A Quantitative Study of Predictor Variables of Job Satisfaction Among Telecommuters

Submitted by

Brian Aquinas McGinley, Jr.

A Dissertation Presented in Partial Fulfillment
of the Requirements for the Degree
Doctorate of Business Administration

Columbia Southern University
Orange Beach, Alabama
January 26, 2017
COLUMBIA SOUTHERN UNIVERSITY

A Quantitative Study of the Predictors of Job Satisfaction Among Telecommuters

by

Brian Aquinas McGinley, Jr.

has been approved

January 26, 2017

APPROVED:

Donna Graham, Ph.D., Dissertation Chair

Corrine Bates, Ph.D., Committee Member

ACCEPTED AND SIGNED:

James Ready, DBA, Academic Program Director, DBA Program
Abstract

This project study focused on establishing if predictor variables exist for job satisfaction among telecommuters in the southern United States. The problem is a lack of knowledge concerning the relationship between telecommuting, demographic factors, and job satisfaction. The Minnesota Satisfaction Questionnaire (Short Form), a job satisfaction survey, was used to understand the relationship between the predictor variables of age, gender, and frequency of telecommuting and job satisfaction among telecommuters. Using a non-experimental, quantitative, correlational study, the researcher explored whether a relationship exists between the predictor variables and job satisfaction. Results of the study showed that neither the frequency of telecommuting nor the demographic factors of age or gender had any significant effect on job satisfaction as predictor variables. Because of this study, employers should engage in conversation within their organization about establishing or expanding their telecommuting programs for any applicable employees to benefit both the workers and the organization.
Dedication

I dedicate this dissertation to my loving wife, Evin who has whole-heartedly supported me throughout my academic career. Your love, patience, and kindness are what made this process bearable and directly contributed to the completion of this phase of our lives. You understood how important this journey was to me. Without your encouragement, this would not have been possible. I would also like to dedicate this to my parents. Without their guidance growing up and constant pressure to excel in everything I do, this accomplishment would never have happened.
Acknowledgments

To Dr. Donna Graham, my dissertation chair, and to Dr. Jim Ready, thank you so much for your guidance and support throughout this dissertation journey. Your assistance in navigating the process is most appreciated, and I will always be grateful. To the entire dissertation committee, I appreciate your help in completing this milestone in my life.
Table of Contents

List of Tables .......................................................................................................................... xii

List of Figures .......................................................................................................................... xiii

Chapter 1: Introduction to the Study....................................................................................... 1

  Background of the Study ......................................................................................................... 2
  Problem Statement .................................................................................................................. 5
  Purpose Statement .................................................................................................................. 6
  Research Questions and Hypotheses ....................................................................................... 6
  Advancing Theoretical Knowledge ......................................................................................... 8
  Significance of the Study ....................................................................................................... 9
  Methodology .......................................................................................................................... 10
  Research Design .................................................................................................................... 10
  Definition of Terms ............................................................................................................... 11

Chapter 2: Literature Review................................................................................................. 16

  Introduction and Background to the Study ............................................................................ 16
  Theoretical Foundations ........................................................................................................ 17
    Telecommuting .................................................................................................................... 20
    Job Satisfaction ................................................................................................................... 22
<table>
<thead>
<tr>
<th>Chapter 4: Data Analysis and Results</th>
<th>Data Analysis Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple Linear Regression</td>
<td>Reliability Analysis</td>
</tr>
<tr>
<td>Ethical Considerations</td>
<td>Test of Outliers</td>
</tr>
<tr>
<td>Limitations</td>
<td>Test of Normality</td>
</tr>
<tr>
<td>Summary</td>
<td>Test of Association</td>
</tr>
<tr>
<td></td>
<td>Multiple Linear Regression</td>
</tr>
<tr>
<td>Results</td>
<td>Number of days telecommuting and job satisfaction</td>
</tr>
<tr>
<td></td>
<td>Age and job satisfaction</td>
</tr>
<tr>
<td></td>
<td>Gender and job satisfaction</td>
</tr>
<tr>
<td></td>
<td>Predictive Model</td>
</tr>
<tr>
<td>Summary</td>
<td></td>
</tr>
<tr>
<td>Chapter 5: Summary, Conclusions, and Recommendations</td>
<td>Summary of the Study</td>
</tr>
<tr>
<td></td>
<td>Summary of Findings and Conclusion</td>
</tr>
</tbody>
</table>
List of Tables

Table 1. Sample Demographics ........................................................................................................53
List of Figures

Figure 1. Sample size determination using G*Power ......................................................... 38

Figure 2. Boxplot of Average Job Satisfaction Score ......................................................... 55
Chapter 1: Introduction to the Study

In 2014, as much as 23% of the workforce in the United States performed some or all their work from home (Bureau of Labor Statistics, 2015). This percentage increased from the estimated 20% measured by the American time use survey only one year earlier (Bureau of Labor Statistics, 2014). The number of employees being offered the opportunity to telecommute is increasing; and through the leveraging of technology, it is becoming easier to stay connected to both the organization and coworkers through email, virtual private networks (VPNs), telephones, and other mobile devices.

Employers could use this study to determine which employees may provide the greatest return on investment through increased job satisfaction and thus, increased productivity (Dutcher, 2012; Latif et al., 2013). If a predictor relationship exists between demographic information and job satisfaction, employers could then use the information to provide a telecommuting opportunity to every member of their organization whose tasks and responsibilities allow for such a work arrangement. If there is a relationship between job satisfaction and the number of days an employee telecommutes, then employers may have a better understanding of how the frequency of telecommuting can impact overall satisfaction of the employee and thus, the productivity of the worker (Dutcher, 2012; Latif et al., 2013).

This proposed non-experimental, quantitative, correlational study involved having employees who telecommute at least once per week and perform services in the southern United States (Unites States Census Bureau, n.d.), complete an online survey. The survey included both a demographic section and the MSQ Short Form, to evaluate job satisfaction. The results were correlated using the Pearson correlation coefficient or
Spearman correlation coefficient, depending on the normality of the data, for true values through the Statistical Package SPSS to determine the linear relationship between the variables.

Johnson (2016) used the MSQ Short Form to measure demographic information and employee job satisfaction through Facebook and LinkedIn from friends and connections across the United States. This proposed study narrowed the specific geographic region of the study to include only the southern United States. In this chapter, the background of the study, both the problem and purpose statement, along with the research questions will be investigated and explained to present the null hypotheses and hypotheses that underpin this research study. This proposed non-experimental, quantitative, correlational study provides needed insight into the existence of a relationship between the demographic elements of age and gender, the number of days an employee telecommutes, and employee job satisfaction (as measured by the MSQ Short Form) in the southern United States.

**Background of the Study**

In the 1970s, an employee of the National Aeronautics and Space Administration, who was looking for alternatives to working onsite, first coined the phrase “telecommuting” (Mekonnen, 2013). During this time, through the medium of telephone lines, employees could link satellite offices to mainframes (Waters, 2015). As different organizations began to adopt this practice, there was an ongoing decrease in overhead costs and an increase in both the performance and the practicality of personal computers (Church, 2015). These results allowed managers to start shifting employees from the office and into the home (Bayrak, 2012). During this time, there was also a spike in oil
and gasoline prices, which accelerated the search for ways to save energy, reduce costs, and reduce congestion (Calvasina, Calvasina, & Calvasina, 2012).

The practice of telecommuting continued to gain popularity among both managers and employees for the flexibility, autonomy, and cost saving aspects it offered (Bayrak, 2012). The number of telecommuters in the United States was around 23.6 million people in the year 2000 (Federal Highway Administration, 2011). That number had increased to over 30 million by the year 2004 (Federal Highway Administration, 2011). There were some small anomalies in the reporting data after 2008, but this could be due to the increase in unemployment following the global financial crisis (WorldatWork, 2011).

However, these crises also spurred the search for other ways to save money and resulted in the Telework Enhancement Act (2010). This program became an integral part of the federal government’s plan to improve work-life balance among employees; decreases costs, and reduce carbon emissions along with other environmental impacts (U.S. Office of Personnel Management, 2013) by mandating each federal agency establish teleworking policies for eligible employees. In a work environment that is also evolving to integrate more with the global economy, telecommuting can become a more viable option for interactions across the globe, when compared to a traditional office environment (Robertson & Vink, 2012).

Telecommuting also offers several benefits to employers and employees. Productivity, retention rates, and absenteeism are all affected by telecommuting and can be linked to a decrease in administrative, overhead, and indirect costs (Noonan & Glass, 2012). Other positive aspects include reduced stress and the subsequent, related health
issues and absenteeism, a greater sense of autonomy, and more workplace control (Robertson & Vink, 2012).

What is now known as telecommuting was originally termed the “virtual office” (Kern, 1983), and is defined as performing work or work-related tasks from home or alternate locations (Aboelmaged & El Subbaygh, 2012; Noonan & Glass, 2012). From 2005 to 2014, teleworking in the United States has grown 102.1%; including 78.5% in local government, 94.8% in for-profit organizations, 105.1% in non-profit organizations, and 424.3% in the federal government (GlobalWorkplaceAnalytics.com, n.d.). Since there are many factors in the definition of telecommuting and because of different work classes, such as self-employed and stay-at-home moms, the number of telecommuters could range anywhere between 2.9 million and 33.7 million in the United States (Calvasina et al., 2012).

Despite the benefits of employees telecommuting to an organization, such as increased productivity, reduction in sick days, and cost savings (Church, 2015); employers are still hesitant to allow telecommuting within their organizations (Stout & Guzman, 2013). The problem, per Johnson (2016), is a lack of knowledge of the relationship between the number of days an employee telecommutes, demographic factors, and job satisfaction in the southern United States. Insight into these areas could help employers begin meaningful conversations about telecommuting within their organization.

