendix D).

The Workforce survey dataset included 15 items that consisted of seven Likert-type items measuring level of agreement from Strongly Disagree (1) to Strongly Agree (5), four categorical items measuring frequency of meetings with the manager, one dichotomous yes/no item indicating if a manager holds regular meetings, one dichotomous item indicating the gender of the respondent's manager, and two continuous items indicating the length of time, in years, a respondent has worked with his or her immediate supervisor and current employer.

Both datasets consisted of demographic items for each respondent. The demographic items were duplicated in the datasets, so only one set of the overlapping

demographic variables were kept for a total of five demographics available for analysis (age, gender, income, marital status, and race/ethnicity). Gallup de-identified the datasets prior to providing the data to the researcher.

Data Collection Procedures

Permission was requested from Gallup, and received, to obtain and use two survey datasets to conduct this study. All participants were members of Gallup's 2013 survey panel (Gallup, 2020) and all Gallup-provided data was de-identified prior to use. The calculation for measuring well-being is still current and in use as of completion of this study. The questions asked and response options regarding interaction type and frequency are applicable to the school workplace today. After I obtained the data, I merged the datasets with a single unique identification number per respondent to match responses. The survey responses were collected over two consecutive date ranges. The Workforce survey was conducted from September 4 – October 8, 2013, through web and mail surveys, while the Well-being survey was conducted from October 21 – December 3, 2013, by web survey. All respondents of the Workforce survey included in this study responded using the web-based format.

The Workforce survey consisted of 101 survey items (Gallup, 2013b), with 15 items being used in different contexts for this study. The Well-being survey consisted of 82 items (Gallup, 2013a), with one response item being used in analysis, along with the Gallup-generated overall well-being score and five well-being element scores created from items within the full 82 items in the survey.

Dependent Variable Collection

The well-being overall score, five well-being elements, and the Life Evaluation: Present item are the dependent variables in this study and referenced in the data collection procedures due to Gallup having previously collected and calculated these data points prior to the researcher requesting or receiving the data set. Because the researcher received the dependent variables from Gallup ready for analysis, inclusion in the data collection procedures provided understanding of how these variables were attained.

Independent Variable Collection

Both independent variables used in this study are composite variables calculated from items in the Workforce survey conducted and corresponding dataset provided by Gallup. Although the independent variables were calculated from items provided within datasets from Gallup, since both composite variables had to be created by the researcher from items provided, the two independent variables' explanations and calculations are detailed in the data analysis section.

All variable names, descriptions, and types used in this study can be found in Table 1.

Table 1

Variables Used in Analysis

Variable Name (SPSS Variable)	Variable Description (SPSS Variables)	Variable type
Interaction-Frequency 5 Composite (IF5)	Composite score calculated from five survey items (Q29, Q30, Q31A, Q31B, Q31C) indicating the amount of interactions between teachers and principals	Independent; Continuous
Interaction-Quality 7 Composite (IF7)	Composite score calculated from seven survey items (Q34A, Q34B, Q34C, Q34D, Q34H, Q34I, Q34J) indicating sentiment and nature of interactions between teachers and principals	Independent; Continuous
Well-being Overall (Overall_WB5)	Calculated by Gallup using items on the Gallup Wellbeing survey. A total score that includes all five wellbeing elements items and a life evaluation: present item (WP16).	Dependent; Continuous
Five Well-being Element items: Purpose (Purpose), Community (Community), Social (Social), Financial (Financial), Physical (Physical)	Calculated by Gallup using items on the Gallup Wellbeing survey. Each element has two items included in each element score. Items are all five-point Likert items.	Dependents; Continuous
Life Evaluation: Present (WP16)	An 11-point ladder scale item reflecting the current subjective thought of one's quality of life.	Dependent; Continuous
Gender (DEMO_GENDER); Race/Ethnicity (RACE); Marital status (DEMO_MARITAL_STATUS); Manager gender (Q18)	Demographic responses from study participants	Controls; Categorical
Age (DEMO_AGE); Income (DEMO_INCOME); Tenure at location (Q15); Tenure working for current manager (Q16)	Demographic responses from study participants	Controls; Continuous

Data Analysis

Data provided by Gallup was analyzed using the Statistical Package for the Social Sciences (SPSS) software. Missing survey responses were not included in the analysis

and respondents without a valid overall well-being score, one of the five well-being indexes, or the life evaluation ladder item were dropped.

Two composite variables were created from the Workforce survey responses, an Interaction Frequency variable, and an Interaction Quality variable. The composite scores were used to provide a more holistic variable that includes multiple items to form an overall view of the frequency and quality of interactions. The composite variables assisted in providing measures of interactions that were not easily observed otherwise. The frequency composite variable was created from five items (referred to as IF5) (see Appendix C for the interaction frequency composite variable item list) and the quality composite variable from seven items (referred to as IQ7) (see Appendix D for the interaction quality composite variable item list). The items selected to represent each composite score were based on the researcher's objective decision with the qualifications based on item text. For example, if an item referenced the number of meetings between a teacher and a principal, it was included within the frequency composite. If an item inquired about the way or how a meeting or interaction occurred, the item was classified as a quality item.

To create the IF5 and IQ7 variables, the categorical variables within the Workforce survey were recoded into continuous variables. To recode the interaction frequency items in the Workforce survey into continuous variables, the average number of instructional days teachers work in a school year (180) was used as a baseline (Education Commission of the States, 2013). The item responses were coded from one to zero by dividing the frequency description of the response by 180 days. The most frequent interaction response type, daily, was coded as one. The least frequent interaction

type, less than monthly, was coded as zero (e.g. Daily = 1, Weekly = 0.2, Biweekly = 0.1, Monthly = 0.05, Less Than Monthly = 0). All responses of "Don't Know" were set to missing and not considered valid. To explain the calculation outcome of the other responses, a response of "weekly" would contribute 0.2 of a respondent's composite score. The score of 0.2 was an outcome of first converting the response into days (1 week = 5 days; 180 days = 36 weeks). Then, knowing there are 36 weeks in an average school year, a response of "weekly" equals 36 days, 36 was divided by 180 to come to the result of 0.2. The written calculation looks like this: (180 / 5) / 180 = 0.2. Once all items were recoded, the five items were summed into one variable, IF5. To receive a value in the Interaction Frequency composite variable, a respondent was required to have valid responses in a minimum of four out of the five frequency items.

To generate the interaction quality composite variable, the seven interaction quality items were recoded from a one to five scale into a zero to one scale, with zero representing strongly disagree (1) and one representing strongly agree (5). Any response of "Don't Know" was set to missing and not considered valid. The recoded items were then summed into a variable labeled Interaction Quality Composite. A minimum of five out of seven valid responses were required to receive an IQ7 score.

Once the composite variables were created, data were cleaned to remove all respondents who did not have at least one valid composite score and at least one valid dependent variable (overall well-being score, one or more well-being element means, or a valid Life Evaluation: Present item response). After removing invalid respondents, 415 participants remained in the sample.

To answer the research questions posed, a hierarchical regression analysis of the IF5 and IQ7 variables with the overall well-being score, the five well-being element index means, and the Life Evaluation: Present item was conducted. The regression analysis allowed the researcher to identify the IF5 and IQ7 composites' relationship type and strength to the overall well-being score, five well-being element scores, and present life evaluation item above and beyond the control variables identified. The hierarchical regression was chosen over a simple correlation due to the need to account for the control variables because of the known effects of the controls on well-being.

One example explaining the need to control for external variables is explained by a study conducted by Kahneman and Deaton (2010), which utilized the same Gallup-Healthways well-being measure as the current study and explains the difference of income levels between life evaluation and emotional well-being. Another example of the need for including controls in the analysis can be supported by a study conducted by Stone, Schwartz, Broderick, & Deaton (2010), which explains a relationship between life evaluation (also known as psychological well-being or global well-being) and a person's affective state (also known as Hedonic well-being) and age.

A regression analysis provides the ability to reduce the potential bias and variance in demographic variables (Cohen, Cohen, West, & Aiken, 2003). By conducting a regression to reduce control variable effects, the observed effect of the independent variables (interaction frequency and interaction quality) on teacher well-being would not be confounded by demographic variable association with well-being. The ability to account for control variables during the analysis provided the predictive understanding of

the independent variables' effects on the dependent variables by reducing the effect of external variables that have been found to influence well-being.

An inter-correlation and partial correlation of the two composite variables were tested to explain the type and strength of relationship between both independent variables with the dependent variable. Also, the reliability of each composite variable was estimated.

To further explain, in practical terms, the relationship between the composite variables and the overall well-being score, five well-being elements and Life Evaluation: Present item, the marginal means of the composite variables' tertiles were also estimated. An estimated marginal means analysis was then conducted on a combined interaction variable created from the combined tertile levels of the interaction composite variables. The combined interaction variable was created by using the tertiles of each composite and grouping the respondents who were in the top tertile of both composites (High), the bottom tertile of both composites (Low), and a third group of all others (Mixed). The marginal means analysis was conducted in two separate analyses, once comparing all three groups to each other and a second time comparing the respondents who were in the High group with a combined Mixed/Low group.

The two estimated marginal means analyses were conducted to show the difference between the extreme groups (High vs Low), as well as the difference of principals with high interaction frequency and quality compared to all other principals. Conducting these two analyses provides evidence of the importance of focusing on both interaction frequency and quality, rather than only one type of interaction, as well as

explaining the importance of high frequency and quality compared to any other combination of interaction frequency and quality.

Within the survey panelist demographics obtained, standard demographics were used as controls to create more generalizable findings across all teachers. The control variables included gender, age, marital status, income, education level, ethnicity/race, number of years worked for current employer, number of years worked for current manager, and gender of current manager.

Human Participants and Ethic Precautions

Two de-identified datasets were obtained from Gallup that align with the Institutional Review Board (IRB) exception parameters that assure the identity and security of each participant is protected. Due to the sample being obtained without identifiable information, the participants do not fit into the IRB guidelines for obtaining consent for studying Human Participants. All data were protected within Gallup servers and were not moved to any personal computer or private email.

Conclusion/Summary

The overarching purpose of this study is to further the understanding of what affects a teacher's well-being through a quantitative analysis. The analysis uses data collected from two Gallup panel surveys administered at different time periods, which produced demographic information of teachers, independent variables of interactions between principals and teachers, and dependent variables of well-being. Those variables were analyzed using a regression approach to find the relationship between a teacher's well-being and the quality and frequency of interactions between a principal and teacher. The following chapters will provide the results of the study, with a discussion of potential impact and application.

Chapter 4: Results

The purpose of this study was to identify the effects of interactions between a principal and teachers on teacher well-being.

This chapter provides the outcomes of the regression analysis of the interaction and well-being data. The first section contains descriptive statistics of the study sample using the control variables within the dataset. The second section contains three subsections, each pertaining to a different research question. The three subsections include results for the interaction effects on overall well-being, each of the five well-being elements, and the Life Evaluation: Present item, respectively. The results for each subsection follow the methodology explained in Chapter 3. The chapter concludes with a brief summary of the findings.

Description of the Sample

The sample from the datasets contained 507 respondents with both Workforce survey data and Well-being survey data. The final analysis was conducted with 415 respondents who met data analysis criteria. The 92 excluded respondents were removed due to missing independent composite scores. Within the datasets, respondents self-reported eight demographic categories that were also used as control variables within the regression analysis. The sample's demographics, based on the recoded demographic variables for analysis, can be found in Appendix E.

Reliability of the Data

The interaction composite variables were tested for reliability to ensure the consistency of the items included. The IQ7 composite variable revealed a Cronbach's

alpha of 0.85, while the composite IF5 variable had a Cronbach's alpha of 0.65 (see Table 2). Both composites' results established sufficient evidence of reliability.

Table 2

Cronbach's Alpha Reliability Coefficients

Interaction Composite Scores	Standardized Alpha	Recoded Items
Interaction Frequency (IF5)	.65	Q29, Q30, Q31A, Q31B, Q31C
Interaction Quality (IQ7)	.85	Q34A, Q34B, Q34C, Q34D, Q34H, Q34I, Q34J

Presentation of the Data

The following results present the outcomes of the analysis of the datasets containing teachers' self-reported data. The initial results explain the simple correlational relationship of all variables used in the analysis to support the more rigorous regression analysis. The following subsections focus on the three research questions of this study and include the regression analysis investigating interaction frequency and interaction quality between teachers and their principals and the interactions' effect on teacher Overall Well-being, five well-being elements (Purpose, Community, Physical, Financial, and Social), and the Life Evaluation: Present item.

A correlation matrix was run to show the relationships of all variables within the study and to indicate significant simple correlations between the dependent and independent variables to identify order of input in the regression analysis (Table 3). Noncollinearity was met with variance inflation factor (VIF) values well below 10 for all significant models tested. Multicollinearity was tested and tolerance values for all significant models were above the threshold of 0.1.

Table 3

Correlation Matrix of Variables Used in Analysis

				Variable Number									
Variable Number	Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
1	Overall Well-being	64.48	13.29	-									
2	Well-being Element: Purpose	6.44	1.84	.751**	-								
3	Well-being Element: Community	6.22	2.05	.746**	.551**	-							
4	Well-being Element: Physical	6.37	1.44	.790**	.423**	.359**	-						
5	Well-being Element: Financial	6.18	2.54	.665**	.438**	.444**	.344**	-					
6	Well-being Element: Social	6.62	1.94	.723**	.559**	.465**	.469**	.411**	-				
7	Life Evaluation: Present	7.32	1.41	.702**	.574**	.498**	.466**	.545**	.482**	-			
8	IF5	1.78	1.11	.134**	.179**	.079	.127*	-.009	.128*	.091	-		
9	IQ7	4.44	1.51	.249**	.391**	.224**	.103*	.122*	.197**	.107*	.486**	-	
10	Gender	0.39	0.49	.056	.033	.040	.034	.039	.036	.099*	-.099	.000	-
11	Ages 18-39	0.22	0.41	-.066	-.069	-.068	-.053	-.067	.008	-.044	.001	-.005	.023
12	Ages 40-59	0.51	0.50	-.061	-.038	-.061	.028	-.149**	-.111*	-.074	.064	-.077	-.003
13	Ages 60-89	0.27	0.45	.130**	.107*	.133**	.018	.229**	.117*	.125*	-.075	.092	-.017
14	Income	4.83	1.47	.183**	.096	.079	.109*	.263**	.164**	.227**	.043	-.066	.007
15	Marital Status – Single or Never Married	0.14	0.35	-.124*	-.139**	-.049	-.140**	.027	-.152**	-.133*	-.024	.022	-.014

Note. Income coded as ordinal based on groups provided in dataset from Gallup, Inc.
**Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).

Table 3 – Continued

Correlation Matrix of Variables Used in Analysis

Variable Number	Variable	Mean	SD	Variable Number 1	2	3	4	5	6	7	8	9	10
16	Marital Status – Married or Living with a Partner	0.77	0.42	.104*	.095	-.003	.099	.060	.149**	.147**	-.042	-.106*	.116*
17	Marital Status – Separated, Divorced, or Widowed	0.09	0.29	-.003	.029	.063	.023	-.120*	-.036	-.054	.093	.127*	-.153**
18	For how many years have you worked with your current employer?	14.17	10.55	.085	.025	.120*	.048	.136**	-.012	.061	-.067	-.010	.049
19	For how many years have you worked with your current manager or immediate supervisor?	4.00	4.65	.053	.042	.047	.033	.030	.074	.055	.044	.049	-.015
20	Is your immediate supervisor a male or a female?	0.43	0.50	-.023	.000	-.001	.002	-.082	-.021	-.037	.004	.018	.059
21	Race/Ethnicity – White/Not-White	0.88	0.33	-.003	.024	.046	-.028	.000	-.034	-.035	.011	-.049	.030

Note. Income coded as ordinal based on groups provided in dataset from Gallup, Inc.
**Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).