When employees are removed from the workplace, the corporate culture then shifts from a brick and mortar environment to a virtual environment (Johnson, 2016), where technology plays a larger role in the day-to-day tasks and interactions. If corporate
management chooses to allow telecommuting, operational impacts to the organization, such as how employees meet and interact with each other, should adapt to the shifting of employees outside the workplace. Additionally, there is an established relationship between employee satisfaction and organizational performance (Dutcher, 2012; Latif et al., 2013).

Researchers have studied the relationship between the number of days an employee telecommutes and demographic factors to predict job satisfaction from telecommuting (Johnson, 2016; Saadatabadi, 2013). However, research has not been conducted using telecommuters from a specific region of the country or on the relationship between age and the number of days the employee telecommutes. The problem is a lack of knowledge of the relationship between the number of days an employee telecommutes, along with demographic factors on employee job satisfaction using participants from the southern United States.

**Problem Statement**

The problem is a lack of knowledge concerning the relationship between telecommuting, demographic factors, and job satisfaction in the southern United States (Johnson, 2016). Several of the predictor, or independent, variables have been researched independently (Ghazzawi, 2011; Khan, Ramzan, & Butt, 2013; Malik, 2011). The number of days an employee telecommutes, the link between demographic factors and employee job satisfaction have also been researched and recorded in the literature (Aboelmaged & El Subbaygh, 2012; Church, 2015; Johnson, 2016).

Absent from the literature is the link between the variables using participants from the southern United States. If a relationship can be established between the independent
variables and the dependent variable, leaders of organizations could utilize the research to begin telecommuting programs, where appropriate, to increase employee satisfaction and productivity (Aboelmaged & El Subbaygh, 2012; Church, 2015) by identifying candidates and targeting the recruiting process. Not only could leaders of business organizations use the information to start telecommuting programs, but existing programs could also be enhanced through the expansion of knowledge in the specific areas of job satisfaction should a predictive model be created.

**Purpose Statement**

The purpose of this non-experimental, quantitative, correlational study was to determine the relationship between the number of days an employee telecommutes and demographic information (age and gender) to employee job satisfaction. The independent variables will be defined as the number of days an employee telecommutes in days (1 day-7 days) and the demographic information (age and gender) given in the survey. The dependent variable of employee job satisfaction will be measured by the responses of each participant on the MSQ (Short Form). The results of the study will show the relationship between the variables for employees telecommuting in the southern United States.

**Research Questions and Hypotheses**

The problem is a lack of knowledge concerning the relationship between telecommuting, demographic factors (age and gender), and job satisfaction in the southern United States (Johnson, 2016).

RQ1: What is the relationship between the number of days telecommuting and job satisfaction in a telecommuting environment?
H1₀: There is no relationship between the number of days an employee telecommutes and job satisfaction in a telecommuting environment \((r=0)\)

H₁ₐ: The number of days telecommuting does predict job satisfaction \((r≠0)\)

RQ₂: What is the relationship between the age of the employee and job satisfaction in a telecommuting environment?

H₂₀: There is no relationship between the age of an employee and job satisfaction in a telecommuting environment \((r=0)\)

H₂ₐ: There is a relationship between the age of an employee and job satisfaction in a telecommuting environment \((r≠0)\)

RQ₃: What is the relationship between the gender of the employee and job satisfaction in a telecommuting environment?

H₃₀: There is no relationship between the gender of an employee and job satisfaction in a telecommuting environment \((r=0)\)

H₃ₐ: There is a relationship between the gender of an employee and job satisfaction in a telecommuting environment \((r≠0)\)

RQ₄: How does the number of days telecommuting, age, and gender predict job satisfaction in a telecommuting environment?

H₄₀: A predictive model cannot be created \((R²=0)\)

H₄ₐ: A predictive model can be created \((R²≠0)\)

If there is no linear relationship between two variables as described in the hypotheses after conducting the Pearson correlation test, then that variable will not be included in the Multiple Linear Regression model proposed in Research Question #4. If
any of the variables are not normally distributed, a logarithmic transformation will need to be conducted to convert the data set into a normally distributed set.

**Advancing Theoretical Knowledge**

According to the literature, there is no specific theory on the effects of telecommuting. The act of telecommuting has been studied extensively through different means (Asgari, 2015; Church, 2015; Jennings, 2013; Saadatabadi, 2013). Researchers have used various methods and theories in the evaluation and study of telecommuting, including different employee satisfaction theories, but rarely focused on individual traits (Coveyduck, 1997; Ellison, 1999; Johnson, 2016; Noonan & Glass, 2012). The use of a person-situation interaction theory will provide insight into how the different individual predictor variables may impact job satisfaction. The basis of a person-situation interaction theory is how individual traits and situations may bring out various aspects of different individuals (Leroy, Anseel, Gardner, & Sels, 2015).

The specific person-situation theory used throughout this study is purposeful work behavior (Barrick, Mount, & Li, 2013). The purposeful work theory uses different aspects of the five-factor model (Digman, 1990), and the job characteristic theory (Hackman & Oldham, 1976), to create a hybrid theory that better explains the person interaction area of study. In the purposeful work theory, employees go through a series of four steps, very similar to the hierarchy of needs (Maslow, 1943), to exhibit meaningful and purposeful behavior in the workplace. As the employee attains each level in the model, their individual traits become more aligned with their work behavior. The four goals are communion, status, autonomy, and achievement (Barrick et al., 2013). As the employee becomes more integrated into the organization and realizes each of their levels or
motivators; their individual traits begin to impact their job characteristics and characterize their performance outcomes (Aghaz & Hashemi, 2014; Gully, Phillips, Castellano, & Kim, 2013).

In applying this theoretical model, individuals are motivated to progress through a series of steps to align their behavior with their chosen occupation. It is then the individual employee and their needs, talents, and season of life that should predict their job satisfaction. It should not then be the demographic or genetic predispositions that predict the level of satisfaction in each employment position, such as telecommuting. The genetic predisposition (demographic information) for the ability to succeed and increased job satisfaction would greatly diminish the theoretical models that explain the alignment of individual attributes and success in the workplace (Judge, Ilies, & Zhang, 2012; Lubinski, 2004).

**Significance of the Study**

The researcher will examine the relationship between the number of days an employee telecommutes, demographic factors, and employee job satisfaction within the southern United States. If the number of days an employee telecommutes can be directly related to the satisfaction, and thus performance within an organization (Latif et al., 2013), employers may begin to allow some level of telecommuting within their organizations. They would also be able to predict who within their organization would derive the greatest level of satisfaction and thus be more productive (Aboelmaged & El Subbaygh, 2012).

The insights yielded from the study could help companies target specific individuals in their recruiting efforts who may excel in telecommuting programs.
Telecommuting can be used to save the business money (Dutcher, 2012), conserve energy (Nakanishi, 2015), increase individual performance (Aboelmaged & El Subbaygh, 2012), and even serve as accommodation to employees that have physical disabilities (Rocco, 2014). As a result, companies may begin identifying potential employees that have the characteristics to excel in a telecommuting role (Johnson, 2016).

**Methodology**

The methodology proposed for this study is quantitative. In this study, the researcher proposes to examine the relationship between multiple variables; thus, a quantitative study is the most appropriate for measuring the existence and the level of relationship between the variables (Bryman, 2012). The analysis of the responses to the survey used descriptive and inferential statistics because the results of the quantitative study were numerical data. Since the design was organized to determine the existence of a relationship rather than the existence of a causal relationship, the validity of causal ties between variables is not a concern (Nimon & Oswald, 2013).

**Research Design**

A non-experimental, quantitative, correlational design was used for this study. The relationship between three independent variables, the number of days an employee telecommutes and demographic factors (both age and gender) was used to examine the existence of a relationship with the dependent variable, employee job satisfaction, as measured by the MSQ Short Form. Because the researcher examined the relationship between two variables, the methodology chosen is the most appropriate (Bryman, 2012). Also, since the design of the research study is to determine the existence of a relationship rather than causation, a correlational design should be utilized (Nimon & Oswald, 2013).
Researchers used this research design in previous studies regarding employee satisfaction and telecommuting (Johnson, 2016; Saadatabadi, 2013). The target population was narrowed down to telecommuters in the southern United States rather than the entire country as in the previous study (Johnson, 2016). If the null hypotheses are not rejected or provide different conclusions from the earlier study, future researchers could apply this research design to other regions of the country to determine if they provide different results.

**Definition of Terms**

**Electronic cottage.** An office environment created inside an employee’s home and includes a means of conducting business while connected to a company or organization’s computer network (Nyaanga, Ehiobucke, & Ampadu-Nyarkoh, 2012).

**Flexible work arrangement.** A program or policy in which an organization or company allows employees to alter their core operating hours or location from what is considered a standard work arrangement to achieve a better work-life balance (Rocereto, Gupta, & Mosca, 2011).

**Job satisfaction.** The level of positive emotions, feelings, or actions employees display or feel concerning their current employer, tasks, and responsibilities (Basak, 2014).

**The level of telecommuting.** The number of days (1 day to 7 days per week) an employee works at a location other than their company’s physical location (Johnson, 2016; Martin & MacDonnell, 2012).

**The Southern United States.** The region consisting of Alabama, Arkansas, Delaware, the District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland,
Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia (Unites States Census Bureau, n.d.).

**Telecommuter.** An employee or contractor who can perform functions, roles, or responsibilities from a location other than the company’s physical location through the use or application of technology (Bureau of Labor Statistics, 2015; Calvasina et al., 2012; Johnson, 2016; Madlock, 2013).

**Telecommuting.** Also known as telework and working from home, telecommuting is the act, or arrangement, of completing tasks, roles, or responsibilities from a location other than the company’s physical location (Davis, 2012; U.S. Office of Personnel Management, 2013).

**Virtual Office.** The site from where tasks, roles, or responsibilities are completed when this place is different from the company’s physical location (Kern, 1983). The differentiation between the virtual office and the electronic cottage is that the home is referred to as an electronic cottage whereas the virtual office may include the home, but relates to any location work is performed other than the office.