Table 3 – Continued

Correlation Matrix of Variables Used in Analysis

Variable Number	Variable	Mean	SD	Variable Number									
				11	12	13	14	15	16	17	18	19	20
12	Ages 40-59	0.51	0.50	-.539**	-								
13	Ages 60-89	0.27	0.45	-.324**	-.622**	-							
14	Income	4.83	1.47	-.200**	.120*	.028	-						
15	Marital Status – Single or Never Married	0.14	0.35	.292**	-.142**	-.079	-.274**	-					
16	Marital Status – Married or Living with a Partner	0.77	0.42	-.163**	.134**	-.015	.415**	-.735**	-				
17	Marital Status – Separated, Divorced, or Widowed	0.09	0.29	-.112*	-.026	.117*	-.277**	-.128*	-.578**	-			
18	For how many years have you worked with your current employer?	14.17	10.55	-.334**	.061	.241**	.088	.010	-.035	.039	-		
19	For how many years have you worked with your current manager or immediate supervisor?	4.00	4.65	-.110*	-.061	.176**	.025	.049	-.026	-.021	.298**	-	
20	Is your immediate supervisor a male or a female?	0.43	0.50	.101*	-.018	-.074	-.003	.008	.002	-.013	.037	.024	-
21	Race/Ethnicity – White/Not-White	0.88	0.33	-.038	.036	-.005	.038	-.036	.098	-.099	.093	.037	.139**

Note. Income coded as ordinal based on groups provided in dataset from Gallup, Inc.
**Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).

The correlational relationships between the independent composite variables, IF5 and IQ7, and the dependent variables of Overall Well-being, the five well-being elements, and the Life Evaluation: Present item showed statistical significance to warrant further investigation through the proposed multiple regression analysis (see Table 3). The regression analysis used the interaction composite variables IF5 and IQ7 as the predictor variables and the Overall Well-being, five well-being elements, and the Life Evaluation: Present item as the dependent variables. Control variables of gender, age, income, marital status, race/ethnicity, tenure with current employer, tenure with current manager, and gender of current manager were also used in the regression analysis. Based on the results of the correlation matrix (see Table 3), the control variables and independent variables were input into the hierarchical regression analysis in three blocks. The first block contained the control variables, the second contained the IF5 variable, and the third contained the IQ7 variable. The hierarchical regression was used to show the effect of each block of variables above and beyond the previous block input, with the first block of control variables exposing the impact demographics may have on a teacher's well-being before the interaction implications were considered.

The results of the regression of the criterion variable Overall Well-being, as shown in Tables 4 and 5, demonstrate that each model has a significant effect on the dependent variable, Overall Well-being. The regression results for the remaining six dependent variables can be found in Appendix F.

Table 4

Model Summary for the Overall Well-being Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.295a	.087	.056	13.11138	.087	2.82	10	296	.002
2	.327b	.107	.074	12.99021	.02	6.55	1	295	.011
3	.400c	.16	.126	12.61695	.053	18.71	1	294	.000

[a] Predictors: (Constant), Race/Ethnicity – White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status – Separated, Divorced, or Widowed, Ages 60-89, Marital Status – Single or Never Married, For how many years have you worked with your current employer?, Income. [b] Predictors: (Constant), Race/Ethnicity – White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status – Separated, Divorced, or Widowed, Ages 60-89, Marital Status – Single or Never Married, For how many years have you worked with your current employer?, Income, IF5. [c] Predictors: (Constant), Race/Ethnicity – White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status – Separated, Divorced, or Widowed, Ages 60-89, Marital Status – Single or Never Married, For how many years have you worked with your current employer?, Income, IF5, IQ7.

Table 5

Coefficient Summary for the Overall Well-being Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	56.307	4.105		13.716	.000
	Gender	3.230	1.588	.114	2.034	.043
	Ages 18-39	5.114	2.346	.139	2.180	.030
	Ages 60-89	4.547	1.788	.150	2.543	.012
	Income	1.440	0.599	.153	2.403	.017
	Marital Status – Single or Never Married	-4.619	2.504	-.114	-1.845	.066
	Marital Status – Separated, Divorced, or Widowed	0.670	2.948	.014	0.227	.820
	For how many years have you worked with your current employer?	0.058	0.081	.045	0.723	.470
	For how many years have you worked with your current manager or immediate supervisor?	0.071	0.166	.025	0.427	.669
	Is your immediate supervisor a male or a female?	-2.350	1.545	-.086	-1.522	.129
	Race/Ethnicity – White	-1.107	2.494	-.025	-0.444	.657
2	(Constant)	53.663	4.196		12.788	.000
	Gender	3.514	1.577	.125	2.228	.027
	Ages 18-39	5.210	2.324	.142	2.241	.026
	Ages 60-89	4.809	1.774	.158	2.710	.007
	Income	1.325	0.596	.141	2.224	.027
	Marital Status – Single or Never Married	-4.636	2.480	-.115	-1.869	.063
	Marital Status – Separated, Divorced, or Widowed	-0.155	2.939	-.003	-0.053	.958
	For how many years have you worked with your current employer?	0.082	0.081	.064	1.018	.309
	For how many years have you worked with your current manager or immediate supervisor?	0.030	0.165	.011	0.184	.854
	Is your immediate supervisor a male or a female?	-2.314	1.530	-.085	-1.512	.132
	Race/Ethnicity – White	-1.399	2.474	-.032	-0.565	.572
	IF5	1.735	0.678	.144	2.559	.011
3	(Constant)	45.039	4.537		9.926	.000
	Gender	3.181	1.534	.113	2.074	.039
	Ages 18-39	5.430	2.258	.148	2.405	.017
	Ages 60-89	3.993	1.734	.132	2.303	.022
	Income	1.497	0.580	.159	2.582	.010
	Marital Status – Single or Never Married	-4.934	2.410	-.122	-2.047	.042
	Marital Status – Separated, Divorced, or Widowed	-0.884	2.859	-.019	-0.309	.757
	For how many years have you worked with your current employer?	0.083	0.078	.065	1.065	.288
	For how many years have you worked with your current manager or immediate supervisor?	0.029	0.160	.010	0.183	.855
	Is your immediate supervisor a male or a female?	-2.478	1.487	-.091	-1.666	.097
	Race/Ethnicity – White	-0.590	2.410	-.014	-0.245	.807
	IF5	0.192	0.749	.016	0.256	.798
	IQ7	2.332	0.539	.267	4.326	.000

Note. Dependent Variable: Overall Well-being

Using the regression results, the proposed research questions are answered in the following subsections.

Research Question 1. To what extent does the frequency of interactions between a principal and a teacher affect the teacher's well-being?

The first research question can be answered from the results of the regression conducted on the Overall Well-being criterion and predictor variable IF5 (see Table 4). The results of the analysis found that the independent variable IF5 is a significant predictor of Overall Well-being above and beyond available control variables as shown in model two of the regression analysis, F (1,295) = 6.55, $p < .05$ (see Table 4). IF5 explains significant variance (R^2 change = .02) in Overall Well-being above and beyond the control variables (see Table 4).

Along with a meaningful variance in the overall well-being criterion, the hierarchical regression conducted with the remaining dependent variables showed IF5 as a significant predictor of four of the six remaining dependent variables: Well-being Element: Purpose (F (1,296) = 8.48, $p < .01$, R^2 change = .027), Well-being Element: Physical (F (1,296) = 6.62, $p < .05$, R^2 change = .021), Well-being Element: Social (F (1,296) = 3.93, $p < .05$, R^2 change = .012), Life Evaluation: Present (F (1,296) = 4.02, $p < .05$, R^2 change = .012) (see Appendix F and Appendix G).

Research Question 2. To what extent does the quality of interaction between a principal and a teacher affect the teacher's well-being?

The second research question can be answered using the results from the regression conducted on the Overall Well-being criterion and predictor variable IQ7 (see Table 4). The results of the analysis found that the independent variable IQ7 is a significant predictor of Overall Well-being above and beyond IF5 when taking available control variables into account as shown in model three of the regression analysis, F

(1,294) = 18.71, $p < .001$ (see Table 4). IQ7 explains significant variance (R^2 change = .053) in Overall Well-being above and beyond IF5 and the control variables (see Table 4).

Along with a meaningful variance in the overall well-being criterion, the multiple regression conducted with the remaining dependent variables showed IQ7 as a significant predictor of four of the six dependent variables: Well-being Element: Purpose (F (1,295) = 51.19, $p < .001$, R^2 change = .138), Well-being Element: Community (F (1,295) = 15.26, $p < .001$, R^2 change = .046), Well-being Element: Financial (F (1,295) = 7.56, $p < .01$, R^2 change = .021), Well-being Element: Social (F (1,295) = 10.56, $p < .01$, R^2 change = .031) (see Appendix F and Appendix G).

Research Question 3. To what extent does the combined measure of frequency and quality of interaction between a principal and teacher affect the teacher's well-being?

Expanding on the results from the multiple regression conducted on the overall well-being criterion and predictor variables IQ7 and IF5 (see Table 4), the third research question can be answered through an estimated marginal means (EMM) plot of each dependent variable using tertile groups of the predictor variables explained in Chapter 3. The control variables from the regression analysis were included as covariates to understand the unique individual effect of the independent variables on the dependent variables. The results of the marginal means plot (Table 6) shows a significant difference of overall well-being means of the three interaction tertile groups 'High,' 'Mixed,' and 'Low' (F (2,294) = 12.15, $p < .001$).

Table 6

Estimated Marginal Means Univariate Test of Individual Interaction Types

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	3884.15	2	1942.07	12.15	.000
Error	47000.69	294	159.87		

Note. Dependent variable: Overall Well-being. The F tests the effect of Interactions. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

The marginal means pairwise comparison provides evidence of a significant difference of means between all three combinations of the three interaction tertile groups (see Appendix H). Results show the High interaction group having an overall well-being mean (70.45) 8% higher than the Mixed group (65.08) and 20% higher than the Low group overall well-being estimated marginal mean (58.74). The Mixed group overall well-being mean was found to be 11% higher than the Low group (see Table 7).

Table 7

Estimated Marginal Means Estimates of Individual Interaction Types

				95% Confidence Interval	
Interactions	N	Mean	Std. Error	Lower Bound	Upper Bound
Low	53	58.74[a]	1.766	55.267	62.219
Mixed	189	65.08[a]	0.930	63.251	66.911
High	65	70.45[a]	1.593	67.313	73.581

Note. Dependent variable: Overall Wellbeing.

[a] Covariates appearing in the model are evaluated at the following values: Gender = 0.352, Ages 18-39 = 0.16, Ages 40-59 = 0.57, Ages 60-89 = 0.27, Income = 4.87, Marital Status – Single or Never Married = 0.127, Marital Status – Married or Living with a Partner = 0.785, Marital Status – Separated, Divorced, or Widowed = 0.088, For how many years have you worked with your current employer? = 14.666, For how many years have you worked with your current manager or immediate supervisor? = 4.09, Is your immediate supervisor a male or a female? = 0.43, Race/Ethnicity – White/Not-White = 0.893.

An estimated marginal means plot was also run (see Table 8) to compare the High interaction group with a group consisting of both the Mixed and Low tertile groups and found a significant difference (F (1,295) = 13.95, $p < .001$). The High interaction group was found to have a significantly higher overall well-being mean than the combined

Mixed/Low group (see Appendix I). The overall well-being mean of the High group was 11% higher than the combined Mixed/Low group mean (see Table 9).

Table 8

Estimated Marginal Means Univariate Test of Combined Interaction Groups

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	2298.05	1	2298.05	13.95	.000
Error	48586.79	295	164.70		

Note. Dependent variable: Overall Well-being. The F tests the effect of Interactions_Combined. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Table 9

Estimated Marginal Means Estimates of Combined Interaction Groups

Interactions Combined	N	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Mixed/Low	242	63.68[a]	0.828	62.047	65.307
High	65	70.51[a]	1.616	67.324	73.686

Note. Dependent variable: Overall Well-being

[a] Covariates appearing in the model are evaluated at the following values: Gender = 0.352, Ages 18-39 = 0.16, Ages 40-59 = 0.57, Ages 60-89 = 0.27, Income = 4.87, Marital Status – Single or Never Married = 0.127, Marital Status – Married or Living with a Partner = 0.785, Marital Status – Separated, Divorced, or Widowed = 0.088, For how many years have you worked with your current employer? = 14.666, For how many years have you worked with your current manager or immediate supervisor? = 4.09, Is your immediate supervisor a male or a female? = 0.43, Race/Ethnicity – White/Not-White = 0.893.

Along with the overall well-being criterion results, the marginal means analysis of the interaction groups was conducted with the remaining six dependent variables. The results of the marginal means analysis found significant results for five of the six dependent variables (Well-being Elements: Purpose, Community, Physical, Social, and the Life Evaluation: Present variable) (see Appendix J). Of the five significant results, the High interaction group was found to have significantly higher means than the Mixed group in four of the five dependent variables and significantly higher means than the Low group in all five dependent variables (see Appendix K). The Mixed group had

significantly higher means than the Low group in three of the five dependent variables (see Appendix K).

In addition to the individual group comparisons, the Mixed and Low groups were combined to provide a comparison of the High group to all others and create a larger sample size in the Mixed/Low group. When considering the High group compared to the combined group of Mixed/Low tertiles, the High group had significantly higher means in five of the six remaining dependent variables (see Appendix L and Appendix M).

Summary/Conclusion

This study was designed to determine if interaction frequency and/or quality between a principal and a teacher affects the teacher's overall well-being, elements of well-being, and/or present life evaluation. The results of the data analysis provided ample evidence confirming a principal's interactions with a teacher do predict a teacher's well-being above and beyond the demographic variables available. Specifically, the interaction frequency between a principal and a teacher had a significant effect above and beyond the demographic control variables on a teacher's Overall Well-being (see Table 4), Well-being Elements: Purpose, Physical, and Social, and the Life Evaluation: Present item (see Appendix F and Appendix G). The interaction quality between a principal and a teacher had a significant effect above and beyond the control variables and the interaction frequency variable on a teacher's Overall Well-being (see Table 4) and Well-being Elements: Purpose, Community, Financial, and Social (see Appendix F and Appendix G). The two independent variables IF5 and IQ7 both showed significant effects on Overall Well-being, Well-being Element: Purpose, and Well-being Element: Social.

When the measures of interaction frequency and interaction quality were combined, a significant difference in outcomes was found for a teacher's Overall Well-being (see Table 6), the Well-being Elements: Purpose, Community, Physical, and Social, and the Life Evaluation: Present item (see Appendix J). When adding the significant results from the combined IF5 and IQ7 measure to the overlapping significant results from the individual analysis of the IF5 and IQ7 variables, Overall Well-being and Well-being Elements: Purpose and Social all remain as the three dependent variables that were significantly impacted by these independent variables. The implications of these results will be discussed further in Chapter 5.

Chapter 5: Discussion and Conclusion

Introduction

The purpose of this study was to identify the effects of a principal's interaction frequency and quality with a teacher on a teacher's well-being. The study was designed to analyze a) how the interaction frequency between a principal and a teacher affect a teacher's well-being, b) how the interaction quality between a principal and a teacher affect a teacher's well-being, and c) how the combination of the interaction quality and frequency between a principal and a teacher affect a teacher's well-being.

The researcher conducted hierarchical multiple regression and estimated marginal means analyses of the data obtained to find if the interaction frequency and quality composite variables calculated were predictive of a teacher's self-reported Overall Well-being, five Well-being Elements: Purpose, Community, Physical, Financial, and Social, and the Life Evaluation: Present item. The results of these analyses found each dependent variable measuring teacher well-being to be significantly affected by a principal's interaction frequency, interaction quality, and/or a combination of the two interaction aspects with teachers.

This study was guided by a conceptual framework that focused on the interactions between a principal and a teacher and the effects of and on a teacher's well-being. The aspects of this conceptual framework were expanded within the literature in Chapter 2 to show the link between a principal's role as a leader and manager of a school to the outcome of a teacher's well-being. The combination of research regarding principals' impact and teachers' well-being provided the base for the conceptual framework outlined in Chapter 2 and the guiding lens for this study. The specific intervention identified and

studied from within a principal's leadership and managerial style was his or her interactions with teachers. From the literature describing the impact a principal's leadership and managerial role has on the school and teachers, along with the impact different situational and emotional circumstances have on teachers' well-being, the component of a principal's direct interactions with teachers, as a functional part of any leadership or managerial style, was a gap in research this study sought to fill.

The results of the research support the conceptual framework as it was designed and expands the current body of research examined in Chapter 2. First, this study supports the conceptual framework through the findings explaining the predictive nature of a principal's interaction frequency and quality with teachers and the effect on teachers' well-being. These results support the conceptual framework through their addition to the understanding of the impact a principal has on aspects of a school, specifically a teacher's well-being, through his or her direct interactions with teachers within the school. Second, the current study's findings add to currently under-research topics by describing: 1) how and to what extent a principal can affect a school environment and those within it, 2) how teacher well-being is affected by variables within the work (school) environment.

The following sections will expand on the study's findings and impact through the lens of the conceptual framework. To properly expound the results and potential impact, the next sections will provide an interpretation of the results through the lens of three research questions. The researcher will then explain the remaining limitations of the study and implications of the results, culminating in recommendations for future research.

Interpretation of Results

Research Question 1. To what extent does the frequency of interactions between a principal and a teacher affect the teacher's well-being?

The interaction frequency composite score, calculated from five self-reported frequency items (see Appendix C) to represent the overall frequency of interactions between the teacher and the school principal (see Appendix P for IF5 item response distribution) and analyzed through a hierarchical regression model, was found to have a significant positive relationship with the self-reported Overall Well-being of teachers, well-being elements: Purpose, Physical, Social, and the Life Evaluation: Present item. The effect of the interaction frequency between principals and teachers was shown to explain variance above and beyond the control variables for Overall Well-being at 2% (see Table 5), Well-being Element: Purpose at 3%, Well-being Element: Physical at 2%, Well-being Element: Social at 1%, and the Life Evaluation: Present item at 1% (see Appendix F).

Understanding that a teacher's well-being will be higher if a principal interacts with the teacher more often, rather than less, creates an opportunity for a principal to positively impact teacher well-being. The five items used to calculate the interaction frequency composite score in this study (see Appendix C) provide the model for the actions a principal can take to increase interactions and positively affect teacher well-being. Because the measurement of interaction frequency used in this study is a new composite measure created by the researcher, the findings related to this set of items and composite score can be considered the foundational evidence of the IF5 composite's validity and relevance to future use within the educational field of study. Previous

research regarding principal interactions with teachers provided evidence of interaction frequency having positive effects on different teacher and school outcomes through leadership styles and managerial tasks (Mangin, 2017; Reitzug, 1989), which was a guiding aspect of the current study's conceptual framework. Also supporting the need for this study was the finding from Zimmerman and Deckert-Pelton (2003) explaining that teachers expressed a desire for more interactions with their principals. The additional support from teachers requesting more interactions from their principals intensifies the need for principals to have specific reference for how to increase their interactions with teachers in measurable and impactful ways, which is another important outcome from this study's results.

The importance of the interactions principals have with teachers is emphasized through the leadership styles and managerial aspects of the conceptual framework, which guided this study. Harris (2012) explained the eventual shift of leadership as a position to leadership as an interaction. Although Harris' study focused on distributed leadership, the understanding of a potential shift from a leadership style to a more granular and literal action of how principals positively affect teacher and student outcomes provides support for the current study's outcome of interaction frequency having a significant effect on teacher well-being. Through the IF5 composite score being a significant predictor of overall teacher well-being and elements within overall well-being, the inclusion of multiple types of interactions explains this shift beyond one type of leadership style explained by Harris (2012) and provides expanded understanding of the interaction element of leadership being a driver of positive teacher outcomes, specifically, well-being.

The aspect of principals' leadership styles and managerial tasks catalyzing interactions between principals and teachers, which affects teacher outcomes, is further legitimized by Reitzug (1989) through findings showing an "effective" school had 10.4% more interactions between the principal and teachers than the "ordinary" school. The study by Reitzug effectively identified the amount of interactions between principals and teachers that may have a positive effect on school outcomes, but lacked detail explaining what types of interactions were present.

By including different types of interactions within this study's measurement of interaction frequency, this study expands on the general knowledge of interaction frequency between principals and teachers having a positive effect on school outcomes. The distribution of responses within the interaction frequency types (see Appendix P) indicate a skew within this study toward more face-to-face and electronic communications compared to phone calls. This finding is important to note as it indicates face-to-face and electronic communications may have a larger impact on teacher well-being. However, the inclusion of the phone call interaction type does provide the knowledge that this type of interaction by principals with teachers can increase the overall frequency of interactions, hence increasing teacher well-being. The inclusion of specific interaction types within the interaction frequency composite in this study, including: face to face, phone calls, and electronic communications, along with the broad classification of "regular meetings," provides specific application practices for principals to follow knowing the validation of the frequency of interactions between principals and teachers has a positive effect on school outcomes.

An important aspect to consider regarding the significant predictive outcomes from the interaction frequency composite is the lack of significance with the Well-being Elements: Financial and Community. These non-significant findings are important in the respect that they may indicate a need for further investigation to understand the specific nature of the effects of interaction on well-being.

These interaction practices that principals can follow within their leadership approach could be considered "simple" changes, as noted by Thessin (2019), rather than "robust" changes that require a principal to change the way he or she "leads and builds instructional capacity in others (i.e. how he leads and plans professional learning, develops the capacity of administrative team members to lead learning walks)" (p. 472). These simple changes consist of holding regular meetings as often as possible with teachers through face to face interactions, phone calls, and/or electronic communications (e.g. email, instant message, etc.). The interaction frequency measured in this study between a principal and a teacher provides simple changes in managerial tasks that can be adapted by any principal regardless of leadership style. The increase in the number of meetings or interactions can be leveraged in unilateral or bilateral initiation by principals and teachers, catering to any type of leadership style or communication technique. With a unilateral type of communication from principals, the responsibility to consciously initiate more regular interactions through face to face, phone, or electronic mediums would be increased, but it is just as attainable as a bilateral communication approach.

Research Question 2. To what extent does the quality of interaction between a principal and a teacher affect the teacher's well-being?

The interaction quality composite score, calculated from the self-reported quality items to represent the overall quality of interaction between a principal and a teacher and analyzed through a hierarchical regression model, was found to have a significant relationship with the self-reported Overall Well-being of teachers, Well-being Elements: Purpose, Community, Financial, and Social. The effect of the interaction quality between principals and teachers was shown to explain variance above and beyond the interaction frequency and control variables for Overall Well-being at 5% (see Table 5), Well-being Element: Purpose at 14%, Well-being Element: Community at 5%, Well-being Element: Financial at 2%, and Well-being Element: Social at 3% (see Appendix F).

The seven items (see Appendix D) that make up the interaction quality composite (see Appendix Q for IQ7 item response distribution) in this study can be used as a guide for principals to create quality interactions with teachers. Based on the seven items used to calculate the interaction quality composite, higher quality interactions consist of a principal knowing what teachers are working on, assisting teachers in setting work priorities, helping teachers set performance goals, holding teachers accountable for their performance, providing an environment where teachers feel they can ask questions and have discussions with the principal regarding work and non-work related topics, and providing prompt responses within 24 hours to messages and calls.

By focusing on the quality of their interactions with teachers, principals can have an even greater effect on teacher well-being beyond interaction frequency and the demographics included in this study. It is also important to note the Well-being Element:

Community and the Life Evaluation: Present item were not among the significant findings of interaction quality. This finding is cause for future investigation to understand this lack of significance.

Similar to the interaction frequency being a simple change to principals' leadership style they can make to increase teacher well-being, findings from this study demonstrate that leadership adjustments to increase the quality of interactions with teachers are primarily simple changes (Thessin, 2019) as well. These actions include knowing projects and tasks teachers are working on, helping teachers set work priorities, helping teachers set performance goals, holding teachers accountable for their performance, and responding to calls or messages within 24 hours. Knowing the importance of each interaction with a teacher, principals can make a concerted effort to create higher-quality interactions with teachers to improve well-being for all teachers in their school.

However, unlike the interaction frequency items, the interaction quality composite score includes two items that focus on relationships and trust. These sentiments were based on the survey items reflecting teachers feeling they are able to approach their principal with any type of question and talk with their principal about non-work-related issues. Changes in a principal's leadership approach that make teachers feel like they can ask their principal any type of question and have discussions with him or her regarding both work and non-work related topics likely requires a principal to learn to lead differently to create a work environment based more on trust. This aspect of interaction quality is an area in need of further investigation to establish how a principal can create

or foster an environment or relationship for teachers to feel like they have the ability to ask the principal any type of question or talk about non-work related issues.

While the two interaction quality items may need an existing environment of trust for teachers to provide higher scoring responses, there is some research that indicates ways to create and build trust with teachers. According to Tschannes-Moran and Hoy (2000), for trust to exist between two people, one person must be willing to offer vulnerability to the other person, assuming the receiving person holds traits toward the show of vulnerability reflecting positivity, truth, and knowledge. Robertson (2008) posits that through support and collegiality a "coach" can contribute to creating a productive and trusting partnership. Along with Robertson (2013), studies from Huff, Preston, and Goldring (2013) and Wise and Hammack (2011) explain that to establish trust one must be an active listener of responses and body language while providing paraphrasing of responses and clarifying questions.

Another study, by Elma (2013), that explains different leadership styles and managerial tasks being present but relying on interactions, focuses on the three types of organizational justice that principals may apply with teachers. Elma's study found that of all three organizational justice types principals engage in with teachers, interactional justice was the highest significant predictor of teacher job satisfaction and is in line with the current study's outcome of quality of interactions having a predictive positive impact on teachers' well-being. Elma's findings, broken down to the underlying subsets of interactional justice, interpersonal and informational justice (Colquitt, 2011), explain that principals' interactions with teachers are comprised of teachers' perceptions of respect and propriety in treatment (interpersonal justice) and explanations given in terms of

timeliness, specificity, and truthfulness (informational justice). The detailed interpersonal and informational justice explanations from Elma align with the current study's interaction quality composite items, with the IQ7 items having more specific identification of principals' actions within interactions with teachers. Although principals may find it difficult to learn or apply the interactional justice type of organizational justice, this study provides the detail of a quality interaction that can be applied, measured, and refined to assure principals' interactions with teachers are positively impacting teacher well-being.

To relate the findings and suggestions by the referenced studies in this research question section, Harris (2012) provides the explanation that principals need to build a "high degree of reciprocal trust to negotiate successfully the lines of formal and informal leadership practice." This bridge noted by Harris suggests that any leadership style principals use is malleable; principals can step outside of the formal leadership style they embody to create an environment of trust between themselves and the teachers. Although two of the interaction quality items do not explicitly reference simple changes in managerial tasks or communication with teachers, the underlying research that suggests how to create a trusting environment to positively affect these interaction quality items do provide simple changes to follow.

Following the conceptual framework used to guide this study, the seven items used to measure the interaction quality between principals and teachers provides a template for all principals to use. These items can be applied within any individual leadership style to practice and build their interaction quality with teachers, while simultaneously working toward positively impacting teacher well-being. Even if a

principal's leadership style is not as conducive to effectively implement every IQ7 item as others (i.e. direct vs. transformational), the ability to know and measure the feedback of the overall quality composite and individual item outcomes provides principals with a shared knowledge or awareness of their communication and the impact on related outcomes, such as teacher well-being.

Research Question 3. To what extent does the combined measure of frequency and quality of interaction between a principal and teacher affect the teacher's well-being?

After the interaction frequency and quality composite scores were grouped into tertiles labeled High, Medium, and Low within each composite, the tertile groups were combined into three groups of High, Mixed, and Low. The marginal means were compared from the three groups and found the group with both High interaction frequency and quality to have significantly higher means than the Mixed and/or Low groups in six of the seven dependent variables (see Table 7 and Appendix N): Overall Well-being (8% higher and 20% higher, respectively), Well-being Element: Purpose (15% higher and 35% higher, respectively), Well-being Element: Community (28% higher than the Low group), Well-being Element: Physical (7% higher and 14% higher, respectively), Well-being Element: Social (13% higher and 25% higher, respectively), and the Life Evaluation: Present item (7% higher and 12% higher, respectively).

The High group was also found to have significantly higher means than the combined Mixed/Low group (see Table 9 and Appendix O) when comparing the dependent variable means of Overall Well-being (11% higher), Well-being Element: Purpose (19% higher), Well-being Element: Community (10% higher), Well-being

Element: Physical (8% higher), Well-being Element: Social (16%), and the Life Evaluation: Present item (8% higher).

The results of this study's combined interaction frequency and quality analyses on teacher well-being presents the potential impact a principal can have on teacher well-being by maximizing the frequency and quality of each interaction with teachers. By focusing on only one of the two interaction types within this study, a principal will only have a certain amount of impact on their teachers' well-being. However, the findings from the combined interaction types presents the potential impact a principal could have on the overall teacher well-being average across the entire teacher population of their school.

Through the lens of this study showing interactions between principals and teachers as an aspect of principals' leadership styles and managerial tasks, principals can use the findings in this study in any leadership style or managerial task to develop their interactions and have a positive impact on teacher well-being. As noted in the results of the first two research questions, the items within the IF5 and IQ7 composite measures can be used as a gauge for how well a principal is maximizing the interaction frequency and interaction quality with teachers, as well as reference guides for developing their interaction practices to continually have more frequent and higher-quality interactions. Acknowledging the lack of a significant outcome with the Well-being Element: Financial is an important finding, as it creates a need for further understanding as to why it is not affected in a similar way as the other well-being variables. Even though teacher Overall Well-being is significantly affected, understanding there is not a significant impact on every element of a teacher's well-being creates the understanding for a possible need to

supplement some other action or variable to assure each well-being element is positively affected.

Findings from research overviewed in this study have shown different types and aspects of principal leadership styles and managerial tasks to impact teachers and their jobs in different ways. Examples of distributed leadership (Harris, 2012), interactional and procedural justice (Elma, 2013), and transformational leadership (Eyal & Roth, 2011) provide principal leadership styles that cause or create positive outcomes within their schools, but none of the leadership styles provide a precise method for directing principals how to effectively practice and engage in these types of leadership and managerial techniques, which makes it cumbersome for a principal to put the style or task into practice. By understanding that the outcomes of the previously noted leadership and managerial studies all present aspects of principals' interactions with teachers, the findings in this study can be used alongside, or in conjunction with, any of the styles and tasks previously examined to maximize positive outcomes through simple changes in principals' practices (Thessin, 2019). This is specifically the case with respect to their interaction frequency through communication with teachers to increase teacher well-being.

Principals' focusing on increasing either interaction frequency or interaction quality would generate higher teacher well-being. However, the combination of more frequent and higher-quality interactions could have a much higher combined impact on teacher well-being. Regardless of a principal's leadership style or managerial task, knowledge of specific ways to create frequent and high-quality interactions from this

study is an opportunity for all principals to maximize the positive influence they can have on teachers' well-being.

Conclusion and Implications

Principal Interaction – Teacher Well-being Conceptual Framework

The results of this study demonstrate that all the independent variables have significant, positive impact on the dependent variables of teacher well-being. These findings provide a model for a revised conceptual framework (see Figure 2) for how principals can implement the interaction measures and apply the results, while understanding the current impact and potential future growth of their teachers' well-being.

A principal has different options of leadership styles and managerial tasks to apply as a leader based on their natural tendencies and comfort. Within any leadership style or managerial task interactions with teacher's occur, although in different ways based on the style or tasks practiced. From the point of interactions occurring, the results from this study provide a more detailed understanding of how a principal, no matter the leadership style or managerial task, may be impacting teacher well-being. The revised framework displayed in Figure 2 shows the three interaction types studied (frequency, quality, and the combination of frequency and quality) and indicates the relational amount of impact on teacher well-being compared to the other interaction types. Because every leadership style or managerial task may not be conducive to applying one or both types of interaction effectively, this revised framework provides a model that allows for adaptation for best fit within any leadership style or managerial task to focus on one or both interaction types.