Assumptions, Limitations, Delimitations

**Assumptions**

Without assumptions, the level of open complexity and infinite variables would not allow the narrowing of curiosity to a single research question (Leedy & Ormrod, 2010). This research study relied on two primary assumptions:

- Each participant and respondent to the survey were truthful and forthcoming concerning the provided information. Since their participation was voluntary and
participants had the ability to withdraw from the study at any time; this assumption should not influence this study or future studies negatively.

- The organizational culture of a company was insignificant on the impact of the job satisfaction of a telecommuter. Traditionally, organizational culture has an impact in regards to employee satisfaction (Ahmed & Veerapandian, 2012), but because of the remote nature of the employee’s location, it is assumed that organizational culture has minimal impact from organization to organization.

Limitations

The following aspects limit this research:

- Because the sampling method used was a convenience sample, the generalization attributes to a larger population will be limited (Acharya, Prakash, Saxena, & Nigam, 2013)

- The use of a correlational research design also presents limitations concerning generalization and participant behavior. The ability to generalize each person’s behavior in this study is difficult to attribute to the larger population. The purpose of the study was to determine a relationship between variables, not attribute behavior, but the limitation of the correlational design is inherently present.

- Finally, the participants respond to the survey questions based on their paradigm and perspective. Although one of the assumptions of the study is that respondents were truthful, each respondent may lack the experience or introspection to address each question or instance adequately, and thus, bias the responses (Simon & Goes, 2013).

Delimitations
The delimitations are boundaries set to remain within the original scope and purpose of the research (Davis, 2012; Golden, 2001; Johnson, 2016). Each of the following delimitations is a clarification or boundary set to explain the purpose of the research; more specifically, what the purpose was not.

- The researcher will not compare job satisfaction levels between telecommuters and traditional employees, nor will employees with other arrangements with their employers be compared.
- Job satisfaction levels between different companies or between different types of organizations will not be compared.
- Various types of jobs or different functions within an organization, which may or may not suit telecommuting as an alternative work arrangement will not be explored or compared.

**Summary and Organization of the Remainder of the Study**

The purpose of this non-experimental, quantitative, correlational study was to determine the relationship between the level of telecommuting and demographic information (age and gender) to employee job satisfaction for participants that telecommute at least once per week in the southern United States. Viewed through the theory of purposeful work behavior (Barrick et al., 2013), the researcher analyzed the background of the study and the relevant literature. A non-experimental quantitative, correlational analysis was then performed using the variables presented (demographic information, the level of telecommuting, and job satisfaction as measured through the MSQ Short Form) to determine if a relationship exists.
Throughout the remainder of the study, the researcher will review the relevant literature, including the underlying theories of purposeful work behavior and the history of telecommuting. The research design will be clearly described and using past research studies and their conclusions, explain the need for the study and the relevance of the research questions and associated hypotheses.
Chapter 2: Literature Review

Introduction and Background to the Study

The purpose of this non-experimental, quantitative, correlational study was to determine the relationship between the level of telecommuting and demographic information (age and gender) to employee job satisfaction for participants that telecommute at least once per week in the southern United States. Chapter 2 consists of the literature review, a compilation of the history of telecommuting and the seminal works on person-situation theories. The variables used in this study, the level of telecommuting, job satisfaction, and the importance of demographic information, will also be explored.

Johnson (2016) utilized the two individual demographic characteristics to study the effects on job satisfaction and incorporated the number of days an employee telecommutes, or the level of telecommuting into the statistical framework. In the recommendations for further research, Johnson (2016) suggested that further research is conducted to advance the understanding of the relationship between the demographic element of age and the level of telecommuting. Through the second research question, the researcher continued the research to fill the need or gap in the literature.

The researcher examined contemporary studies in both peer-reviewed articles and dissertations and arrived at several areas of focus, including the purposeful work behavior theory and the literature on the variables of job satisfaction, telecommuting, and the demographic elements of age and gender. To review the information, ProQuest, the CSU Library, and Google Scholar were all reviewed by the researcher. The primary focus remains the purposeful work theory, the theoretical framework for this study. This theory
focuses on the behavioral impacts of individual characteristics on the external environment and the inner satisfaction and well-being of the person (Barrick et al., 2013).

Literature was also reviewed for each variable in the study. In the areas of business, each variable has been extensively studied, but absent in the literature is research on these variables in the form of these research questions (Johnson, 2016). Telecommuting, as a phenomenon and work practice, has been researched for many years (Asgari, 2015; Calvasina et al., 2012; Klotz, 2013; Matos & Galinsky, 2015). The differences in men and women have also been extensively researched in business environments (Dabic et al., 2012; Eriksson & Sandberg, 2012; Hoogendoorn, Oosterbeek, & van Praag, 2013; Huang & Kisgen, 2013; Kidwell, Stevens, & Bethke, 1987; Lim & Envick, 2013). So have the differences in the generations working side by side in the workforce (Alexander & Sysko, 2013; Bolton et al., 2013; Ghazzawi, 2011; Lu & Gursoy, 2013; Paul, 2012).

**Theoretical Foundations**

Person-interaction theories are models built to explain how an individual or a group of persons may interact with their environment based on the individual’s traits and the situation in which they are placed (Johnson, 2016; Leroy et al., 2015). The person-interaction theory that will frame this study is the purposeful work behavior theory developed by Barrick et al. (2013). The purposeful work theory is a derivation of the five-factor model of personality and expands on how individual characteristics, in combination with job characteristics, can influence work outcomes.

The purposeful work theory, as with other person-interaction theories, relies on differences between individuals to explain the behavior or interaction through the
application of personal characteristics (Barrick et al., 2013). In this research study, the individual characteristics through which the job satisfaction rating will be examined are the demographic elements of age and gender, as well as the number of days an employee telecommutes. If the job satisfaction of the employee is related to the individual characteristics of the worker, then the purposeful work theory can help explain how certain individuals may be more satisfied in certain positions than others.

The basis for the person-interaction theory is the attributiveness of individual characteristics to an interaction to predict an outcome or result (Barrick et al., 2013; Digman, 1990). Each of the first two research questions uses a specific individual trait and compares the outcome or interaction in the workplace in the form of job satisfaction. The third research question focuses on whether a relationship exists between the age of the individual and the level of telecommuting. If a relationship exists, then the model can explain how the characteristics of the person can affect the outcome of the interaction.

Individual personality traits are difficult to quantify and thus have been described as having more of a qualitative nature (Allport & Allport, 1921). Nevertheless, Allport and Allport (1921) described and defined over 50 personality traits. These traits can be described as either nomothetic or idiographic (Phelps, 2015). Nomothetic traits are those that would be commonly exhibited in groups of others, whereas idiographic traits are those that make each individual unique. These traits, when properly identified in everyone, can be predictive of the types of behavior each person may exhibit (Allport & Allport, 1921). It was upon this theory that each of the person-interaction theories was developed (Thompson, S., 2015).

The purposeful work theory, developed by Barrick et al. (2013), integrates
different aspects of the five-factor model (Digman, 1990), and the job characteristics theory (Hackman & Oldham, 1976) to attempt to further the literature in person-interaction theories. The purposeful work behavior theory establishes four goals that an employee must strive to attain in order to achieve a purposeful work behavior, in which their personal, individual traits define their work (Barrick et al., 2013). These higher order goals are autonomy, achievement, communion (or relatedness), and status (or power) (Barrick et al., 2013). Purposeful work is defined by the impact of attaining these higher order goals and integrating them into both the individual traits and the job characteristics and work outcomes (Barrick et al., 2013; Gully et al., 2013).

The central tenant of the principle is that individual personality traits can initiate the purposeful work and goal strivings within the employee. When the factors of motivation and satisfaction are associated with various aspects or characteristics of the job, employees can experience a psychological state associated with self-actualization and experienced meaningfulness (Beitel et al., 2014; Ivtzan, Gardner, Bernard, Sekhon, & Hart, 2013). The attainment of this meaningfulness in the workplace can trigger task-specific processes focused on motivation and work-related outcomes (Barrick et al., 2013).

Since the practice of telecommuting can help employees achieve all the higher order goals of purposeful work, this study is focused on the attributiveness of the individual demographic traits and characteristics to overall job satisfaction. If validated, the hypotheses proposed in this study can help demonstrate the link between certain individual characteristics and overall job satisfaction. If each of the hypotheses is validated, then the increase in the level of telecommuting, amongst a certain
demographic, can help employees attain purposeful work and define their work through their individual characteristics.

**Telecommuting**

Prior to the industrial revolution, most workers were employed in agricultural or mining professions (Freudenberger & Cummins, 1976). It was the industrial revolution that brought workers out of the fields and mines and centralized them into the big cities. Telecommuting is the result of technology allowing employees to continue to work for a large company but maintain the ability to live outside the city as many did prior to the industrial revolution (Westfall, 2004).

Beginning in the 1970s, thanks to the technological advances that allowed communication through a medium of telephone networks, individuals began searching for a way to look for alternatives to working in a centralized location (Mekonnen, 2013; Waters, 2015). When utilized properly, telecommuting began to yield positive results, both with the employees through an increase in productivity, but with the companies in a decrease in costs as well (Bayrak, 2012). With the oil crisis coinciding with that stretch of time, it spurred more companies to look for ways to reduce costs without sacrificing quantity or quality (Calvasina et al., 2012).

Beginning in the 1980s, technology began allowing branch locations and remote employees the ability to connect to computer servers and synchronize data in a relatively short amount of time. Capacity to decentralize the labor force allowed organizations to decrease overhead costs and recruit employees from a larger geographic pool. During the 1990s, machines and robots began to replace factory works on moving assembly lines reducing the human interaction required (Haigh, 2014).
Telecommuting is not isolated to the United States. A significant part of the workforce in Edmonton, Canada who partakes in the traditional commute have indicated they would be willing to sacrifice the drive, carpool, or other public transportation methods for the opportunity to telecommute (Nurul Habib, Sasic, & Zaman, 2012). Workers in the Netherlands, 27% of them, have also shown dissatisfaction with the freedom or flexibility to choose their work locations or lack thereof (Vink, Blok, Formanoy, de Korte, & Groenesteijn, 2012). Nearly 60% of Europeans would opt for telecommuting over the traditional commute to work (Vitola & Baltina, 2013).