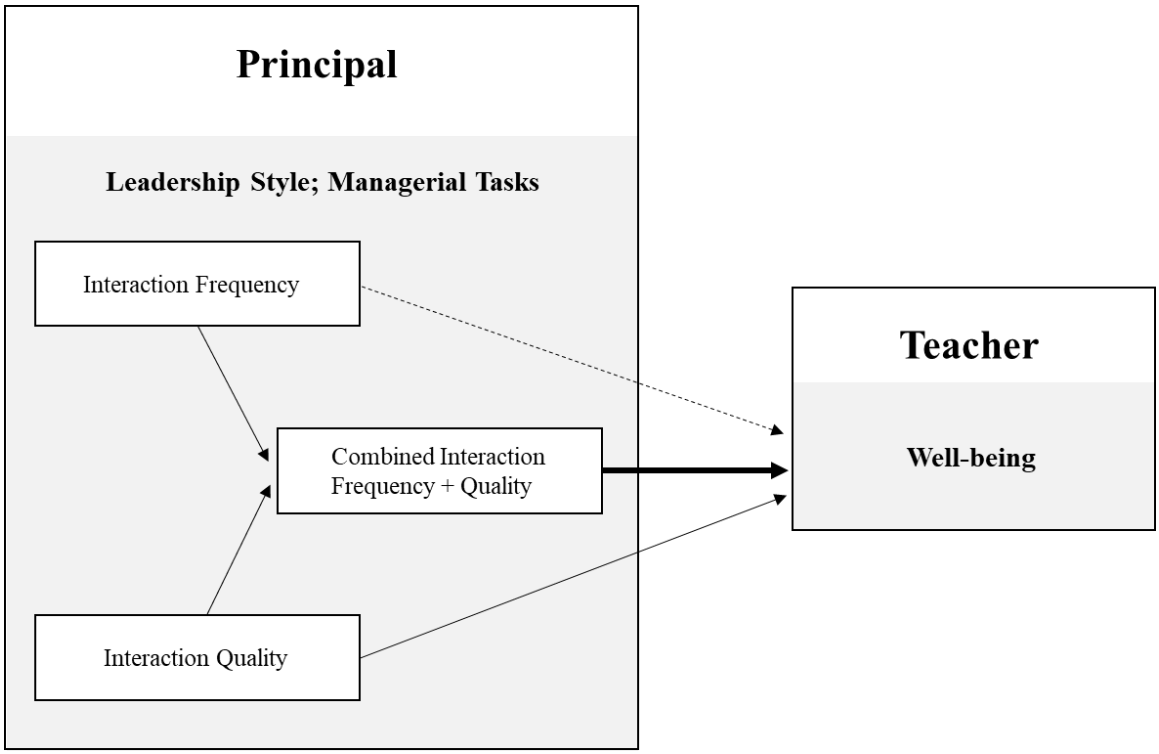
The combined interaction frequency and quality aspect of the framework has both interaction types equally contributing, even though interaction quality was found to have 5% more variance on teacher well-being above and beyond interaction frequency and the control variables. If interaction quality was given a higher weight on the combined interaction analysis, the true outcome of the combined interaction types would not be accurate. The compounded result of the combined interaction type levels explains the expected average teacher well-being score when considering the current or future level of both interaction types versus how much impact a principal could expect when focusing on a singular type. Also, because the combined interaction measure is a result of the independent interaction types' outcomes' levels, not in a combined singular mean or measure, the ability to understand which interaction type may need more focus to attain a higher level of combined interaction is available. By using, comparing, and analyzing the interaction types in this way, the resulting revised framework provides an understanding of the outcomes when either one or both interaction types are measured and maximized by principals.

The revised conceptual framework provides an outline for principals to provide the best outcomes to their teachers, while also outlining the ideal state for principals to work towards. The results of this study show that principals would benefit their teachers most by concentrating on improving their interaction frequency and quality until both are within the highest tertile of each respective interaction type, creating the highest combined interaction frequency and quality outcome. Once that goal has been accomplished, putting primary emphasis on improving interaction quality with teachers would have the most impact on teacher well-being, with a secondary focus on interaction

frequency, would allow principals to maximize teacher well-being and, therefore, any indirect outcomes related to well-being.

Figure 2

Principal Interaction – Teacher Well-being Conceptual Framework



Note. The lines within the framework provide reference to the amount of influence each has on the end point. The dashed line indicates lowest variance of interaction on well-being, the thin solid line indicates a moderate variance, and the thick solid line indicates the most variance.

Starting with the individual IF5 and IQ7 composite scores and items, the composites and items can be used to assess current and continuous effectiveness of interactions by a principal to find areas of strengths and opportunities for growth. These results can provide a source of reflection for principals based on direct feedback from their teachers to identify the effectiveness of their interactions and address how to improve. By leveraging the IF5 and IQ7 composites individually, principals can also understand how much of an effect they are having on their teachers' well-being through

their interactions and the potential impact they can have by increasing the individual interaction frequency or quality composite scores.

The results of the combined measure of interaction frequency and quality provide principals with the ability to identify the current state of their potential impact on teachers' well-being, as well as the most efficient path to increase teacher well-being based on their interactions. For example, if a principal falls in the High interaction quality tertile based on the tertile cutoffs in this study, and the Medium tertile of the interaction frequency scores, the principal has the potential to increase teachers' Overall Well-being by 8% (explained by comparing marginal means of the Mixed interaction group to the High interaction group), compared to focusing on only increasing interaction frequency or interaction quality; this singular approach would result in potentially increasing teacher Overall Well-being by 2% or 5%, respectively.

Implications of Results for Practice

The results from this study indicate the emphasis on interaction practices of principals with teachers is essential to increase teacher well-being. With the frequency and quality of interactions of principals with teachers predicting the variance of teachers' well-being, how and when a principal interacts with teachers is an important area to emphasize within principal management and leadership practices. Through a more intentional focus and application of engaging in higher frequency and higher-quality interactions with teachers, a principal can continually improve the interaction quality with teachers, while intentionally setting and finding more opportunities for formal meetings and informal interactions with teachers. The primarily simple change in managerial and leadership practices to have more interactions with teachers while utilizing the interaction

quality items in this study can lead to a better understanding and knowledge of teachers' current work and personal goals, performance, hurdles, and perspectives. By gaining a better understanding of their teachers during each interaction, principals can create higher-quality interactions of every subsequent interaction by using each interaction to gain more knowledge of each teacher to apply during every subsequent interaction. This cycle of having an interaction, obtaining information from the interaction, and using the obtained information to have a higher-quality next interaction creates the opportunity for principals to always maintain or increase high positive well-being for every teacher throughout their schools.

Leveraging the outcomes and recommendations of this study to increase the frequency and quality of interactions with teachers, a principal can increase teachers' well-being, causing a ripple effect for broader school outcomes that are affected by teacher well-being. The well-being measure confirmation study conducted by Sears et al. (2014), along with outcomes from Rath and Harter (2010), indicate that increased teacher well-being positively impacts teachers' job performance, work absences, and healthcare-related incidences. These outcomes all relate, directly or indirectly, to a school's performance criteria used to measure schools' and the education system's success and financial budget. The impact of well-being on a person's life and job provides the opportunity for schools, specifically the principal, to increase positive outcomes and decrease negative outcomes within his or her school.

Teacher Job Performance

Job performance is one aspect of a person's life affected by their well-being (Rath & Harter, 2010; Sears et al., 2014). When a teacher's job performance is compromised it

has effects that span outcomes of students, their school, their principal (whose performance can be tied to the school's), and the district, as the school's outcomes are included in the district's aggregated outcomes. An example of teacher job performance affecting student outcomes can be found in results from Gershenson (2016) explaining effective teachers have a positive and lasting impact on student absences over time. Along with increasing student attendance, teachers have also been found to significantly impact student achievement during the current school year as well as the proceeding two years (Kane & Staiger, 2008). By promoting higher teacher well-being through more frequent and higher-quality interactions with teachers, principals can influence teachers' job performance, creating an indirect impact on student attendance and academic achievement in the immediate and future school years.

Because teachers' job performance affects student behavioral and academic outcomes now and years into the future, combined with knowing that teacher well-being is a predictor of job performance, the results of this study provide principals with an indirect but significant ability to positively affect student behavioral and academic outcomes through their interactions with teachers.

Teacher Absences

Each time a teacher is absent from work, a substitute teacher must fill in. The effects of a teacher being absent and a substitute teacher filling in can have negative effects on students, as well as the school budget. When a teacher is absent from work, the impact on student achievement spans to school performance criteria. When students are taught by a substitute teacher, their learning and academic growth may be impacted. There has been little research done regarding substitute teacher impact on student

academic achievement, but current research has found students with a teacher who is absent at least 10 days equates to lower average mathematics achievement (Clotfelter, Ladd, & Vigdor, 2007; Miller, Murnane, & Willett, 2008). By providing evidence on how to potentially decrease the number of days students have a substitute in their classroom and increase time with their full-time teacher, the ability to intentionally help students gain learning and increased academic achievement can be achieved indirectly by principals.

When considering the financial impacts of teacher absences, substitute teachers are commonly paid on a per day basis, but the daily total varies widely across states and districts, which makes generalizing the potential cost savings difficult, but impactful. In addition to substitute pay, well-being was also found to be related to prior hospitalization (Sears et al., 2014). Assuming the correlation trend would hold true over time, boosting teachers' well-being would reduce the overall number of teacher health-related issues and absences, potentially the former causing the latter in cases. Concomitantly, improving teachers' well-being would reduce districts' overall healthcare costs.

The likely budget savings created from increased teacher well-being could be allocated to higher teacher salaries, additional resources for teachers or students, or additional employees to provide student or staff assistance. By using the aggregated cost savings from less substitute pay due to fewer teacher absences, there is an opportunity to compound the positive effect of increased teacher well-being. Applying the financial savings to interventions designed to create a better working environment or improve morale to decrease teacher absences and increase retention would enhance the positive

effects on teachers and students alike. These outcomes would further compound to enhance school and district performance outcomes.

The results of this study provide evidence that teacher absences and the subsequent negative effects can be mitigated through a principal's interactions with teachers and the effect on teachers' well-being. Previous research has found well-being to be directly related to job absenteeism (Rath & Harter, 2010; Sears et al., 2014), including specifically with teachers (Lyubomirsky, King, & Diener, 2005). By increasing teacher well-being through interactions, principals can directly affect decreasing absent days of work from teachers, thereby increasing the number of days students do not have a substitute. Also, positively impacting a teacher's well-being can decrease the number of absences by teachers due to hospitalization (when considering high well-being is correlated to prior hospitalization according to Sears et al. (2014), consistent high well-being will lead to less hospitalization over time). The longitudinal effect of increased frequency and quality of principal interactions with teachers, and the ensuing impact on teacher well-being provides an immediate and future impact for our teachers, students, and schools.

Along with directly decreasing teacher absences through well-being and indirectly due to healthcare instances such as hospitalization, teacher well-being has also been directly and indirectly related to burnout (Eyal & Roth, 2011; Jones & Young, 2012; Milfont, Denny, Ameratunga, Robinson, & Merry, 2008; Ragnarsdóttir and Jóhannesson, 2014; Turner, Zanker, & Braine, 2012). Teacher burnout is another factor that can be directly decreased by principals through interactions with teachers, hence decreasing teacher absenteeism and potentially keeping teachers from ultimately quitting their job.

The current study's findings support the importance of a principal's role within a school, specifically with respect to teachers and teacher well-being, job performance, absenteeism, and student outcomes. By following the practices outlined in this study on ways principals can maximize the frequency and increase the quality of every interaction with teachers, principals can directly and indirectly have a positive impact on teachers' well-being throughout the school. Also, by focusing on increasing interaction frequency and quality with teachers, principals can enhance the school environment through higher teacher well-being. In addition to a principal's interactions directly impacting teacher well-being, research by Rath and Harter (2010) explains the contagious nature of people's well-being with others, creating the potential for the impact of a principal's interactions with a teacher spreading schoolwide, indirectly by the teachers. Because teachers' and students' well-being is directly affected by interactions with other teachers, after teachers' well-being is impacted by interactions with principals, the contagious nature of increased well-being will have an accelerated impact on teacher well-being throughout the school, underscoring the importance of emphasizing a principal's interaction practices. The potential positive effects of a principal's interactions with teachers on teachers' well-being positions principals' interactions with teachers as a high priority within principal leadership and managerial practices, following the refined conceptual framework stemming from the results of this study.

Limitations

In addition to the limitations stated in Chapter 3, the identification of job type was self-reported and did not specifically clarify the grade level or school level taught. The self-reported job type prevents complete confidence that the sample in the analysis

consists only of K-12 classroom teachers; thus, caution is urged when attempting to generalize results across all K-12 teachers. Also, the lack of school demographics (i.e. level, location, locality), additional principal demographics (e.g. age, race/ethnicity, tenure in role, etc.) and additional teacher demographics (e.g. subject taught, highest education level attained, average class size, etc.) adds to the generalization issue. A last issue that limits generalization of this study's findings is the inability to identify the leadership style being applied by the principals of the teachers reporting the interactions. The lack of leadership style identification may be reason to caution the use of the findings across all leadership styles as an abundance of one type of style within the sample studied would limit application of results across all leadership styles.

Even though past research has identified the role of school principal as a teacher's manager, there could be confusion or a lack of consistency across all teachers identifying their school's principal as the person considered as their manager. This could lead to responses from teachers on the workplace survey in this study not reflecting on a principal's interactions with the teacher, but another person whom they considered as their manager. Clarification of the items pertaining to interactions with the principal would remove any potential confusion or misalignment of responses.

The grouping of survey items to create the composite scores of interaction quality was a subjective choice by the researcher based on the survey items available and could be suggested as having a researcher bias. However, this possible limitation also provides further validity to the current study as the outcomes provide insight into the impact the items within the interaction frequency and quality composites have on teacher well-being.

The reliability of the interaction frequency was below the preferred threshold of 0.7, although only by 0.05. The reliability of the makeup of this composite could be improved through additional or adjusted items to assure a more dependable score when measuring the interactions between principals and teachers through a self-reported set of items.

These limitations outline areas to consider when interpreting the results of this study, as well as provide considerations to account for in future studies.

Recommendations for Future Research

The research focused on a principal's direct impact on teacher well-being is sparse. When condensing that research further to focus on principal interactions with a teacher and the effect those interactions have on the teacher's well-being, it is clear that additional research is needed to better understand generalizability and circumstantial application of principals' interaction practices to maximize the impact on teacher well-being.

Findings from the current study suggest that researchers should consider adding more detailed demographic data collection to increase the generalizability of the current study. Specifically, researchers could isolate a teacher's school type, school locality, grade level, tenure, and other variables to assure a detailed nationally representative sample is studied. To add to the generalization of research findings, future research should include conducting a longitudinal study over multiple administrations to account for any possible external effects of specific points in time that would increase the validity of predictive results. This type of study would assist in ensuring that impact of the interactions on well-being was not low or high due to situations such as residual

excitement from the beginning or ending of the school year, upcoming breaks in the school year (winter or spring break), seasonal effects on well-being, adjustments to new policies, or a new semester and students.

Along with having a larger teacher sample encompassing more demographic types and longitudinal or test-retest studies, research should be conducted with samples of teachers within the same school(s) to further account for possible effects of school climate and school population demographics. This type of study would also allow for including assistant principals when school size may not allow for the single principal to act as the manager for every teacher.

In addition to controlling for more demographic and locality variables, identifying different leadership styles would provide the ability to understand which styles may be more natural conduits for creating a trusting relationship with teachers as well as increased interactions. Utilizing past research to identify the type of leadership style a principal uses would provide the ability to both analyze the effects of each style as well as control for the effects.

A researcher should also add to the analysis of future studies by focusing on specific items to provide recommendations on how to maximize interaction effects in any type of interaction situation a principal may experience (i.e. conflict resolution, new teacher onboarding, developmental review, informal conversation). Expanding to include an item-level analysis would provide more specific suggestions on best practices for principals regarding which types of interactions (face to face, email, phone, etc.) have larger effects considering frequency. An item-level analysis would also expose how different types of interactions are influenced by the quality of the interaction to maximize

the effect on teacher well-being. An item-level analysis would also enable researchers to refine the frequency and quality composite scores to improve interaction measurements, and consequentially, improve the study of a principal's interactions with teachers and their effects on teacher well-being.

Although this study found a positive predictive relationship between interaction frequency of principals with teachers and teacher well-being, a more detailed understanding of any limits to how much interaction is effective may be needed. The possibility of teachers being overwhelmed by too much interaction by the principal, either positive or negative, is enough cause for further investigation to identify the appropriate levels of interaction frequency to maximize teacher well-being.

A last future consideration is the potential of a new learning environment being instituted due to the current COVID-19 pandemic or similar instances causing work environment disruptions in the future. The adaptations being made within school systems to accommodate the need for physical distancing due to the current pandemic have caused a change from nearly entirely traditional classroom learning to either the combination of remote (online) learning and traditional classroom learning or, in some cases, entirely remote learning. This recent change in the school environment will not only impact how students and teachers interact, but also how interactions will occur between principals and teachers. Given the potential for extenuating circumstances to quickly alter how principals and teachers interact, additional research could expand interaction frequency response options to include all current interaction mediums principals and teachers might engage in and provide each type of interaction as a separate response option rather than aggregate into broader groups (i.e. electronic

communications). Identifying a broader range of principal interaction types with teachers would also provide the ability to identify specific differences in the impact of interaction types and isolate the most productive way for principals to positively affect teacher well-being.

Final Reflections

This study provided continued support for the importance of a principal's role within a school, while adding to the limited body of literature available for measuring principal interactions. This study also created new emphasis for specific principal practices pertaining to interactions with teachers to improve teacher well-being. Instead of adding to vague and non-prescriptive frameworks for how principals should lead a school or manage their teachers to create positive results, this study's results and interaction measurement items provide specific reference for direct practices principals can confidently implement to intentionally increase teachers' well-being. Unlike management and leadership styles suggested by previous studies, including organizational justice types of procedural, interactional, and distributive (Elma, 2013), distributed leadership (Harris, 2012), and transformational and transactional leadership (Eyal & Roth, 2011), this study's results allow for any principal to use any leadership style, as long as he or she is increasing interactions with teachers and assuring those interactions are high quality by referencing the five interaction frequency items (see Appendix C) and seven quality items (see Appendix D) analyzed within this study.

Despite the far-reaching effects of the COVID-19 pandemic on the current education system and environment, the results of this study provide reason for optimism of the positive outcomes principals can still have with teachers in a virtual or hybrid

teaching and learning environment. Considering the interaction frequency composite included interactions that do not require a physical presence to achieve, the ability for principals to still measure and intentionally increase their interaction frequency and quality pertaining to this study remain and are likely even more important.

Another impact of this current pandemic on the educational environment is the removal of the more personal nature of in-person interactions. Although this study did not investigate the impact of completely removing the ability to have physical interactions, this study did provide a supporting outcome for the effect a principal can have on teacher well-being without in-person interactions through their interaction quality. The quality of an interaction, whether it is face-to-face, on the phone, or through an electronic communication stands above the interaction frequency type as more influential on teacher well-being. Knowing the interaction quality items within this study did not include references to physical presence, but rather the timing, substance, and trust behind the interaction, supports the importance and significance of the interaction quality, regardless of the physical or virtual environment.

The added importance of this study's results is reflected in the criterion of well-being used when studying principal and teacher interactions. Due to the breadth of impact and contagious nature of well-being, incorporating teacher well-being as a primary focus of what a principal should intentionally try to positively impact would improve current performance measure outcomes, teacher outcomes, and overall school outcomes.

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Appendices

Appendix A

Table A1

Reference Summary Table

General Organizational Structure	
1. Managers in schools	Equivalent of the managerial role in a school is the principal (Baglibel, Samancioglu, Ozmantar, & Hall, 2014; Grissom & Loeb, 2014; Gordon, 2013; Gordon, 2004a; Gordon, 2004b; Price, 2014; Ringler, O'Neal, Rawls, & Cumiskey, 2013; Torff & Sessions, 2009).
2. Principals	Effects the school environment (Harris, 2012; Sorenson, 2013).
	School leadership is cause of about 25% of variation on student learning (Creemers & Reezigt, 1996).
	Displaying high emotional intelligence relates to employees having increased enthusiasm, optimism, and reduced frustration, indirectly improving performance (McColl-Kennedy & Anderson, 2002).
	Organizational theory of the enterprise workplace is similar to the school organization, with similar outcomes, with the principal in the supervisor role and teacher in the subordinate role (Price, 2012).
Well-being	
1. Parameters	Defined as "how we think about and experience our lives" (Lopez, Agrawal, & Calderon, 2010).
	Well-being is malleable (Sin & Lyubomirsky, 2009; Suldo, Huebner, Michalowski, & Thalji, in press).
	Occupational well-being is a single concept consisting of five dimensions or various states (professional, social, affective, cognitive, and psychodynamic) (Van Horn, Taris, Schaufeli, & Schreurs, 2004).
	'Subjective well-being' is thought of as being interested in "why individuals evaluate their lives in a positive way " (Diener, 1984).
2. Effects on Well-being	Positive interventions relate to higher well-being of individuals (Sin & Lyubomirsky, 2009).
3. Effects of Well-being	Well-being strongly predicts overall life evaluation, daily experiences, employee engagement, and turnover intentions. While slightly predicting unhealthy days, sleep disorders, anxiety/depression, and diabetes (Harter & Agrawal, 2012).
Employee Well-being	
1. Effects on Employee Well-being	One of largest impacts on employee well-being is the manager (Gallup, 2012a; Gallup, 2012b; O'Boyle & Harter, 2014).

	Interactions with (or not with) others, which could include a manager, effects a person's well-being (Price, 2012; Rath & Harter, 2010).
2. Effects of Employee Well-being	Effects an organization's budget, production, and climate (Beck & Harter, 2014; Gallup, 2012b; Rath & Harter, 2010; Robison, 2013a; Robison, 2013b; Sorenson, 2013).
	Individuals high in subjective well-being were evaluated more positively, demonstrated superior performance and productivity, handled managerial jobs better, and were less likely to exhibit counterproductive workplace behavior or experience job burnout (Lyubomirsky, King, & Diener, 2005).
	Happiness (subjective well-being) precedes and may cause workplace success (Boehm & Lyubomirsky, 2008).
	Teacher Well-being
1. Effects on Teacher Well-being	The school administrator and stress affect teacher well-being (Cenkseven-Onder & Sari, 2009).
	Principals setting achievement-oriented goals for teachers (Parker, Martin, Colmar, & Liem, 2012).
	Classroom acoustics and self-reported noise exposure (Kristianse, Persson, Lund, Shibuya, & Nielsen, 2013).
	Teachers' subjective well-being was predicted by certain sub-scales of the Quality of School Life Scale, including "Administrator." While the cognitive aspect, or life satisfaction levels, significantly predicted by 'status', 'coping work-related stress,' and 'school administrator' (Cenkseven-Onder & Sari, 2009).
	Tiredness and exhaustion (Jones & Young, 2012; Turner, Zanker, & Braine, 2012).
	"Significantly longer working days, increased pressure, workload and stress among teachers" resulted in "lower job satisfaction and less opportunity to serve students with special education needs," — inferred implications on teacher well-being (Ragnarsdóttir & Jóhannesson, 2014).
	Coping strategies of mastery orientation positively predicted buoyancy, while disengagement and failure avoidance negatively predicted buoyancy. Buoyancy was a strong predictor of work-related engagement and well-being (Parker & Martin, 2009).
	Goal orientation and coping, with findings suggesting principals need to set achievement-oriented goals for teachers (Martin, Colmar, & Liem, 2012).
	Social support has beneficial effects on individuals' well-being (Matthiesen, Aasen, Holst, Wie, & Einarsen, 2003).
	Positive correlation to years of teaching experience and self-perceived as leading and helpful/friendly. Negative relationship when self-perceiving her/his interpersonal behavior as submission-opposition (Van Petegem, Creemers, Rossel, & Aelterman, 2005).
2. Effects of Teacher Well-being	Teacher burnout (Milfont, Denny, Ameratunga, Robinson, & Merry, 2008).

	"Increased levels of self-efficiency and positive determination; decreased levels of pessimism in confidence about problem solving, irritation and annoyance occurring in difficult situations" and more positive behaviors and behave in rational ways, with inadequate approaches to solving problems are seen less (Yiğit, 2013).
	Higher subjective well-being linked to teacher enthusiasm (Kunter, Frenzel, Nagy, Baumert, & Pekrun, 2011).
	Teacher enthusiasm leads to better work performance, which is reflected by better student achievement and motivational development (Long & Hay, 2006).
3. Parameters of Teacher Well-being	Teachers have a lower perceived difference in control and well-being, while having a higher emphasis on connections with others than non-teachers (Grenville-Cleave & Boniwell, 2012).
	Source of human well-being is meaningful work, lending to the importance of teachers' work focusing on the outcomes of students (Ylitapio-Mantyla, Uusiautti, & Maatta, 2012).
	'Occupational well-being' consists of four categories: "working community's positive atmosphere, motivation for work and the quality of working conditions, professional abilities and adequate education, and private life conditions" (Saaranen, Tossavaine, Turunen, & Vertio, 2006).
	Components of teacher well-being: exhaustion, work engagement, coworkers' support, job satisfaction, mental health, work-family conflict, and motivation (Simbula, 2010).
	Student Well-being
1. Effects of Student Well-being	Students' work avoidance goal is negatively related to positive affect index of well-being (King & McInerney, 2014).
2. Effects on Student Well-being	Relationship of social support from teachers, parents, peers, etc. contribute to achievement and well-being (King & McInerney, 2014).
	Principal-Teacher Interaction
1. Defined	Existence of different interaction frequencies and quality, leading to categorization of interaction types (Mangin, 2007).
2. Importance of Principal-Teacher Interaction	Teachers indicate that successful teacher evaluation processes include: 1. Interactions between principal and educator, 2. Consistent evaluations, 3. Principal commitment to effective professional evaluation, and 4. Principal knowledge in pedagogy, content, and evaluation (Zimmerman & Deckert-Pelton, 2003).
3. Effects of Principal-Teacher Interaction	People, mentors, interdisciplinary teams, and administrators have more positive influence on teacher induction than activities, professional development, and orientation (Bickmore & Bickmore, 2010).
	"Effective" schools have more and longer principal-teacher interactions than "ordinary" schools (Reitzug, 1989).

	When shared leadership and professional communities are present, teachers' self-efficacy strongly predicted focused instruction (Wahlstrom & Louis, 2008).
	Distributed leadership has potential for positive effects on teacher and student outcomes (Harris, 2012).
	More direct interaction and teamwork encouragement with beginning teachers generates more positive impact for teachers' experiences and professional development (Youngs, 2007).
	School/departmental leadership, supportive colleagues, and family, respectively, cause teachers to report a 'positive sense' of agency, resilience, and commitment (Day & Kington, 2008).
	Teachers' job satisfaction dimensions were positively significant between all organizational justice types (Elma, 2013).
	Teachers' perceptions of students' disruptive and school principal's leadership behaviors are related to changes in self-efficacy. Self-efficacy outcomes were negatively predictive of burnout components: emotional exhaustion, depersonalization, and personal accomplishment (Fernet, Guay, Senécal, & Austin, 2012).
	Quality of interactions with mentors or meetings with the principal were strong predictors of teachers' self-efficacy and feelings of depression, while frequency did not (Devos, Dupriez, & Paquay, 2012).
	Principals' leadership styles are significant to teachers' motivation and well-being. Specifically, transformational leadership negatively correlated to burnout and a positive correlation to autonomous motivation (Eyal & Roth, 2011).

Appendix B

Table B1

Survey Respondent Self-Select Job Options

0101	Architecture or engineering
0100	Architect
0110	Draftsman
0120	Engineer
0130	Surveyor
0199	Other architecture or engineering
0201	Arts, design, entertainment, and media
0200	Actor
0205	Artist
0210	Broadcaster, broadcast technician
0215	Designer
0220	Director, producer
0225	Musician, singer
0230	Photographer
0235	Writer
0299	Other arts, design, entertainment, and media
0301	Clerical or office worker
0300	Administrative assistant/secretary
0310	Bank clerk
0320	Computer operator, data entry
0330	Postal clerk
0340	Telephone operator
0399	Other clerical or office worker
0401	Community and social services
0400	Clergy
0410	Mental health/substance abuse counselor
0420	Probation officer
0430	Social worker
0440	Therapist
0499	Other community and social services
0501	Computer and mathematical
0500	Actuary, mathematician, statistician
0510	Computer programmer
0520	Software engineer, database or network administrator
0599	Other computer or mathematical
0601	Construction or mining worker
0600	Carpenter
0610	Electrician
0620	Miner
0630	Plumber

0699 Other construction or mining worker
0701 Education, training, and library
0700 Librarian
0710 Professor
0720 Teacher (any level)
0730 Teacher's assistant
0799 Other education, training, and library
0801 Farming, fishing, or forestry worker
0800 Farmer, farm worker
0810 Fisherman, deck hand on fishing boat
0820 Lumberjack, forest management
0899 Other farming, fishing, or forestry worker
1901 Financial, insurance, real estate, or consulting
1900 Accountant/CPA
1910 Auditor
1920 Consultant/analyst
1930 Financial advisor
1940 Insurance
1950 Real estate/appraiser
1999 Other financial, insurance, real estate, or consulting
0901 Healthcare
0900 Medical assistant or aide
0905 Medical technician
0910 Nurse
0915 Pharmacist
0920 Physical therapist
0925 Physician
0930 Physician Assistant
0935 Veterinarian
0999 Other healthcare
1001 Installation, maintenance, or repair worker
1000 Garage mechanic
1010 Linesman
1099 Other installation, maintenance, or repair worker
1101 Legal
1100 Court reporter
1110 Judge
1120 Law clerk
1130 Lawyer
1140 Title examiner
1199 Other legal
1201 Life, physical, and social sciences
1200 Biochemist, chemist
1210 Geographer
1220 Physicist
1230 Political scientist

1240 Scientist
1250 Sociologist
1299 Other life, physical, social sciences
1301 Manager, executive, or official
1300 Manager, executive, or official for a business
1310 Manager, executive, or official for a government agency
1399 Other manager, executive, or official
1401 Manufacturing or production worker
1400 Garment or furniture manufacturing
1410 Non-restaurant food preparation (baker)
1420 Printer, print shop worker
1430 Worker in a factory
1499 Other manufacturing or production
2001 Military
2100 Enlisted
2200 Officer
2300 Civilian personnel
2999 Other military personnel
1501 Sales worker
1500 Clerk in a store
1510 Door-to-door salesperson
1520 Manufacturer's representative
1530 Sales associate
1599 Other sales worker
1601 Service worker
1600 Attendant
1610 Barber or beautician
1620 Fast-food worker
1630 Firefighter, police officer
1640 Janitorial
1650 Landscaping
1660 Maid or housekeeper
1670 Personal care worker
1680 Waiter or waitress
1699 Other service worker
1701 Small business owner
1700 Small business owner
1801 Transportation worker
1800 Driver (bus, truck, taxi)
1810 Flight attendant
1820 Pilot
1830 Postal carrier
1899 Other transportation worker
0011 Other job category
0001 Other occupation

Appendix C

Interaction Frequency Composite Items and Response Options

1. Does you manager hold regular meetings with you?
   1 Yes
   2 No
   7 Does not apply

2. Generally, how often are your regular meetings with your manager?
   1 Daily
   2 Weekly
   3 Biweekly
   4 Monthly
   5 Less than monthly
   6 At least twice per year
   7 Once per year or less often

3. Generally, how often do you talk with your manager: Face to face
   1 Daily
   2 Weekly
   3 Biweekly
   4 Monthly
   5 Less than monthly

4. Generally, how often do you talk with your manager: By phone
   1 Daily
   2 Weekly
   3 Biweekly
   4 Monthly
   5 Less than monthly

5. Generally, how often do you talk with your manager: Through email, instant message, or any other form of digital communication
   1 Daily
   2 Weekly
   3 Biweekly
   4 Monthly
   5 Less than monthly

Appendix D

Interaction Quality Composite Items and Response Options

Please indicate your level of agreement with each of the following items about your manager:

1. My manager knows what projects or tasks I am working on
2. My manager helps me set work priorities
3. My manager helps me set performance goals
4. My manager holds me accountable for performance
5. I feel I can approach my manager with any type of question
6. I can talk with my manager about non-work related issues
7. My manager responds to my calls or messages within 24 hours

All seven items had Likert scale response options from 1 = Strongly Disagree to 5 = Strongly Agree. An option of "Don't know/Does not apply" was also available.