All around the globe, employees are looking for alternatives for the traditional commute (Aboelmaged & El Subbaygh, 2012; Nurul Habib et al., 2012; Vink et al., 2012). For those recently graduating from college, the ability to telecommute is becoming an increasing priority when searching for a career (Koh, Allen, & Zafar, 2013). There are even opportunities to conduct internships via telecommuting, but the challenges associated with virtual internships have kept the practice from becoming widespread (Howard, 2007).

The ability to manage their own work-life balance is one of the priorities, and primary benefits telecommuters seek when choosing this option (Fonner & Stache, 2012). The flexibility to choose the number of days to telecommute can also be beneficial, especially to mothers of younger school-age children who use the arrangement to maintain a personal level of work-life balance (Dockery & Bawa, 2014). However, there is also evidence that the accessibility of work in the household can negatively affect the work-life balance as well (Allen, Johnson, Kiburz, & Shockley, 2013; Dockery & Bawa, 2014; Grant, Wallace, & Spurgeon, 2013).
While employees prefer to telecommute for personal reasons, employers often choose to allow telecommuting to increase job satisfaction (Ahmed & Veerapandian, 2012; Greenhill & Wilson, 2006), reduce turnover, and increase the overall effectiveness and profitability of the organization (Dutcher, 2012; Gajendran & Harrison, 2007; Latif et al., 2013). The government and other environmental organizations enjoy the telecommuting option because it can decrease the number of cars on the road and thus reduce carbon emissions (Tremblay, Paquet, & Najem, 2006; U.S. Office of Personnel Management, 2013). However, telecommuter isolation from the organization remains a top concern of management when employees do not interact with other employees, thus decreasing camaraderie and a kinship with the organizational mission (Cooper & Kurland, 2002; Davis, 2012; Golden, 2001; Marshall, Michaels, & Mulki, 2007).

Opponents of telecommuting often point to the blurring of the lines between work and home as a problem area that creates work-family conflicts (Noonan & Glass, 2012). Noonan and Glass (2012) also point to an increase in the number of hours from the standard workweek because of the accessibility of the employee. Employers are also more likely to increase the workload or responsibilities of a telecommuter, which can have the opposite effect on morale, thereby eliminating the benefits of telecommuting.

**Job Satisfaction**

Job satisfaction can be divided into three segments: person-job fit, person-organization fit, and person-environment fit.

**Person-job fit.** Person-job fit theory is also useful in analyzing the individual’s specific skill set prepares them or fits within the context of a particular position or job (Khanin, 2013). This theory presupposes that based on an employee’s attributes; they are
better suited (or not) for certain types of jobs (Thompson, Sikora, Perrewe, & Ferris, 2015). The theory could also predict the likelihood of whether an employee is considering or not considering leaving their current job, based on job satisfaction, for another position for which they feel better suited to perform (Lauver & Kristof-Brown, 2001). Work engagement by the employer has been shown to increase the satisfaction of the employee and create or increase the person-job fit impression of the employee (Lu, Wang, Du, & Bakker, 2014).

**Person-organization fit.** The predictive nature of personality traits of individuals placed into specific situations only arises when known, and quantifiable models are used to apply the assumptions. One of the primary precepts of the person-organization fit model is that it deemphasizes either the person or the situation to emphasize the effect the person has on the situation (Chatman, 1989). The relative fit, or oneness an employee feels with an organization, is most often perceived at a single point in time (Swider, Zimmerman, & Barrick, 2015). These perceptions guide how an employee feels their goals, values, and ambitions align with those of an organization. The more closely those valuations align, the more satisfied an employee will feel (O'Reilly, Chatman, & Caldwell, 1991). Person-organization fit is defined by how much an employee has personally invested in seeing the organization succeed because their goals and values are interconnected.

**Person-environment fit.** As implied, the implication of a person-environment fit is the correlation between the individual characteristics of an individual and the environment in which they work. This is the combination of the person-job fit and the person-organization fit for an overall view of a person in the workplace, in regards to
both task and corporate culture (Lu et al., 2014). A decrease in the person-environment fit can cause in increase in stress and a decrease in job satisfaction. The lack of alignment between the characteristics of the person, such as abilities and values, and the environment can generate varying degrees of psychological, physiological, and behavioral complications that can not only decrease an employee’s satisfaction with their job but increase morbidity and mortality (Edwards & Cooper, 2013).

**Demographic elements**

In this study, the researcher will focus on two elements of demographics: Age and gender.

*Elements of Age.* For the first time in history, four generations of Americans are working side by side in the workplace: traditionalists, baby boomers, members of Generation X, and millennials (Al-Asfour & Lettau, 2014). According to Al-Asfour and Lettau (2014), the vast majority of these workers are baby boomers waiting to retire, while the smallest group in the workforce is the traditionalists. For each of these different generations, general stereotypes portray a different lifestyle, a different set of values, and a different motivation for achieving success (Weeks, 2014). Each of these four generations exhibits different experiences, values, and views on areas of life, such as work and family (Hillman, 2013; Paul, 2012).

Traditionalists are considered the group of workers born between 1922 and 1943 (Al-Asfour & Lettau, 2014). The vast majority of this population, while not actual combatants in World War II, did keep the country running and experienced the return of the warfighter. Traditionalists also experienced the Cold War between the United States and the Soviet Union. In general, they are considered to be hard working as well as
dedicated and loyal to their employer and cause. Those who have not yet retired are most likely in management positions and look for the value of loyalty in their employees (Lim & Epperly, 2013)

Baby Boomers are most associated with the return of the Traditionalist generation warfighter from World War II and their desire to settle down to raise a family. As a result of the return home, America realized a spike or boom in birth rates, hence the moniker, “baby boomer” (Al-Asfour & Lettau, 2014). While most were too young to experience and remember the ideologies of the Cold War, including the Korean conflict, they experienced the civil rights movement, the birth of the television, and the Vietnam conflict. This generation can usually be characterized by their drive for success and personal growth (Hillman, 2013; Lim & Epperly, 2013). Baby boomers, in general, enjoy the evolution of technology to ease many burdens in their life (Favero & Health, 2012).

Those associated with Generation X are usually born between 1965 and 1980 (Lim & Epperly, 2013). Those who grew up as a part of this generation can associate with historical events such as the fall of the Berlin Wall, the advent of music videos for television, the intensification of AIDS, and the rise of Michael Jackson in popular culture. In the workplace, these employees generally challenge authority and prefer to accomplish a task and move on (Seipert & Baghurst, 2014). In general, members of this generation value diversity, teamwork, and a more collaborative working environment and utilize technology whenever possible (Al-Asfour & Lettau, 2014).

Also referred to as Generation Y, Millennials are computer-oriented and technologically savvy and can be associated with those born between 1981 and 1999 (Al-Asfour & Lettau, 2014). Some of the historical events through which this generation
experienced their formative years include the global war on terror precipitated by the September 11th terrorist attacks in Washington, D.C., New York, and Pennsylvania. They also experienced Columbine and an increase in school shootings, as well as Hurricane Katrina in 2005. Those who identify as millennials are often driven by the acquisition and accumulation of information; they want to be first movers and gather the rewards associated with such swift action (Seipert & Baghurst, 2014). They are more likely to keep up with family and friends through digital media, such as social media websites or applications.

These variances in outlook and expectations can significantly affect the culture of an organization (Alexander & Sysko, 2013; Putre, 2013). Workplace engagement, an important aspect of job satisfaction (Davis, 2012; Lu et al., 2014) can also be a challenge amongst the different generations because of the differences in valuations and values (Schullery, 2013). The researcher, through this study, will attempt to ascertain if the age of the individual, and thus the associated generation of the employee, affects the likelihood of increased employee satisfaction with the growth in the level of telecommuting or if the age of the employee is directly correlated with the frequency of telecommuting.

Elements of gender. Researchers have also established that members of each gender can have different viewpoints on issues and possess different worldviews (Dabic et al., 2012; Eriksson & Sandberg, 2012; Groeneveld, Tijdens, & van Kleef, 2012). A search for “gender differences” in Google Scholar yielded about 651,000 results. Gender differences is a very heavily researched social field and include results for human resource studies, educational aspects, business related studies, and even how the different
genders interact with information technology (Johnson, 2016).

Even from younger ages, males and females react differently to different stimuli, such as in early childhood development programs (Anderson, 2008). Females also tend to score higher on achievement tests and achieve better grades through elementary school (Voyer & Voyer, 2014), although some of this can be attributed to the perceived lack of engagement for males and the consistently higher rating for girls by their teachers (Lam et al., 2012). Young girls and boys also express emotion differently (Chaplin & Aldao, 2013) and women are more risk averse than their male counterparts (Booth & Nolen, 2012; Charness & Gneezy, 2012).

Some of the interesting, and controversial findings include such results as men progress faster through careers (Groeneveld et al., 2012), are more direct in communicating (Dabic et al., 2012), and are more educated (Fisher, Hayhoe, & Lown, 2015). Women, though, in general, are more social and outgoing (Eriksson & Sandberg, 2012), are less likely to start a business (Dabic et al., 2012) and are more liable to spend time away from the office (Fisher et al., 2015). Through this study, the researcher will attempt to ascertain if the gender of the individual affects the likelihood of increased employee satisfaction when allowed to telecommute.

**Methodology**

To determine the research method and design, a research problem and research questions must first be clearly understood and established (Zachariadis, Scott, & Barrett, 2013). The methodology proposed for this study is quantitative. The purpose of this non-experimental, quantitative, correlational study was to determine the relationship between the level of telecommuting and demographic information (age and gender) to employee
job satisfaction for participants that telecommute at least once per week in the southern United States.