1	Strongly disagree
2	
3	
4	
5	Strongly agree
8	Don't know/Does not apply

Appendix E

Table E1

Demographic Variable Totals and Percentages

Variable	Response	*N*	*%*
Gender	FEMALE	255	61.4%
	MALE	160	38.6%
Ages 18-39	NO	324	78.1%
	YES	91	21.9%
Ages 40-59	NO	204	49.2%
	YES	211	50.8%
Ages 60-89	NO	302	72.8%
	YES	113	27.2%
Income	Under $15,000	2	0.6%
	$15,000 to $25,000	5	1.4%
	$25,000 to $34,999	15	4.2%
	$35,000 to $49,999	36	10.0%
	$50,000 to $74,999	86	23.8%
	$75,000 to $99,999	94	26.0%
	$100,000 to $149,999	88	24.4%
	$150,000 to $199,999	22	6.1%
	$200,000 or more	13	3.6%
Marital Status - Single or Never Married	NO	320	86.0%
	YES	52	14.0%
Marital Status - Married or Living with a Partner	NO	86	23.1%
	YES	286	76.9%
Marital Status - Separated, Divorced, or Widowed	NO	338	90.9%
	YES	34	9.1%
For how many years have you worked with your current employer?	0.5	25	6.1%
	1	9	2.2%
	2	14	3.4%
	3	13	3.2%
	4	9	2.2%
	5	22	5.3%
	6	19	4.6%
	7	18	4.4%
	8	17	4.1%
	9	19	4.6%
	10	18	4.4%
	11	8	1.9%
	12	18	4.4%
	13	15	3.6%
	14	10	2.4%

	15	18	4.4%
	16	13	3.2%
	17	15	3.6%
	18	10	2.4%
	19	10	2.4%
	20	14	3.4%
	21	11	2.7%
	22	9	2.2%
	23	3	0.7%
	24	6	1.5%
	25	13	3.2%
	26	5	1.2%
	27	5	1.2%
	28	8	1.9%
	29	4	1.0%
	30	6	1.5%
	31	4	1.0%
	32	4	1.0%
	33	1	0.2%
	35	3	0.7%
	38	2	0.5%
	39	1	0.2%
	40	2	0.5%
	41	1	0.2%
	42	1	0.2%
	43	2	0.5%
	44	1	0.2%
	45	2	0.5%
	47	1	0.2%
	50	1	0.2%
	57	1	0.2%
	59	1	0.2%
For how many years have you worked with your current manager or immediate supervisor?	0.5	91	23.0%
	1	40	10.1%
	2	64	16.2%
	3	48	12.2%
	4	38	9.6%
	5	27	6.8%
	6	14	3.5%
	7	10	2.5%
	8	14	3.5%
	9	8	2.0%
	10	15	3.8%
	11	4	1.0%
	12	2	0.5%
	13	4	1.0%
	14	2	0.5%
	15	2	0.5%
	16	1	0.3%
	17	2	0.5%
	20	4	1.0%

	25	2	0.5%
	28	2	0.5%
	35	1	0.3%
Is your immediate supervisor a male or a female?	FEMALE	234	57.2%
	MALE	175	42.8%
Race/Ethnicity – White/Not-White	NOT-WHITE	50	12.2%
	WHITE	359	87.8%

Note. *N* = valid responses in demographic item; % displayed were calculated from number of valid responses within item

Appendix F

Table F1

Model Summary for the Well-being Element: Purpose Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.205a	.042	.010	1.82939	.042	1.300	10	297	.230
2	.262b	.069	.034	1.80677	.027	8.483	1	296	.004
3	.454c	.206	.174	1.67068	.138	51.187	1	295	.000

[a] Predictors: (Constant), Race/Ethnicity - White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status - Separated, Divorced, or Widowed, Ages 60-89, Marital Status - Single or Never Married, For how many years have you worked with your current employer?, Income. [b] Predictors: (Constant), Race/Ethnicity - White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status - Separated, Divorced, or Widowed, Ages 60-89, Marital Status - Single or Never Married, For how many years have you worked with your current employer?, Income, IF5. [c] Predictors: (Constant), Race/Ethnicity - White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status - Separated, Divorced, or Widowed, Ages 60-89, Marital Status - Single or Never Married, For how many years have you worked with your current employer?, Income, IF5, IQ7

Table F2

Model Summary for the Well-being Element: Financial Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.397a	.158	.129	2.38002	.158	5.561	10	297	.000
2	.398b	.158	.127	2.38363	.000	0.102	1	296	.750
3	.423c	.179	.146	2.35765	.021	7.558	1	295	.006

[a] Predictors: (Constant), Race/Ethnicity - White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status - Separated, Divorced, or Widowed, Ages 60-89, Marital Status - Single or Never Married, For how many years have you worked with your current employer?, Income. [b] Predictors: (Constant), Race/Ethnicity - White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status - Separated, Divorced, or Widowed, Ages 60-89, Marital Status - Single or Never Married, For how many years have you worked with your current employer?, Income, IF5. [c] Predictors: (Constant), Race/Ethnicity - White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status - Separated, Divorced, or Widowed, Ages 60-89, Marital Status - Single or Never Married, For how many years have you worked with your current employer?, Income, IF5, IQ7

Table F3

Model Summary for the Well-being Element: Community Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.222a	.049	.017	2.06784	.049	1.536	10	297	.126
2	.234b	.055	.019	2.06542	.005	1.698	1	296	.194
3	.318c	.101	.065	2.01741	.046	15.256	1	295	.000

[a] Predictors: (Constant), Race/Ethnicity - White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status - Separated, Divorced, or Widowed, Ages 60-89, Marital Status - Single or Never Married, For how many years have you worked with your current employer?, Income. [b] Predictors: (Constant), Race/Ethnicity - White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status - Separated, Divorced, or Widowed, Ages 60-89, Marital Status - Single or Never Married, For how many years have you worked with your current employer?, Income, IF5. [c] Predictors: (Constant), Race/Ethnicity - White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status - Separated, Divorced, or Widowed, Ages 60-89, Marital Status - Single or Never Married, For how many years have you worked with your current employer?, Income, IF5, IQ7

Table F4

Model Summary for the Well-being Element: Physical Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.204a	.042	.009	1.44510	.042	1.285	10	296	.238
2	.250b	.063	.028	1.43156	.021	6.624	1	295	.011
3	.260c	.068	.030	1.43004	.005	1.630	1	294	.203

[a] Predictors: (Constant), Race/Ethnicity - White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status - Separated, Divorced, or Widowed, Ages 60-89, Marital Status - Single or Never Married, For how many years have you worked with your current employer?, Income. [b] Predictors: (Constant), Race/Ethnicity - White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status - Separated, Divorced, or Widowed, Ages 60-89, Marital Status - Single or Never Married, For how many years have you worked with your current employer?, Income, IF5. [c] Predictors: (Constant), Race/Ethnicity - White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status - Separated, Divorced, or Widowed, Ages 60-89, Marital Status - Single or Never Married, For how many years have you worked with your current employer?, Income, IF5, IQ7

Table F5

Model Summary for the Well-being Element: Social Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.310a	.096	.065	1.91660	.096	3.151	10	297	.001
2	.328b	.108	.075	1.90721	.012	3.932	1	296	.048
3	.372c	.139	.104	1.87711	.031	10.566	1	295	.001

[a] Predictors: (Constant), Race/Ethnicity - White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status - Separated, Divorced, or Widowed, Ages 60-89, Marital Status - Single or Never Married, For how many years have you worked with your current employer?, Income. [b] Predictors: (Constant), Race/Ethnicity - White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status - Separated, Divorced, or Widowed, Ages 60-89, Marital Status - Single or Never Married, For how many years have you worked with your current employer?, Income, IF5. [c] Predictors: (Constant), Race/Ethnicity - White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status - Separated, Divorced, or Widowed, Ages 60-89, Marital Status - Single or Never Married, For how many years have you worked with your current employer?, Income, IF5, IQ7

Table F6

Model Summary for the Life Evaluation: Present Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.316a	.100	.070	1.31436	.100	3.299	10	297	.000
2	.335b	.112	.079	1.30773	.012	4.016	1	296	.046
3	.349c	.122	.086	1.30272	.010	3.284	1	295	.071

[a] Predictors: (Constant), Race/Ethnicity - White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status - Separated, Divorced, or Widowed, Ages 60-89, Marital Status - Single or Never Married, For how many years have you worked with your current employer?, Income. [b] Predictors: (Constant), Race/Ethnicity - White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status - Separated, Divorced, or Widowed, Ages 60-89, Marital Status - Single or Never Married, For how many years have you worked with your current employer?, Income, IF5. [c] Predictors: (Constant), Race/Ethnicity - White/Not-White, Ages 18-39, Gender, For how many years have you worked with your current manager or immediate supervisor?, Is your immediate supervisor a male or a female?, Marital Status - Separated, Divorced, or Widowed, Ages 60-89, Marital Status - Single or Never Married, For how many years have you worked with your current employer?, Income, IF5, IQ7

Appendix G

Table G1

Coefficient Summary for the Well-being Element: Purpose Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	6.206	0.571		10.870	.000
	Gender	0.190	0.221	.050	0.862	.389
	Ages 18-39	0.434	0.327	.086	1.326	.186
	Ages 60-89	0.598	0.249	.144	2.398	.017
	Income	0.052	0.084	.041	0.623	.534
	Marital Status - Single or Never Married	-0.625	0.349	-.113	-1.790	.074
	Marital Status - Separated, Divorced, or Widowed	0.076	0.411	.012	0.185	.854
	For how many years have you worked with your current employer?	-0.001	0.011	-.006	-0.087	.931
	For how many years have you worked with your current manager or immediate supervisor?	0.016	0.023	.041	0.684	.494
	Is your immediate supervisor a male or a female?	-0.159	0.215	-.043	-0.736	.462
	Race/Ethnicity - White	-0.102	0.344	-.017	-0.295	.768
2	(Constant)	5.798	0.581		9.979	.000
	Gender	0.239	0.219	.062	1.091	.276
	Ages 18-39	0.447	0.323	.089	1.383	.168
	Ages 60-89	0.637	0.247	.154	2.583	.010
	Income	0.034	0.083	.027	0.416	.678
	Marital Status - Single or Never Married	-0.629	0.345	-.114	-1.823	.069
	Marital Status - Separated, Divorced, or Widowed	-0.056	0.409	-.009	-0.137	.891
	For how many years have you worked with your current employer?	0.003	0.011	.015	0.240	.811
	For how many years have you worked with your current manager or immediate supervisor?	0.009	0.023	.025	0.412	.681
	Is your immediate supervisor a male or a female?	-0.154	0.213	-.042	-0.724	.469
	Race/Ethnicity - White	-0.159	0.340	-.027	-0.467	.641
	IF5	0.274	0.094	.167	2.913	.004
3	(Constant)	3.894	0.600		6.495	.000
	Gender	0.161	0.203	.042	0.794	.428
	Ages 18-39	0.498	0.299	.099	1.666	.097
	Ages 60-89	0.462	0.229	.112	2.015	.045
	Income	0.071	0.077	.055	0.926	.355
	Marital Status - Single or Never Married	-0.693	0.319	-.126	-2.171	.031
	Marital Status - Separated, Divorced, or Widowed	-0.214	0.379	-.033	-0.566	.572
	For how many years have you worked with your current employer?	0.003	0.010	.018	0.298	.766
	For how many years have you worked with your current manager or immediate supervisor?	0.009	0.021	.024	0.431	.667
	Is your immediate supervisor a male or a female?	-0.188	0.197	-.051	-0.955	.341
	Race/Ethnicity - White	0.035	0.315	.006	0.110	.912
	IF5	-0.062	0.099	-.037	-0.623	.534
	IQ7	0.510	0.071	.428	7.154	.000

Note. Dependent Variable: Purpose

Table G2

Coefficient Summary for the Well-being Element: Financial Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.676	0.743		4.949	.000
	Gender	0.323	0.287	.061	1.122	.263
	Ages 18-39	0.910	0.426	.131	2.138	.033
	Ages 60-89	1.431	0.324	.249	4.413	.000
	Income	0.418	0.109	.235	3.843	.000
	Marital Status - Single or Never Married	0.399	0.454	.052	0.878	.381
	Marital Status - Separated, Divorced, or Widowed	-0.830	0.535	-.092	-1.551	.122
	For how many years have you worked with your current employer?	0.018	0.015	.073	1.211	.227
	For how many years have you worked with your current manager or immediate supervisor?	-0.020	0.030	-.037	-0.656	.512
	Is your immediate supervisor a male or a female?	-0.656	0.280	-.128	-2.341	.020
	Race/Ethnicity - White	0.072	0.447	.009	0.161	.872
2	(Constant)	3.617	0.767		4.718	.000
	Gender	0.329	0.289	.062	1.141	.255
	Ages 18-39	0.912	0.426	.131	2.139	.033
	Ages 60-89	1.437	0.325	.250	4.417	.000
	Income	0.415	0.109	.234	3.803	.000
	Marital Status - Single or Never Married	0.398	0.455	.052	0.875	.382
	Marital Status - Separated, Divorced, or Widowed	-0.849	0.539	-.094	-1.574	.116
	For how many years have you worked with your current employer?	0.018	0.015	.075	1.238	.217
	For how many years have you worked with your current manager or immediate supervisor?	-0.021	0.030	-.039	-0.682	.496
	Is your immediate supervisor a male or a female?	-0.655	0.281	-.127	-2.335	.020
	Race/Ethnicity - White	0.064	0.448	.008	0.142	.887
	IF5	0.040	0.124	.017	0.320	.750
3	(Constant)	2.584	0.846		3.054	.002
	Gender	0.287	0.286	.054	1.005	.316
	Ages 18-39	0.940	0.422	.135	2.228	.027
	Ages 60-89	1.342	0.324	.234	4.147	.000
	Income	0.435	0.108	.245	4.020	.000
	Marital Status - Single or Never Married	0.364	0.450	.047	0.808	.420
	Marital Status - Separated, Divorced, or Widowed	-0.935	0.534	-.104	-1.750	.081
	For how many years have you worked with your current employer?	0.019	0.015	.076	1.266	.206
	For how many years have you worked with your current manager or immediate supervisor?	-0.021	0.030	-.039	-0.695	.487
	Is your immediate supervisor a male or a female?	-0.674	0.278	-.131	-2.426	.016
	Race/Ethnicity - White	0.169	0.445	.021	0.379	.705
	IF5	-0.142	0.139	-.062	-1.020	.308
	IQ7	0.277	0.101	.167	2.749	.006

Note. Dependent Variable: Financial

Table G3

Coefficient Summary for the Well-being Element: Community Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	4.978	0.645		7.713	.000
	Gender	0.360	0.250	.083	1.440	.151
	Ages 18-39	0.437	0.370	.077	1.182	.238
	Ages 60-89	0.544	0.282	.116	1.930	.055
	Income	0.130	0.094	.089	1.373	.171
	Marital Status - Single or Never Married	-0.495	0.395	-.079	-1.253	.211
	Marital Status - Separated, Divorced, or Widowed	0.613	0.465	.083	1.318	.189
	For how many years have you worked with your current employer?	0.017	0.013	.086	1.342	.181
	For how many years have you worked with your current manager or immediate supervisor?	0.000	0.026	-.001	-0.016	.987
	Is your immediate supervisor a male or a female?	-0.054	0.243	-.013	-0.223	.824
	Race/Ethnicity - White	0.076	0.388	.011	0.197	.844
2	(Constant)	4.769	0.664		7.180	.000
	Gender	0.384	0.250	.088	1.537	.125
	Ages 18-39	0.444	0.369	.078	1.202	.230
	Ages 60-89	0.564	0.282	.120	2.000	.046
	Income	0.121	0.095	.083	1.276	.203
	Marital Status - Single or Never Married	-0.497	0.394	-.079	-1.259	.209
	Marital Status - Separated, Divorced, or Widowed	0.545	0.467	.074	1.167	.244
	For how many years have you worked with your current employer?	0.019	0.013	.095	1.482	.139
	For how many years have you worked with your current manager or immediate supervisor?	-0.004	0.026	-.008	-0.140	.888
	Is your immediate supervisor a male or a female?	-0.052	0.243	-.012	-0.214	.831
	Race/Ethnicity - White	0.047	0.389	.007	0.121	.904
	IF5	0.140	0.108	.075	1.303	.194
3	(Constant)	3.514	0.724		4.854	.000
	Gender	0.333	0.245	.076	1.361	.174
	Ages 18-39	0.478	0.361	.084	1.323	.187
	Ages 60-89	0.448	0.277	.096	1.620	.106
	Income	0.145	0.093	.100	1.564	.119
	Marital Status - Single or Never Married	-0.539	0.385	-.086	-1.398	.163
	Marital Status - Separated, Divorced, or Widowed	0.441	0.457	.060	0.964	.336
	For how many years have you worked with your current employer?	0.019	0.013	.097	1.538	.125
	For how many years have you worked with your current manager or immediate supervisor?	-0.004	0.026	-.009	-0.151	.880
	Is your immediate supervisor a male or a female?	-0.074	0.238	-.018	-0.312	.755
	Race/Ethnicity - White	0.175	0.381	.026	0.459	.647
	IF5	-0.081	0.119	-.044	-0.679	.497
	IQ7	0.336	0.086	.249	3.906	.000