In this study, the researcher proposed to examine the relationship between multiple variables; thus, a quantitative study is the most appropriate for measuring the existence and the level of relationship between the variables (Bryman, 2012). The analysis of the responses to the survey used descriptive statistics because the results of the quantitative study was numerical data. Since the design was organized to determine the existence of a relationship rather than the existence of a causal relationship, the validity of causal ties between variables is not a concern (Nimon & Oswald, 2013).

Effect Size

In the past few years, there has been an increased number of articles calling for more researchers to include the effect size of the study in journal articles and similar studies (Fritz, Morris, & Richler, 2012; Kelley & Preacher, 2012). There are three primary reasons for including the effect size in both the proposal and the results of a study according to Lakens (2013). First, it provides a standardized magnitude by which other researchers can compare studies, outcomes, and variables outside of just statistical significance. Second, it allows researchers to compare effect sized across studies to draw larger conclusions about the results. Third, it allows future research to be conducted using the same effect size. The literature on effect sizes (Cohen, 1988; Hemphill, 2003; Lakens, 2013) and other studies involving job satisfaction and telecommuting (Gajendran & Harrison, 2007; Johnson, 2016; Kossek, Lautsch, & Eaton, 2006) point to the use of a medium effect size as a benchmark with a beta of .80.

Avoiding Type I or Type II Errors
This research relied on a null hypothesis significance test to draw conclusions regarding the collected data. When deciding which error would be more detrimental to the study, the outcome of each hypothesis is examined in relation to the status quo of the business environment (Lakens, 2013). In a Type I error, the false rejection of the null hypothesis would result in a predictive model that is false (Cohen, 1988). This could drive some managers to select applicants based on a faulty assumption. In a Type II error, the failure to reject an incorrect hypothesis would not result in the development of a predictive model, thereby leaving the status quo of hiring practices for telecommuting positions. In this instance, a Type I error would result in greater harm than a Type II error.

Instrumentation

The researcher utilized the Minnesota Satisfaction Questionnaire (MSQ) Short Form instrument for measuring adjustment to work, or employee job satisfaction (Weiss, Dawis, England, & Lofquist, 1967). This instrument was used in order to ensure both reliability and validity in the study (Dhammika, Ahmad, & Sam, 2012). The researcher utilized a demographic questionnaire to establish all three of the independent variables. These are the number of days per week the employee telecommutes, as well as both the age and gender of the participant.

The MSQ is authorized for non-commercial research and educational purposes without written permission. The University of Minnesota no longer sells the MSQ questionnaires. All forms are available under a Creative Commons Attribution Non-Commercial 4.0 International License. As a well-known and widely used instrument, the MSQ Short Form has been found to have a reliability score of .70 (Edgar & Geare, 2005;
Gundogdu, Yucel, Kucuk, & Karatas, 2012; Hancer & George, 2003; 2004). The instrument for data collection was SurveyMonkey, a web-based questionnaire and survey company that allows users to create surveys and gather the results electronically (Waclawski, 2012).

Summary

The purpose of Chapter 2 was to provide the necessary background information on previous research and literature for this non-experimental quantitative, correlational study. It was designed to determine the relationship between the level of telecommuting and demographic information (age and gender) to employee job satisfaction for participants that telecommute at least once per week in the southern United States. Through the theory of purposeful work behavior (Barrick et al., 2013), the researcher will analyze the fill the gap in the literature.

This was performed by using a non-experimental quantitative, correlational analysis using the variables presented (demographic information, level of telecommuting, and job satisfaction as measured through the MSQ Short Form) to determine if a relationship exists. Throughout the remainder of the study, the research design and methodology will be clearly explained. Using past research studies and their conclusions, the researcher will also explain the need for the study and the relevance of the research questions and associated hypotheses.
Chapter 3: Methodology

The purpose of this non-experimental, quantitative, correlational study was to determine the relationship between the level of telecommuting and demographic information (age and gender) and employee job satisfaction. The sample included participants that telecommute at least once per week in the southern United States. It is possible to utilize the results of this study to inform business leaders on the topic of telecommuting, its advantages, and its disadvantages. If the null hypotheses can be rejected, then there can be predictors for which employees could derive more satisfaction from the opportunity to telecommute.

In this chapter, the methodology for the proposed research will be examined as well as a restatement of the problem, and how the research design allowed the researcher to address the research questions adequately. By using the non-experimental quantitative, correlational design, the data was analyzed to determine if a relationship exists between the independent and dependent variables. This chapter will also contain information on the population and sample size to obtain results that can provide statistically significant results to address the research questions.

Chapter 3 will also contain information on the instrument to be used, the data collection procedures, and how the data collected will be analyzed and scrutinized to determine if the null hypotheses can be rejected and the alternative hypotheses accepted. As with any research using human subjects, there will be ethical considerations as well as the storage, retention, and destruction of any information collected in the course of the research study. There are also limitations to this particular form of research, and those will be examined later in this chapter as well.
Statement of the Problem

The problem is a lack of knowledge concerning the relationship between telecommuting, demographic factors, and job satisfaction in the southern United States (Johnson, 2016). Several of the predictor variables have been researched independently (Ghazzawi, 2011; Khan et al., 2013; Malik, 2011). The level of telecommuting and the link between demographic factors and employee job satisfaction have also been researched and recorded in the literature (Aboelmaged & El Subbaygh, 2012; Church, 2015; Coveyduck, 1997; Johnson, 2016).

Researchers have studied the relationship between the number of days an employee telecommutes, or the number of days an employee telecommutes, and demographic factors to predict job satisfaction from telecommuting (Johnson, 2016; Saadatabadi, 2013), but research has not been conducted using telecommuters from a specific region of the country. The researcher engaged in a study to address the gap in the literature and to determine if a relationship exists between demographics and the level of telecommuting in regards to job satisfaction in the southern United States.

Research Questions and Hypotheses

There were several variables proposed for this study. For each of the first three research questions, a confirmed null hypothesis would predict no existing correlation, whereas a rejected null hypothesis would indicate the existence of a linear relationship. The first research question uses the level of telecommuting as the independent variable and the job satisfaction rating from the MSQ as the dependent variable. For the second research question, the dependent variable remains the job satisfaction rating, but the independent variable changes to become the age of the telecommuter. In the third
research question, the dependent variable is the gender of the participant while the
independent variable remains unchanged. If any of the null hypotheses are rejected, then
the data for that research question will be fed into a multiple linear regression model for
the fourth research question, in which the researcher will attempt to develop a predictive
model.

For this study, the researcher combined the MSQ Short Form with a standard
demographic questionnaire to gather the necessary data required by the variables used in
this study. The survey questionnaire (Appendix C) will be uploaded into SurveyMonkey
and formatted to guide the respondent through a series of sections. The information
gathered will be completely anonymous (Waclawski, 2012), participation will be
voluntary, and respondents will be able to leave the survey at any time. In this study, the
researcher proposed to examine the relationship between multiple variables; thus, a
quantitative study was the most appropriate for measuring the existence and the level of
relationship between the variables (Bryman, 2012).

Using the variables gathered in the survey questionnaire, the researcher should be
able to provide an answer or conclusion to each of the following research questions and
validate either the hypothesis or null hypothesis for each research question.

RQ1: What is the relationship between the number of days telecommuting and job
satisfaction in a telecommuting environment?

H10: There is no relationship between the number of days an employee
telecommutes and job satisfaction in a telecommuting environment (r=0)

H1A: The number of days telecommuting does predict job satisfaction (r≠0)
RQ2: What is the relationship between the age of the employee and job satisfaction in a telecommuting environment?

H20: There is no relationship between the age of an employee and job satisfaction in a telecommuting environment \( (r=0) \)

H2A: There is a relationship between the age of an employee and job satisfaction in a telecommuting environment \( (r\neq 0) \)

RQ3: What is the relationship between the gender of the employee and job satisfaction in a telecommuting environment?

H30: There is no relationship between the gender of an employee and job satisfaction in a telecommuting environment \( (r=0) \)

H3A: There is a relationship between the gender of an employee and job satisfaction in a telecommuting environment \( (r\neq 0) \)

RQ4: How does the number of days telecommuting, age, and gender predict job satisfaction in a telecommuting environment?

H40: A predictive model cannot be created \( (R^2=0) \)

H4A: A predictive model can be created \( (R^2\neq 0) \)

Each of the null hypotheses can be addressed and rejected or accepted by using a combination of the small demographic section and the MSQ Short form to evaluate job satisfaction. It is anticipated that a relationship does exist and each of the null hypotheses will be rejected. If the null hypothesis is rejected, then each corresponding data set will be added to the multiple linear regression test to determine if the variables can be included in a predictive model for organizations and managers to use.

**Research Methodology**
This study used a correlational design in order to investigate the possible relationship between the variables. The researcher proposed to examine to what extent, if any, a relationship exists between multiple variables; thus, a quantitative study is the most appropriate for measuring the existence and the level of relationship between the variables (Bryman, 2012). The research design uses descriptive statistics to determine if a relationship exists between the independent variables and the dependent variables (Leedy & Ormrod, 2010).

The analysis of the responses to the survey will use descriptive and inferential statistics because the results of the quantitative study will be numerical data. Since the design is organized to determine the existence of a relationship rather than the existence of a causal relationship, the validity of causal ties between variables is not a concern (Nimon & Oswald, 2013). Correlational statistical studies are valid methods to determine the relationship between variables in the natural environment and are not manipulated by the researcher (Leedy & Ormrod, 2010).

**Research Design**

A quantitative, correlational design was used for this study. The relationship between three independent variables, the level of telecommuting, age, and gender were used to examine the existence of a relationship with the dependent variable, employee job satisfaction, as measured by the MSQ (Short Form). Because individual variables are being compared to determine if a relationship exists, a quantitative study was the most appropriate method to utilize (Mekonnen, 2013).