Note. Dependent Variable: Community

Table G4

Coefficient Summary for the Well-being Element: Physical Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	5.996	0.452		13.252	.000
	Gender	0.303	0.175	.100	1.733	.084
	Ages 18-39	0.372	0.259	.094	1.439	.151
	Ages 60-89	0.086	0.197	.026	0.438	.662
	Income	0.088	0.066	.087	1.332	.184
	Marital Status - Single or Never Married	-0.506	0.276	-.116	-1.834	.068
	Marital Status - Separated, Divorced, or Widowed	0.113	0.325	.022	0.349	.727
	For how many years have you worked with your current employer?	0.004	0.009	.029	0.447	.655
	For how many years have you worked with your current manager or immediate supervisor?	0.012	0.018	.039	0.647	.518
	Is your immediate supervisor a male or a female?	-0.219	0.170	-.075	-1.287	.199
	Race/Ethnicity - White	-0.155	0.275	-.033	-0.565	.573
2	(Constant)	5.703	0.462		12.332	.000
	Gender	0.335	0.174	.110	1.926	.055
	Ages 18-39	0.383	0.256	.097	1.493	.136
	Ages 60-89	0.115	0.196	.035	0.590	.556
	Income	0.075	0.066	.074	1.146	.253
	Marital Status - Single or Never Married	-0.508	0.273	-.117	-1.858	.064
	Marital Status - Separated, Divorced, or Widowed	0.022	0.324	.004	0.068	.946
	For how many years have you worked with your current employer?	0.007	0.009	.048	0.743	.458
	For how many years have you worked with your current manager or immediate supervisor?	0.007	0.018	.024	0.404	.687
	Is your immediate supervisor a male or a female?	-0.215	0.169	-.073	-1.275	.203
	Race/Ethnicity - White	-0.188	0.273	-.040	-0.688	.492
	IF5	0.192	0.075	.148	2.574	.011
3	(Constant)	5.415	0.514		10.529	.000
	Gender	0.324	0.174	.107	1.861	.064
	Ages 18-39	0.390	0.256	.099	1.523	.129
	Ages 60-89	0.088	0.197	.027	0.448	.654
	Income	0.081	0.066	.080	1.232	.219
	Marital Status - Single or Never Married	-0.518	0.273	-.119	-1.896	.059
	Marital Status - Separated, Divorced, or Widowed	-0.002	0.324	.000	-0.008	.994
	For how many years have you worked with your current employer?	0.007	0.009	.048	0.749	.455
	For how many years have you worked with your current manager or immediate supervisor?	0.007	0.018	.024	0.402	.688
	Is your immediate supervisor a male or a female?	-0.221	0.169	-.075	-1.309	.192
	Race/Ethnicity - White	-0.161	0.273	-.034	-0.588	.557
	IF5	0.141	0.085	.108	1.657	.099
	IQ7	0.078	0.061	.083	1.277	.203

Note. Dependent Variable: Physical

Table G5

Coefficient Summary for the Well-being Element: Social Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	5.713	0.598		9.552	.000
	Gender	0.332	0.231	.080	1.434	.153
	Ages 18-39	0.880	0.343	.163	2.567	.011
	Ages 60-89	0.765	0.261	.171	2.928	.004
	Income	0.205	0.088	.149	2.346	.020
	Marital Status - Single or Never Married	-0.892	0.366	-.150	-2.436	.015
	Marital Status - Separated, Divorced, or Widowed	-0.002	0.431	.000	-0.004	.996
	For how many years have you worked with your current employer?	-0.008	0.012	-.043	-0.685	.494
	For how many years have you worked with your current manager or immediate supervisor?	0.025	0.024	.061	1.048	.296
	Is your immediate supervisor a male or a female?	-0.208	0.226	-.052	-0.920	.358
	Race/Ethnicity - White	-0.352	0.360	-.056	-0.978	.329
2	(Constant)	5.420	0.613		8.837	.000
	Gender	0.367	0.231	.089	1.587	.114
	Ages 18-39	0.889	0.341	.164	2.607	.010
	Ages 60-89	0.793	0.260	.178	3.046	.003
	Income	0.193	0.087	.139	2.206	.028
	Marital Status - Single or Never Married	-0.894	0.364	-.150	-2.455	.015
	Marital Status - Separated, Divorced, or Widowed	-0.097	0.431	-.014	-0.224	.823
	For how many years have you worked with your current employer?	-0.005	0.012	-.029	-0.461	.645
	For how many years have you worked with your current manager or immediate supervisor?	0.021	0.024	.050	0.859	.391
	Is your immediate supervisor a male or a female?	-0.204	0.225	-.051	-0.910	.363
	Race/Ethnicity - White	-0.393	0.359	-.062	-1.096	.274
	IF5	0.197	0.099	.111	1.983	.048
3	(Constant)	4.448	0.674		6.603	.000
	Gender	0.327	0.228	.079	1.436	.152
	Ages 18-39	0.915	0.336	.169	2.726	.007
	Ages 60-89	0.704	0.258	.158	2.731	.007
	Income	0.211	0.086	.153	2.453	.015
	Marital Status - Single or Never Married	-0.927	0.359	-.156	-2.585	.010
	Marital Status - Separated, Divorced, or Widowed	-0.177	0.425	-.025	-0.417	.677
	For how many years have you worked with your current employer?	-0.005	0.012	-.028	-0.451	.652
	For how many years have you worked with your current manager or immediate supervisor?	0.021	0.024	.050	0.866	.387
	Is your immediate supervisor a male or a female?	-0.222	0.221	-.055	-1.003	.317
	Race/Ethnicity - White	-0.294	0.354	-.047	-0.831	.407
	IF5	0.026	0.111	.014	0.231	.818
	IQ7	0.260	0.080	.203	3.251	.001

Note. Dependent Variable: Social

Table G6

Coefficient Summary for the Life Evaluation: Present Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	6.590	0.409		16.105	.000
	Gender	0.356	0.158	.126	2.251	.025
	Ages 18-39	0.554	0.235	.149	2.357	.019
	Ages 60-89	0.410	0.180	.133	2.275	.024
	Income	0.133	0.060	.141	2.234	.026
	Marital Status - Single or Never Married	-0.618	0.251	-.151	-2.462	.014
	Marital Status - Separated, Divorced, or Widowed	-0.330	0.295	-.069	-1.116	.265
	For how many years have you worked with your current employer?	0.006	0.008	.046	0.744	.458
	For how many years have you worked with your current manager or immediate supervisor?	0.013	0.017	.045	0.777	.438
	Is your immediate supervisor a male or a female?	-0.148	0.155	-.054	-0.957	.339
	Race/Ethnicity - White	-0.179	0.247	-.041	-0.726	.468
2	(Constant)	6.390	0.419		15.244	.000
	Gender	0.378	0.158	.133	2.396	.017
	Ages 18-39	0.561	0.234	.151	2.396	.017
	Ages 60-89	0.427	0.179	.138	2.382	.018
	Income	0.124	0.059	.131	2.083	.038
	Marital Status - Single or Never Married	-0.619	0.250	-.151	-2.480	.014
	Marital Status - Separated, Divorced, or Widowed	-0.395	0.296	-.082	-1.337	.182
	For how many years have you worked with your current employer?	0.008	0.008	.060	0.964	.336
	For how many years have you worked with your current manager or immediate supervisor?	0.010	0.017	.034	0.586	.558
	Is your immediate supervisor a male or a female?	-0.146	0.154	-.053	-0.950	.343
	Race/Ethnicity - White	-0.208	0.246	-.048	-0.848	.397
	IF5	0.137	0.068	.112	2.004	.046
3	(Constant)	6.017	0.465		12.926	.000
	Gender	0.361	0.158	.127	2.289	.023
	Ages 18-39	0.572	0.233	.154	2.452	.015
	Ages 60-89	0.394	0.180	.128	2.194	.029
	Income	0.130	0.059	.138	2.197	.029
	Marital Status - Single or Never Married	-0.633	0.249	-.155	-2.543	.011
	Marital Status - Separated, Divorced, or Widowed	-0.428	0.295	-.089	-1.451	.148
	For how many years have you worked with your current employer?	0.008	0.008	.061	0.991	.322
	For how many years have you worked with your current manager or immediate supervisor?	0.010	0.016	.034	0.584	.559
	Is your immediate supervisor a male or a female?	-0.153	0.154	-.055	-0.995	.321
	Race/Ethnicity - White	-0.171	0.246	-.039	-0.696	.487
	IF5	0.070	0.077	.058	0.910	.364
	IQ7	0.101	0.056	.114	1.812	.071

Note. Dependent Variable: Life Evaluation: Present

Appendix H

Table H1

Estimated Marginal Means Pairwise Comparison of Individual Interaction Types

Interactions		Mean Difference	Std. Error	Sig.[a]
Low	Mixed	-6.34*	2.012	.002
	High	-11.70*	2.375	.000
Mixed	Low	6.34*	2.012	.002
	High	-5.37*	1.860	.004
High	Low	11.70*	2.375	.000
	Mixed	5.37*	1.860	.004

Note. Dependent Variable: Overall Well-being. Based on estimated marginal means.

[a] Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

*Mean difference significant at the .05 level.

Appendix I

Table I1

Estimated Marginal Means Pairwise Comparison of Combined Interaction Groups

Interactions_ Combined		Mean Difference	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
					Lower Bound	Upper Bound
Mixed/Low	High	-6.83*	1.828	.000	-10.425	-3.230
High	Mixed/Low	6.83*	1.828	.000	3.230	10.425

Note. Based on estimated marginal means. Dependent variable: Overall Well-being.

[a] Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

*The mean difference is significant at the 0.05 level.

Appendix J

Table J1

Estimated Marginal Means Univariate Test of Individual Interaction Types

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	106.60	2	53.30	17.72	.000
Error	887.37	295	3.01		

Note. Dependent variable: Purpose. The F tests the effect of Interactions. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Table J2

Estimated Marginal Means Univariate Test of Individual Interaction Types

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	21.07	2	10.53	1.87	.156
Error	1661.29	295	5.63		

Note. Dependent variable: Financial. The F tests the effect of Interactions. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Table J3

Estimated Marginal Means Univariate Test of Individual Interaction Types

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	69.85	2	34.93	8.59	.000
Error	1200.12	295	4.07		

Note. Dependent variable: Community. The F tests the effect of Interactions. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Table J4

Estimated Marginal Means Univariate Test of Individual Interaction Types

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	19.20	2	9.60	4.71	.010
Error	598.94	294	2.04		

Note. Dependent variable: Physical. The F tests the effect of Interactions. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Table J5

Estimated Marginal Means Univariate Test of Individual Interaction Types

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	66.38	2	33.19	9.56	.000
Error	1024.60	295	3.47		

Note. Dependent variable: Social. The F tests the effect of Interactions. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Table J6

Estimated Marginal Means Univariate Test of Individual Interaction Types

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	21.61	2	10.80	6.48	.002
Error	491.47	295	1.67		

Note. Dependent variable: Life Evaluation: Present. The F tests the effect of Interactions. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Appendix K

Table K1

Estimated Marginal Means Pairwise Comparison of Individual Interaction Types

Interactions		Mean Difference	Std. Error	Sig.[a]
Low	Mixed	-0.97*	0.276	.001
	High	-1.93*	0.326	.000
Mixed	Low	0.97*	0.276	.001
	High	-0.96*	0.255	.000
High	Low	1.93*	0.326	.000
	Mixed	0.96*	0.255	.000

Note. Dependent Variable: Purpose. Based on estimated marginal means.

[a] Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

*Mean difference significant at the .05 level.

Table K2

Estimated Marginal Means Pairwise Comparison of Individual Interaction Types

Interactions		Mean Difference	Std. Error	Sig.[a]
Low	Mixed	-1.16*	0.321	.000
	High	-1.48*	0.379	.000
Mixed	Low	1.16*	0.321	.000
	High	-0.32	0.296	.277
High	Low	1.48*	0.379	.000
	Mixed	0.32	0.296	.277

Note. Dependent Variable: Community. Based on estimated marginal means.

[a] Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

*Mean difference significant at the .05 level.

Table K3

Estimated Marginal Means Pairwise Comparison of Individual Interaction Types

Interactions		Mean Difference	Std. Error	Sig.[a]
Low	Mixed	-0.38	0.227	.098
	High	-0.82*	0.268	.003
Mixed	Low	0.38	0.227	.098
	High	-0.44*	0.210	.038
High	Low	0.82*	0.268	.003
	Mixed	0.44*	0.210	.038

Note. Dependent Variable: Physical. Based on estimated marginal means.

[a] Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

*Mean difference significant at the .05 level.

Table K4

Estimated Marginal Means Pairwise Comparison of Individual Interaction Types

Interactions		Mean Difference	Std. Error	Sig.[a]
Low	Mixed	-0.65*	0.297	.031
	High	-1.50*	0.350	.000
Mixed	Low	0.65*	0.297	.031
	High	-0.86*	0.274	.002
High	Low	1.50*	0.350	.000
	Mixed	0.86*	0.274	.002

Note. Dependent Variable: Social. Based on estimated marginal means.

[a] Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

*Mean difference significant at the .05 level.

Table K5

Estimated Marginal Means Pairwise Comparison of Individual Interaction Types

Interactions		Mean Difference	Std. Error	Sig.[a]
Low	Mixed	-0.37	0.207	.072
	High	-0.86*	0.243	.000
Mixed	Low	0.37	0.207	.072
	High	-0.49*	0.189	.011
High	Low	0.86*	0.243	.000
	Mixed	0.49*	0.189	.011

Note. Dependent Variable: Life Evaluation: Present. Based on estimated marginal means.

[a] Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

*Mean difference significant at the .05 level.

Appendix L

Table L1

Estimated Marginal Means Univariate Test of Combined Interaction Groups

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	69.50	1	69.50	22.25	.000
Error	924.46	296	3.12		

Note. Dependent variable: Purpose. The F tests the effect of Interactions_Combined. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Table L2

Estimated Marginal Means Univariate Test of Combined Interaction Groups

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	14.99	1	14.99	2.66	.104
Error	1667.37	296	5.63		

Note. Dependent variable: Financial. The F tests the effect of Interactions_Combined. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Table L3

Estimated Marginal Means Univariate Test of Combined Interaction Groups

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	17.10	1	17.10	4.04	.045
Error	1252.87	296	4.23		

Note. Dependent variable: Community. The F tests the effect of Interactions_Combined. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Table L4

Estimated Marginal Means Univariate Test of Combined Interaction Groups

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	13.59	1	13.59	6.63	.011
Error	604.55	295	2.05		

Note. Dependent variable: Physical. The F tests the effect of Interactions_Combined. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Table L5

Estimated Marginal Means Univariate Test of Combined Interaction Groups

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	49.97	1	49.97	14.21	.000
Error	1041.01	296	3.52		

Note. Dependent variable: Social. The F tests the effect of Interactions_Combined. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Table L6

Estimated Marginal Means Univariate Test of Combined Interaction Groups

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	16.18	1	16.18	9.64	.002
Error	496.89	296	1.68		

Note. Dependent variable: Life Evaluation: Present. The F tests the effect of Interactions_Combined. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Appendix M

Table M1

Estimated Marginal Means Pairwise Comparison of Combined Interaction Groups

Interactions Combined		Mean Difference	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a] Lower Bound	Upper Bound
Mixed/Low	High	-1.19*	0.252	.000	-1.682	-0.692
High	Mixed/Low	1.19*	0.252	.000	0.692	1.682

Note. Dependent Variable: Purpose. Based on estimated marginal means.