A qualitative study would not be appropriate for a study such as this due to the large number in the target population and the statistical, data-driven approach to
answering the research questions (Lewis, 2015). A non-experimental quantitative, correlational design was employed because the research questions revolve around the impact of one variable on another (Mira et al., 2012). A correlational research design should be used to measure all variables when participants in the study are self-reporting data (Quratulain & Khan, 2015).

This research design allows for a research questionnaire to be publicized and disseminated to those who meet the screening criteria. Once distributed, the response period remained open for a set period of time, or until the minimum number of the replies were received. After the survey was closed, the responses to the questions corresponded to specific variables and statistical tests were performed to determine the level of the relationship (Lewis, 2015; Mekonnen, 2013).

**Population and Sample Selection**

The population for this study consisted of those employees who telecommute at least once per week within the southern United States. The target population is telecommuters who telecommute once per week in the southern United States and are members of Facebook, LinkedIn or view the advertisement for the research study in trade message boards for professional organizations, such as the National Contract Management Association (NCMA), National Institute of Governmental Purchasing (NIGP), American Academy of Professional Coders (AAPC), and the American Health Information Management Association (AHIMA). The challenge of reaching such a large, diverse population results in the need for a cluster sampling technique that can adequately fulfill each of the groups identified (gender, age, and level of telecommuting). Participant selection consisted of a nonprobability sampling technique in which the probability of
being selected for participation is unknown (Acharya et al., 2013). The most common, and popular method of nonprobability sampling, which will be employed by the researcher is the purposive sampling technique.

The population consisted of members of Facebook, LinkedIn, SurveyMonkey, and certain trade message boards (in industries known to utilize an above average percentage of telecommuters) from the southern United States. Based on USCB estimates (n.d.) the number of telecommuters in the southern United States could range from just over 1 million to 12.6 million. The addition or transition of these telecommuters into the workforce can alter organizational functions and structure, depending on the industry. The desired sample size was calculated using G*Power Software (Faul, Erdfelder, Buchner, & Lang, 2009). Based on three predictor variables and a medium effect size equal to $f^2 = .15$, $\alpha = .05$, and $\beta = .80$, the required sample size is 77 (Figure 1).
Those who will access the survey will provide their consent to participate in the study by selecting “I agree” following the consent form, purpose of the study, and the rights of the respondents.

**Instrumentation**

The beginning of the survey contained a screening question that asked the participant if they were a telecommuter. If the participant answers “yes” to the question, they were allowed to continue. If they chose “no,” they were brought to the end of the survey without entering any information. Participants were also asked if they were primarily located in the southern United States. The next set of questions requested...
certain demographic information. The participants were asked if they were male or female and to enter their current age in whole numbers. Responding to these questions was mandatory since they were used as variables in the study.

The remainder of the instrument used to collect data from respondents was the MSQ Short Form (Appendix B). The purpose of the MSQ is to measure an employee’s level of job satisfaction (Weiss et al., 1967). The medium through which the survey was administered is an online survey development and delivery tool, SurveyMonkey. This specific instrument was chosen because of its use in the previous study regarding predictors and job satisfaction amongst telecommuters (Johnson, 2016).

The survey instrument used a five-point Likert scale with 1 equating to “very dissatisfied” and 5 being “very satisfied.” According to the operations manual for using the MSQ (Weiss et al., 1967), the 20 questions were then averaged for a maximum possible score of 5 and a minimum possible score of 1. The higher the employee scores on the test equates to a higher level of job satisfaction in their current role. While there are questions used in the MSQ that focus on both extrinsic and intrinsic factors (University of Minnesota, n.d.), the researcher is looking only at the overall job satisfaction of the employee as it relates to the predictor variables. The reliability of the survey is acceptable for research whether using the short or long form (Aburge, 2014). This survey instrument should solicit the necessary responses to adequately address each of the research questions and provide a conclusion, either confirming or rejecting the null hypothesis for each question.

Validity
The MSQ is being utilized because it is consistently validated (Dhammika et al., 2012) and has been compared to similar heterogeneous job satisfaction surveys, such as the Andrew and Withey Job Satisfaction Questionnaire (Rentsch & Steel, 1992), the Job Diagnostic Survey (Hackman & Oldham, 1975), the Work Role Inventory (Miller & Carey, 1993), and the Generic Job Satisfaction Scale (Macdonald & MacIntyre, 1997) and found to have a high internal reliability (Saane, Sluiter, Verbeek, & Frings-Dresen, 2003). The internal validity of a survey instrument relies on the ability of the questions to explain the results, or outcome, of the study. The confirmation of the capacity for the product of the MSQ to predict job satisfaction is referred to as its internal validity. The performance of the MSQ in previous studies, or the construct validity, proved this is the appropriate instrument to use to measure job satisfaction (Aburge, 2014; Gundogdu et al., 2012; Saane et al., 2003).

The external validity is the ability to take the results of the survey and generalize about the overall satisfaction of the population (Lancsar & Swait, 2014). The higher the external validity of an instrument equates to a better probability of successfully extrapolating the results over parts of the population who did not participate in the original study. One of the most important tests of external validity is the ability for the MSQ to consistently measure job satisfaction over an extended period of time (Masvuare, Ruggunan, & Maharaj, 2014).

Reliability

The MSQ and its frequent use provide assurance of the reliability and validity of the instrument for this research study (Dhammika et al., 2012). The reliability of the survey has been found to be .70 (Gundogdu et al., 2012). The reliability of the survey is
acceptable for research whether using the short or long form (Aburge, 2014; Weiss, Dawis, England, & Lofquist, 1967).

A Cronbach alpha test will be used to measure reliability, and the results will be included in Chapter 4. This test is used to measure the internal validity of an instrument and shows how closely related a set of items are grouped. A Cronbach alpha coefficient greater than .70 falls within the acceptable range for use in research studies of this type (Leedy & Ormrod, 2010; Norusis, 2009).

Data Collection Procedures

The collection of the required data occurred using an anonymous self-administered internet-based survey managed through the SurveyMonkey survey tool. The study was posted on Facebook and LinkedIn, as well as on trade message boards for professional organizations. Personal invitations were also sent via email to selected individuals who are known to meet the screening criteria. Each of these invited participants were encouraged to forward the invitation to any in their professional network as well. To secure an adequate number of participants in the study, additional participants were purchased through SurveyMonkey’s online service because the requisite number was not reached by the end of the study’s open access dates. These purchases were narrowed by geographic location and employment status (SurveyMonkey, n.d.).

Participants were recruited through the personal network of professionals on the social media sites Facebook and LinkedIn. A link to the survey instrument was provided in both a status update and through personal messaging. The consent form, the purpose of the study, and the rights of the participant were given on the first page of the survey
Email correspondence will also be sent to other professionals who meet the screening criteria. This email will contain a brief overview of the study and prompt them to click on the link provided. The link will bring them to the same survey instrument on SurveyMonkey to which other participants are also brought. Because all responses will be provided through the SurveyMonkey website, no personal information will be shared with the researcher that can be traced back to a particular response (Waclawski, 2012).

Individual responses to survey questions are stored on the servers of SurveyMonkey to extrapolate reports and analyses until the conclusion of the study. No hard copies of information were kept or stored. The responses were stored digitally on SurveyMonkey’s website in the personal account of the researcher, which was password protected and only accessible by the researcher from any internet capable device. Following the conclusion of the study and the defense of the dissertation, the researcher will delete the survey and all corresponding responses from the account within ten business days. No backups of the research information will be created or stored at any time.

The completed survey questionnaire included the consent form, the purpose of the study, and the rights of the participants. The respondents were given two options as part of this screen. They were allowed to select “I agree” or “I decline” to the information provided. If they selected “I agree,” they were authorized to continue through the survey while those who selected “I decline” were thanked for their interest and were not allowed to continue in the survey. The responses to the demographic section of the questionnaire were stored along with the replies to the MSQ, and the raw data allowed the researcher to
correlate the responses and results of the MSQ section based on the answers to the selections on the demographic questionnaire.

Research question #1 involves the identification of a possible correlation between an independent variable (the level of telecommuting) and an dependent variable (the overall job satisfaction score from the MSQ Short Form). The raw data exported from SurveyMonkey resided in a Microsoft Excel spreadsheet. Each answer was coded according to the variables possible outcomes and the requirements of SPSS. For the level of telecommuting, the participant was asked to enter a whole number between “1” and “7” to identify the number of days per week they participate in telecommuting.

Question #2 allowed the participant to select their gender at the time of taking the survey. To adequately address the research question, participants will select either “male” or “female.” In Excel, the option for “male” will be coded with the numeral “0” and “female” will be coded with the numeral “1”. Question #3 will allow the participant to enter their age in a whole number.

The job satisfaction result of the MSQ Short Form is considered an ordinal variable (Schroder & Yitzhaki, 2015). Each respondent answered the question to the best of their ability by selecting a response ranging from “1” to “5” with “1” representing Very Dissatisfied and “5” representing Very Satisfied. The average of all the answers to the MSQ portion of the survey represents the participant's overall job satisfaction score. The lowest possible score is a 1 and the maximum score is 5. The average of the responses will represent the job satisfaction score aggregate and constitute the dependent variable in the first three research questions.

Data Analysis Procedures
In order to evaluate the validity of the hypotheses, the analysis focused on the following areas: (a) normality, (b) association, (c) and the presence of any outliers (Green & Salkind, 2013). The logarithmic transformation was required on any data set that was not normally distributed. The researcher followed a six-step approach for data analysis:

**Descriptive Analysis**

SPSS (2016) was utilized to analyze the participant’s responses using descriptive statistics. Frequency counts, percentages, means, and standard deviations were used to describe and categorize the demographic information and the participant’s perceptions regarding their job satisfaction. A summary of the information provided some insight into the participants that participated in the survey.

**Reliability Analysis**

Reliability analysis was performed to examine the internal consistency of the instrument and its ability to measure the intended variable (Edgar & Geare, 2005; Hancer & George, 2004). A Cronbach alpha test was used to measure the internal validity of the survey instrument and will show how closely related a set of items are grouped. A Cronbach alpha greater than .70 exceeds the acceptable range for use in research studies of this type (Leedy & Ormrod, 2010; Norusis, 2009).

**Test of Outliers**

The MSQ survey items were combined and averaged for a total job satisfaction score. This process transformed the individual ordinal variables into one continuous variable. The researcher then tested for outliers within the job satisfaction scores. Outliers can influence the mean and standard deviation of a variable (Prescott, 1975), and affect
subsequent tests. If outliers were detected, the researcher investigated each and decided to remove or retain those survey responses before performing additional tests.

**Test of Normality**

This study consisted of three continuous variables: Age, Telecommuting Days per Week, and the MSQ General Satisfaction Score. Prior to performing tests of association, each of these variables was tested for normality. The Kolmogorov-Smirnov (K-S) Test of Normality was used to determine if the values of the variable are normally distributed. If the test’s p-value was greater than .05, then the implied null hypothesis that the values were not normally distributed could be rejected (Lilliefors, 1967). If the values were not normally distributed (p-value < .05), the data could require additional data transformation or non-parametric tests would be used for hypothesis testing.

**Test of Association**

The three independent variables were tested for their association with the dependent variables based on their distribution. If both independent and dependent variables were normally distributed, then the Pearson Correlation Coefficient (r) would be calculated. If either the IV or DV is not normally distributed, then the Spearman Rank-Order Correlation Coefficient (rs) would be calculated.

**Multiple Linear Regression**

Multiple regression analysis enabled the researcher to examine the criterion variable from the combination of predictor variables (Chen, Li, Wu, & Liang, 2014). SPSS was used by the researcher to answer the research question and reject the associated hypotheses using inferential statistics. A stepwise approach to introduce the variables to the predictive model, based on the significance test for each of the independent variables,
allows the research to evaluate the contribution of each variable to the $R^2$ (Cohen, Cohen, West, & Aiken, 2002).

**Ethical Considerations**

This research study was conducted in accordance with the established practices, procedures, and parameters established by the Columbia Southern University Institutional Review Board. No participants were engaged, and no surveys were completed until approval had been granted by the board. One of the principal tenants of protection of participants in ethical research is that no participants, volunteers, or respondents are harmed in the course of the investigation or as a result of the research.

Ethical considerations for this study involve the participation of voluntary human subjects, their confidentiality, informed consent, and any risks or benefits to the participants. Once identified as being of the population for the study, each individual received the consent form and an invitation to participate in the survey. Their participation will be entirely voluntary, and participants may refuse to participate or stop participating at any point during the process without penalty.

Collected information, such as responses, IP addresses, and locations collected were treated as confidential and anonymous and stored with SurveyMonkey, a web-based questionnaire, and survey company. No personally identifiable information, such as name, address, phone number, social security numbers, or IP address was requested or captured. No data was provided to the researcher by participants outside of this service. There were no physical risks to the participants. Participants may have benefited from a formal analysis of their satisfaction, as an employee, concerning their current position.
Each individual involved as a participant or respondent was treated as autonomous; meaning they will be given all relevant facts about participation in the research study. If they choose not to participate, they were not coerced into participation (Ryan et al., 1979). Those with diminished autonomy were not be targeted since this research study is only targeted to those persons willfully and gainfully employed in the southern United States. Each participant received full disclosure about the risk involved with participation in the research study, as well as any possible rewards or benefits. The obligation of beneficence will extend to all participants, regardless of completion or willingness to participate (Ryan R. M., 1982).

All participants were treated equally, and no rewards or benefits were withheld unreasonably. Each individual was given the same opportunity to participate or refuse to participate and were not obligated to complete the research questionnaire once begun. All participants were given equal opportunity according to their intrinsic value as a person and a participant.

**Limitations**

Because the sampling method used was a convenience sample, the generalization attributes to a larger population can be limited (Acharya et al., 2013). Overall, the use of a correlational research design also presents limitations concerning generalization and participant behavior. However, the research can be duplicated on a different population and should receive similar results. The self-reporting of the participants also limits the attributiveness of the overall results to the general population.

The purpose of the study was to determine the relationship between variables, not attribute behavior, but the limitation of the correlational design is inherently present.
Finally, the participants responded to the survey questions based on their paradigm and perspective. Although one of the assumptions of the study is that respondents will be truthful, each respondent may lack the experience or introspection to address each question or instance adequately, and as a result, bias the responses (Simon & Goes, 2013).

Summary

The research questions have been framed, and hypotheses developed to predict the outcome of the research methods described. Through the application of the scientific method, multiple regression analysis (Cohem, 1968), and other statistical analyses (Green & Salkind, 2013), each question should be answered. Either the hypotheses will be validated, or the null hypotheses will be validated.

Chapter 4 will outline how each test was applied, and the corresponding results. The Cronbach alpha for the test will be explored and calculated, the correlation between the predictor and dependent variables will be analyzed, and the null hypotheses will be rejected or accepted. Each research question will have the proper statistical test applied, first for significance, then for correlation to determine the results of the research study.
Chapter 4: Data Analysis and Results

The purpose of this non-experimental, quantitative, correlational study was to determine the relationship between the number of days an employee telecommutes and demographic information (age and gender) to employee job satisfaction for telecommuters in the southern United States. The problem is a lack of knowledge concerning the relationship between telecommuting, demographic factors, and job satisfaction in the southern United States (Johnson, 2016). There were four research questions used in this study. Each research question and its associated hypotheses were designed to collect quantifiable statistics to determine if a relationship exists between the independent and dependent variables.

RQ1: What is the relationship between the number of days telecommuting and job satisfaction in a telecommuting environment?

H10: There is no relationship between the number of days an employee telecommutes and job satisfaction in a telecommuting environment (r=0)

H1A: The number of days telecommuting does predict job satisfaction (r≠0)

RQ2: What is the relationship between the age of the employee and job satisfaction in a telecommuting environment?

H20: There is no relationship between the age of an employee and job satisfaction in a telecommuting environment (r=0)

H2A: There is a relationship between the age of an employee and job satisfaction in a telecommuting environment (r≠0)

RQ3: What is the relationship between the gender of the employee and job satisfaction in a telecommuting environment?
H3₀: There is no relationship between the gender of an employee and job satisfaction in a telecommuting environment ($r=0$)

H₃ₐ: There is a relationship between the gender of an employee and job satisfaction in a telecommuting environment ($r \neq 0$)

RQ₄: How does the number of days telecommuting, age, and gender predict job satisfaction in a telecommuting environment?

H₄₀: A predictive model cannot be created ($R^2=0$)

H₄ₐ: A predictive model can be created ($R^2 \neq 0$)

This study is useful to organizations that are either beginning telecommuting programs or are maintaining a program where employees can perform job functions from somewhere other than their workplace. Employers and organizations could better target their human resource, acquisition, and retention efforts on those employees that can benefit greatest from a telecommuting role with a greater understanding of predictor variables, if any, for telecommuting. Managers can also understand why some employees are more suited for this work arrangement than others, if applicable.

The methodology used was a quantitative, correlational analysis. The correlational design of the study was used to identify any relationships between the independent and dependent variables. The quantifiable data collected allowed the researcher to determine what relationship, if any, exists between the age, gender, and level of telecommuting of each employee and how it relates to their job satisfaction, as measured through the MSQ (Short Form). The design of the survey facilitated the gathering of meaningful, objective data from the participants to produce significant results.
The researcher conducted an online survey targeting telecommuters in the southern United States to answer each research question. In the survey, each respondent answered three screening questions which were designed to narrow the final data set to only those who agreed to the consent form, telecommuted (performed work functions from some place other than work), and were located within the southern United States, as defined by the Bureau of Labor Statistics. Depending on the normality of the data, the researcher was able to test each research hypothesis by using either the Pearson Correlational Coefficient \(r\), for normally distributed data, or the Spearman Rank-Order Coefficient \(r\) for non-normally distributed data (Eisinga, Grotenhuis, & Pelzer, 2013; Spearman, 1904).

The research questions identified in this study were designed to address specific gaps in the literature identified by Johnson (2016). The first research question is beneficial because, through its answer, the researcher was able to establish the relationship between the number of days an employee telecommutes and their job satisfaction. If an employee’s job satisfaction increases proportionally as their frequency of telecommuting increases, then employers can utilize that information to alter the parameters of their program to include more or less telecommuting based on the desired effect.

By answering the second research question, the researcher was able to establish the relationship between the age of an employee and the job satisfaction of a telecommuter in the southern United States. Employers can then tailor their talent acquisition methods to target employees who may be more satisfied in their positions, thus decreasing turnover and the associated costs. The third research question is closely
related to the second research question but substitutes the age of the employee with the
gender of the employee. If one gender is more suited to telecommute than the other,
organizations can specifically target certain individuals who would be more satisfied
telecommuting than others.

Chapter 4 contains the results of the data analysis procedures along with the
pertinent information to draw a conclusion, thus rejecting or accepting the null hypothesis
in each of the research questions. If any of the null hypotheses were not rejected in the
first three research questions, then the results of the analysis will be entered into a
multiple linear regression analysis to determine if a predictive model could be created.
The results of the survey are detailed below.

**Descriptive Data**

On September 30, 2016, the survey was opened on SurveyMonkey for
completion. The survey was posted on several professional trade boards including the
NCMA, NIGP, AAPC, and AHIMA. A link to the survey was also posted on Facebook
and LinkedIn for connections to follow and to forward or post on their pages., the
targeted sample size was 77 participants. To post on the AHIMA website, the following
language is required to be included in the text of this document.