[a] Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

*The mean difference is significant at the 0.05 level.

Table M2

Estimated Marginal Means Pairwise Comparison of Combined Interaction Groups

Interactions Combined		Mean Difference	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a] Lower Bound	Upper Bound
Mixed/Low	High	-0.55	0.338	.104	-1.216	0.114
High	Mixed/Low	0.55	0.338	.104	-0.114	1.216

Note. Dependent Variable: Financial. Based on estimated marginal means.

[a] Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Table M3

Estimated Marginal Means Pairwise Comparison of Combined Interaction Groups

Interactions Combined		Mean Difference	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a] Lower Bound	Upper Bound
Mixed/Low	High	-.589*	0.293	0.045	-1.165	-0.012
High	Mixed/Low	.589*	0.293	0.045	0.012	1.165

Note. Dependent Variable: Community. Based on estimated marginal means.

[a] Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

*The mean difference is significant at the 0.05 level

Table M4

Estimated Marginal Means Pairwise Comparison of Combined Interaction Groups

Interactions Combined		Mean Difference	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a] Lower Bound	Upper Bound
Mixed/Low	High	-.53*	0.204	.011	-0.926	-0.124
High	Mixed/Low	.53*	0.204	.011	0.124	0.926

Note. Dependent Variable: Physical. Based on estimated marginal means.

[a] Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

*The mean difference is significant at the 0.05 level

Table M5

Estimated Marginal Means Pairwise Comparison of Combined Interaction Groups

Interactions Combined		Mean Difference	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a] Lower Bound	Upper Bound
Mixed/Low	High	-1.01*	0.267	.000	-1.532	-0.481
High	Mixed/Low	1.01*	0.267	.000	0.481	1.532

Note. Dependent Variable: Social. Based on estimated marginal means.

[a] Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

*The mean difference is significant at the 0.05 level.

Table M6

Estimated Marginal Means Pairwise Comparison of Combined Interaction Groups

Interactions Combined		Mean Difference	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a] Lower Bound	Upper Bound
Mixed/Low	High	-0.57*	0.183	.002	-0.931	-0.209
High	Mixed/Low	0.57*	0.183	.002	0.209	0.931

Note. Dependent Variable: Life Evaluation: Present. Based on estimated marginal means.

[a] Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

*The mean difference is significant at the 0.05 level.

Appendix N

Table N1

Estimated Marginal Means Estimates of Individual Interaction Types

				95% Confidence Interval	
Interactions	N	Mean	Std. Error	Lower Bound	Upper Bound
Low	53	5.57[a]	0.242	5.094	6.048
Mixed	190	6.54[a]	0.127	6.289	6.790
High	65	7.50[a]	0.218	7.073	7.933

Note. Dependent variable: Purpose.

[a] Covariates appearing in the model are evaluated at the following values: Gender = 0.354, Ages 18-39 = 0.159, Ages 40-59 = 0.571, Ages 60-89 = 0.27, Income = 4.873, Marital Status – Single or Never Married = 0.127, Marital Status – Married or Living with a Partner = 0.786, Marital Status – Separated, Divorced, or Widowed = 0.088, For how many years have you worked with your current employer? = 14.641, For how many years have you worked with your current manager or immediate supervisor? = 4.086, Is your immediate supervisor a male or a female? = 0.429, Race/Ethnicity – White/Not-White = 0.89.

Table N2

Estimated Marginal Means Estimates of Individual Interaction Types

				95% Confidence Interval	
Interactions	N	Mean	Std. Error	Lower Bound	Upper Bound
Low	53	5.21[a]	0.282	4.658	5.767
Mixed	190	6.37[a]	0.148	6.077	6.660
High	65	6.69[a]	0.254	6.191	7.191

Note. Dependent variable: Community.

[a] Covariates appearing in the model are evaluated at the following values: Gender = 0.354, Ages 18-39 = 0.159, Ages 40-59 = 0.571, Ages 60-89 = 0.27, Income = 4.873, Marital Status – Single or Never Married = 0.127, Marital Status – Married or Living with a Partner = 0.786, Marital Status – Separated, Divorced, or Widowed = 0.088, For how many years have you worked with your current employer? = 14.641, For how many years have you worked with your current manager or immediate supervisor? = 4.086, Is your immediate supervisor a male or a female? = 0.429, Race/Ethnicity – White/Not-White = 0.89.

Table N3

Estimated Marginal Means Estimates of Individual Interaction Types

				95% Confidence Interval	
Interactions	N	Mean	Std. Error	Lower Bound	Upper Bound
Low	53	6.03[a]	0.199	5.636	6.421
Mixed	189	6.41[a]	0.105	6.199	6.612
High	65	6.84[a]	0.180	6.490	7.198

Note. Dependent variable: Physical.

[a] Covariates appearing in the model are evaluated at the following values: Gender = 0.352, Ages 18-39 = 0.16, Ages 40-59 = 0.57, Ages 60-89 = 0.27, Income = 4.87, Marital Status - Single or Never Married = 0.127, Marital Status - Married or Living with a Partner = 0.785, Marital Status - Separated, Divorced, or Widowed = 0.088, For how many years have you worked with your current employer? = 14.666, For how many years have you worked with your current manager or immediate supervisor? = 4.09, Is your immediate supervisor a male or a female? = 0.43, Race/Ethnicity – White/Not-White = 0.893.

Table N4

Estimated Marginal Means Estimates of Individual Interaction Types

				95% Confidence Interval	
Interactions	N	Mean	Std. Error	Lower Bound	Upper Bound
Low	53	5.93[a]	0.260	5.420	6.446
Mixed	190	6.58[a]	0.137	6.309	6.847
High	65	7.44[a]	0.235	6.974	7.897

Note. Dependent variable: Social.

[a] Covariates appearing in the model are evaluated at the following values: Gender = 0.354, Ages 18-39 = 0.159, Ages 40-59 = 0.571, Ages 60-89 = 0.27, Income = 4.873, Marital Status - Single or Never Married = 0.127, Marital Status - Married or Living with a Partner = 0.786, Marital Status - Separated, Divorced, or Widowed = 0.088, For how many years have you worked with your current employer? = 14.641, For how many years have you worked with your current manager or immediate supervisor? = 4.086, Is your immediate supervisor a male or a female? = 0.429, Race/Ethnicity – White/Not-White = 0.89.

Table N5

Estimated Marginal Means Estimates of Individual Interaction Types

				95% Confidence Interval	
Interactions	N	Mean	Std. Error	Lower Bound	Upper Bound
Low	52	6.96[a]	0.182	6.601	7.318
Mixed	190	7.33[a]	0.095	7.146	7.519
High	66	7.82[a]	0.161	7.500	8.135

Note. Dependent variable: Life Evaluation: Present.

[a] Covariates appearing in the model are evaluated at the following values: Gender = 0.357, Ages 18-39 = 0.159, Ages 40-59 = 0.578, Ages 60-89 = 0.263, Income = 4.88, Marital Status - Single or Never Married = 0.127, Marital Status - Married or Living with a Partner = 0.786, Marital Status - Separated, Divorced, or Widowed = 0.088, For how many years have you worked with your current employer? = 14.511, For how many years have you worked with your current manager or immediate supervisor? = 4.083, Is your immediate supervisor a male or a female? = 0.425, Race/Ethnicity – White/Not-White = 0.89.

Appendix O

Table O1

Estimated Marginal Means Estimates of Combined Interaction Groups

Interactions Combined	N	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Mixed/Low	243	6.33[a]	0.114	6.102	6.550
High	65	7.51[a]	0.223	7.074	7.950

Note. Dependent variable: Purpose.

[a] Covariates appearing in the model are evaluated at the following values: Gender = 0.354, Ages 18-39 = 0.159, Ages 40-59 = 0.571, Ages 60-89 = 0.27, Income = 4.873, Marital Status - Single or Never Married = 0.127, Marital Status - Married or Living with a Partner = 0.786, Marital Status - Separated, Divorced, or Widowed = 0.088, For how many years have you worked with your current employer? = 14.641, For how many years have you worked with your current manager or immediate supervisor? = 4.086, Is your immediate supervisor a male or a female? = 0.429, Race/Ethnicity – White/Not-White = 0.89.

Table O2

Estimated Marginal Means Estimates of Combined Interaction Groups

Interactions Combined	N	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Mixed/Low	243	6.18[a]	0.153	5.880	6.481
High	65	6.73[a]	0.299	6.143	7.320

Note. Dependent variable: Financial

[a] Covariates appearing in the model are evaluated at the following values: Gender = 0.354, Ages 18-39 = 0.159, Ages 40-59 = 0.571, Ages 60-89 = 0.27, Income = 4.873, Marital Status - Single or Never Married = 0.127, Marital Status - Married or Living with a Partner = 0.786, Marital Status - Separated, Divorced, or Widowed = 0.088, For how many years have you worked with your current employer? = 14.641, For how many years have you worked with your current manager or immediate supervisor? = 4.086, Is your immediate supervisor a male or a female? = 0.429, Race/Ethnicity – White/Not-White = 0.89.

Table O3

Estimated Marginal Means Estimates of Combined Interaction Groups

Interactions Combined	N	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Mixed/Low	243	6.11[a]	0.133	5.853	6.374
High	65	6.70[a]	0.259	6.192	7.212

Note. Dependent variable: Community

[a] Covariates appearing in the model are evaluated at the following values: Gender = 0.354, Ages 18-39 = 0.159, Ages 40-59 = 0.571, Ages 60-89 = 0.27, Income = 4.873, Marital Status - Single or Never Married = 0.127, Marital Status - Married or Living with a Partner = 0.786, Marital Status - Separated, Divorced, or Widowed = 0.088, For how many years have you worked with your current employer? = 14.641, For how many years have you worked with your current manager or immediate supervisor? = 4.086, Is your immediate supervisor a male or a female? = 0.429, Race/Ethnicity – White/Not-White = 0.89.

Table O4

Estimated Marginal Means Estimates of Combined Interaction Groups

Interactions Combined	N	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Mixed/Low	242	6.32[a]	0.092	6.140	6.504
High	65	6.85[a]	0.180	6.493	7.202

Note. Dependent variable: Physical

[a] Covariates appearing in the model are evaluated at the following values: Gender = 0.352, Ages 18-39 = 0.16, Ages 40-59 = 0.57, Ages 60-89 = 0.27, Income = 4.87, Marital Status - Single or Never Married = 0.127, Marital Status - Married or Living with a Partner = 0.785, Marital Status - Separated, Divorced, or Widowed = 0.088, For how many years have you worked with your current employer? = 14.666, For how many years have you worked with your current manager or immediate supervisor? = 4.09, Is your immediate supervisor a male or a female? = 0.43, Race/Ethnicity – White/Not-White = 0.893.

Table O5

Estimated Marginal Means Estimates of Combined Interaction Groups

Interactions Combined	N	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Mixed/Low	243	6.44[a]	0.121	6.198	6.673
High	65	7.44[a]	0.236	6.977	7.906

Note. Dependent variable: Social

[a] Covariates appearing in the model are evaluated at the following values: Gender = 0.354, Ages 18-39 = 0.159, Ages 40-59 = 0.571, Ages 60-89 = 0.27, Income = 4.873, Marital Status - Single or Never Married = 0.127, Marital Status - Married or Living with a Partner = 0.786, Marital Status - Separated, Divorced, or Widowed = 0.088, For how many years have you worked with your current employer? = 14.641, For how many years have you worked with your current manager or immediate supervisor? = 4.086, Is your immediate supervisor a male or a female? = 0.429, Race/Ethnicity – White/Not-White = 0.89.

Table O6

Estimated Marginal Means Estimates of Combined Interaction Groups

Interactions Combined	N	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Mixed/Low	242	63.68[a]	0.828	62.047	65.307
High	66	70.51[a]	1.616	67.324	73.686

Note. Dependent variable: Life Evaluation: Present

[a] Covariates appearing in the model are evaluated at the following values: Gender = 0.352, Ages 18-39 = 0.16, Ages 40-59 = 0.57, Ages 60-89 = 0.27, Income = 4.87, Marital Status - Single or Never Married = 0.127, Marital Status - Married or Living with a Partner = 0.785, Marital Status - Separated, Divorced, or Widowed = 0.088, For how many years have you worked with your current employer? = 14.666, For how many years have you worked with your current manager or immediate supervisor? = 4.09, Is your immediate supervisor a male or a female? = 0.43, Race/Ethnicity – White/Not-White = 0.893.

Appendix P

Table P1

Response Distribution of Interaction Frequency Items

Interaction Frequency Item	Response	*N*	*%*
Does your manager hold regular meetings with you?	Yes	275	66.3%
	No	113	27.2%
	Does not apply	27	6.5%
Generally, how often are your regular meetings with your manager?	Daily	13	4.7%
	Weekly	89	32.4%
	Biweekly	59	21.5%
	Monthly	97	35.3%
	Less than monthly	8	2.9%
	At least twice per year	8	2.9%
	Once per year or less often	1	0.4%
Generally, how often do you talk with your manager: Face to face	Daily	161	38.9%
	Weekly	140	33.8%
	Biweekly	28	6.8%
	Monthly	36	8.7%
	Less than monthly	49	11.8%
Generally, how often do you talk with your manager: By phone	Daily	16	4.0%
	Weekly	45	11.1%
	Biweekly	25	6.2%
	Monthly	23	5.7%
	Less than monthly	296	73.1%
Generally, how often do you talk with your manager: Through email, instant message, or any other form of digital communication	Daily	132	32.2%
	Weekly	154	37.6%
	Biweekly	43	10.5%
	Monthly	30	7.3%
	Less than monthly	51	12.4%

Note. *N* = valid responses; % displayed were calculated from number of valid responses within item

Appendix Q

Table Q1

Response Distribution of Interaction Quality Items

Interaction Quality Item	Response	*N*	%
Please indicate your level of agreement with each of the following items about your manager. My manager knows what projects or tasks I am working on	Strongly disagree	20	4.9%
	2	33	8.1%
	3	80	19.8%
	4	162	40.0%
	Strongly agree	110	27.2%
Please indicate your level of agreement with each of the following items about your manager. My manager helps me set work priorities	Strongly disagree	42	11.1%
	2	76	20.0%
	3	109	28.7%
	4	102	26.8%
	Strongly agree	51	13.4%
Please indicate your level of agreement with each of the following items about your manager. My manager helps me set performance goals	Strongly disagree	38	9.8%
	2	56	14.5%
	3	97	25.1%
	4	128	33.2%
	Strongly agree	67	17.4%
Please indicate your level of agreement with each of the following items about your manager. My manager holds me accountable for performance	Strongly disagree	11	2.8%
	2	26	6.5%
	3	53	13.3%
	4	163	41.0%
	Strongly agree	145	36.4%
Please indicate your level of agreement with each of the following items about your manager. I feel I can approach my manager with any type of question	Strongly disagree	30	7.4%
	2	42	10.4%
	3	72	17.9%
	4	114	28.3%
	Strongly agree	145	36.0%
Please indicate your level of agreement with each of the following items about your manager. I can talk with my manager about non-work related issues	Strongly disagree	48	12.5%
	2	51	13.2%
	3	100	26.0%
	4	90	23.4%
	Strongly agree	96	24.9%
Please indicate your level of agreement with each of the following items about your manager. My manager responds to my calls or messages within 24 hours	Strongly disagree	18	4.6%
	2	29	7.5%
	3	56	14.4%
	4	120	30.9%
	Strongly agree	165	42.5%

Note. *N* = valid responses; % displayed were calculated from number of valid responses within item