Information gathered for this study is the result of a survey or other collection tool
posted by a visitor to an AHIMA Engage online community. The information
does not represent the views or opinions of AHIMA, the AHIMA Foundation, or
AHIMA membership, and is not sponsored or endorsed by AHIMA unless
otherwise noted (AHIMA Engage, 2016).
The survey was closed on October 16, 2016, with a total of 179 respondents starting the survey. Of the 179 respondents, 26 declined to participate in the survey, 44 did not telecommute, and 22 were not located in the southern United States. A total of 85 respondents did not complete the survey. Because of the pagination of the survey, some respondents answered “No” to both the telecommuting question (Question #2) and the location question (Question #3). At the time of closing, the survey had received 77 valid responses to the entire survey, the target sample size, and those responses were used in the data analysis.

Of the 77 respondents, 65% were female. Fifty-nine percent of the participants telecommuted 4 or less days per week (Table 1).

Table 1.

Sample Demographics

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>50</td>
<td>65</td>
</tr>
<tr>
<td>Male</td>
<td>27</td>
<td>35</td>
</tr>
<tr>
<td>Level of Telecommuting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 day</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>2 days</td>
<td>15</td>
<td>19</td>
</tr>
<tr>
<td>3 days</td>
<td>13</td>
<td>17</td>
</tr>
<tr>
<td>4 days</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>5 days</td>
<td>23</td>
<td>30</td>
</tr>
<tr>
<td>6 days</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7 days</td>
<td>6</td>
<td>8</td>
</tr>
</tbody>
</table>

The average age of the respondent was 44 with an $SD = 12.38$, with the youngest respondent being 24 and the oldest respondent being 77. The job satisfaction scores
varied for each respondent. This score was measured by averaging the individual responses to each of the MSQ indices. The minimum averaged score was a 2.5, indicating a below average job satisfaction score and the highest averaged score was a 4.9, which indicates a very satisfied employee (Weiss, Dawis, England, & Lofquist, 1967).

**Data Analysis Procedures**

The data was analyzed in four steps: (a) Test of Reliability, (b) Test of Outliers, (c) Test of Normality, and (d) Test of Association. Logarithmic transformation was required on any data set that was not normally distributed. The researcher then tested the normality of each data set and the association of the respective variables for each research question.

**Reliability Analysis**

A reliability analysis was performed to examine the internal consistency of the instrument and its ability to measure the intended variable. A Cronbach alpha test was performed to measure the internal validity of the survey. The Cronbach alpha score in this research (.914) exceeded the acceptable range (α > .70) for use in research studies of this type (Leedy & Ormrod, 2010; Norusis, 2009). The high score of the alpha indicates a reliable study and a decreased risk of a Type II error.

**Test of Outliers**

The MSQ survey items were combined and averaged for a total job satisfaction score ($M = 3.87, SD = .631$). This combination process transformed the individual ordinal variables into one continuous variable. The researcher then tested for outliers and found there were no outliers present in the job satisfaction scores (Figure 2).
Figure 2. Boxplot of Average Job Satisfaction Score

Test of Normality

This study consisted of three continuous variables: Age, Telecommuting Days per Week, and the MSQ General Satisfaction Score. Prior to performing tests of association, each of these variables was tested for normality. The Kolmogorov-Smirnov (K-S) Test of Normality was used to determine if the variable’s distribution followed a normally distribution.

The K-S Test of Age was significant, $D (77) = .116, p = .012$. A similar test of Telecommuting Days per Week was also significant, $D (77) = .185, p = .000$. As a result, the implied null hypothesis that the values were normally distributed could not be
rejected (Lilliefors, 1967). Finally, a K-S Test of the MSQ General Satisfaction Score was conducted. This test was not significant, $D (77) = .078, p = .200$. As a result, the implied null hypothesis that the value was not normally distributed could be rejected (Lilliefors, 1967). The implication of these tests are discussed in the next section.

**Test of Association**

The three independent variables were tested for their association with the dependent variables based on their distribution. Because the data was not normally distributed for the independent variables of age and the number of days telecommuting, the Spearman Rank-Order Correlation Coefficient was calculated for research questions #1 and #2. However, because the job satisfaction score was normally distributed and the gender of the employee was naturally dichotomous, the Pearson Correlation Coefficient ($r$) was calculated for research question #3.

**Multiple Linear Regression**

Multiple regression analysis enables a researcher to examine the criterion variable from the combination of predictor variables (Chen, Li, Wu, & Liang, 2014). A backward stepwise method was used to back out variables to the predictive model based on the significance test for each of the independent variables contribution to $R^2$ (Cohen, Cohen, West, & Aiken, 2002).

**Results**

**Number of days telecommuting and job satisfaction**

The first research question focused on the relationship between the number of days an employee telecommutes per week and the job satisfaction score. Since the number of days an employee telecommutes per week was not normally distributed, the
Spearman Rank-Order Correlation coefficient was used to determine the association. The results of the test were not significant, $r_s(77) = .041$, $p = .725$. This represents a miniscule effect size (Cohen, 1988). As a result, the null hypothesis ($H_{10}$) could not be rejected, and the research concluded there was no significant relationship between these two variables in the sample population.

**Age and job satisfaction**

As with the previously reported independent variable, age was not normally distributed. As a result, the Spearman Rank-Order Correlation coefficient was used to determine the relationship. The results of this test were significant, $r_s(77) = .232$, $p = .042$. This represents a small effect size (Cohen, 1988). Normally, when a p-value of less than .05 is found, a researcher would reject the null hypothesis (Krzyminski & Altman, 2013; Sham & Purcell, 2013). However, when multiple tests of association are conducted in isolation, the Bonferroni correction is recommended (Bland & Altman, 1995). Under Bonferroni, a researcher would divide the p-value by the number of tests performed. This new adjusted p-value ($.05/3 = .017$) places a more restrictive measure on hypothesis testing to avoid making a Type I error (Bland & Altman, 1995). Since the p-value of this test exceeded the Bonferroni correction (.042 compared to .017), the researcher did not reject the null hypothesis ($H_{20}$), and posits there was no significant relationship between age and job satisfaction in the sample population when testing multiple independent variables in isolation. However, see the Predictive Model section of this chapter for an additional discussion on this relationship.

**Gender and job satisfaction**
The third research question focuses on the existence of a relationship between the gender of the employee and the job satisfaction score. Since the gender of the employee is naturally dichotomous, a special application of the Pearson Correlation Coefficient, called Point-Biserial Correlation, can be used. This method utilizes the same calculations as the Pearson Correlation Coefficient (Tate, 1954).

The researcher calculated the Pearson Point-Biserial Correlation Coefficient to determine the relationship between the gender and job satisfaction. The results of the test were not significant, $r (77) = -0.078$, $p = 500$. This reflects a small effect size (Cohen, 1988). As a result, the null hypothesis ($H_{30}$) could not be rejected, and the researcher concludes there is no relationship between gender and job satisfaction in the sample population.

**Predictive Model**

Two of the three independent variables were not significantly related to the dependent variable. The other remaining independent variable, age, was significantly related, but the null hypothesis was rejected by the researcher to address Bonferroni correction. However, in multiple linear regression, a researcher can insert all variables simultaneously to evaluate the predictive power of the independent variables. To prepare for multiple linear regression, the researcher created six dummy variables to account for the seven, ordinal variables representing days of the week telecommuting.

Under backward elimination, all IVs are entered into the model; then, the least significant variable is removed. This removal process is continued so long as the variable is (a) not significant at the chosen critical level ($p < .10$ in this study), and (b) all remaining variables are statistically significant. A multiple linear regression model was
first created with Age, Gender, and six dummy variables representing seven days of telecommuting (one day of telecommuting was used as the reference variable). The results on the initial mode were not significant, $F(8,76) = 1.123, p = .360, R^2 = .117$.

The researcher used SPSS to iteratively remove variables following the backward elimination process. After several iterations, a model was significant, $F(1,73) = 4.036, p = .022, R^2 = .098$, Adj $R^2 = .074$. This model contained two independent variables: Age, and Three days per week of telecommuting. However, in testing of hypothesis one, no relationship was found between the number of days telecommuting per week and job satisfaction. The researcher then performed a simple linear regression between Age and job satisfaction. The results were significant, $F(1,75) = 5.117, p = .027, R^2 = .064$, Adj $R^2 = .051$. So, while the two-variable model explains more variation over the one-variable model (.098 vs. .064), the researcher is concerned that due to the small sample size ($N = 77$), the difference could be attributed to noise. This noise is evident when reviewing a scatterplot of Age and Job Satisfaction (Figure 3).
As shown in Figure 3, the relationship between Age and Job Satisfaction is not linear. A series of curvilinear tests were performed to perhaps identify a stronger model than the two-variable or the one-variable. A quadratic model showed the most promise.

In a quadratic model, the IV is used both in its raw form and in an exponential form.

\[ Y = bx^2 + bx + c \]  \hspace{1cm} (1)

Using a quadratic formula, the results were significant, \( F(2,74) = 3.582, p = .033, R^2 = .088, \text{ Adj } R^2 = .064 \). A graphical depiction of the scatterplot with both a straight line, representing the linear relationship, and a curved line, representing the quadratic equation can be found at Figure 4.
As shown in Figure 4, job satisfaction rises to age 40, then declines. This decline is significant between the age of 50 and a typical retirement age. Because of this test, the null hypothesis ($H_0$) can be rejected, and the alternative hypothesis that a predictive model can be constructed is accepted.

**Summary**

After testing each of the linear-focused hypotheses, none could be rejected. However, a curvilinear relationship was detected between Age and Job Satisfaction. An ad hoc analysis of the age of the employee was performed, but isolated to only the extrinsic or intrinsic values from the job satisfaction scores. Those results will be discussed in Chapter 5.
The next chapter includes the conclusions of the overall study, a summary, and recommendations based on the findings. Chapter 5 will provide recommendations for further research and how other researchers can continue to contribute to the field of knowledge in the area of telecommuting. The conclusion of the study will provide both the theoretical and practical implications of this study and its results.
Chapter 5: Summary, Conclusions, and Recommendations

The primary purpose of this quantitative, correlational study was to examine the relationship between the number of days an employee telecommutes and demographic information (age and gender) to employee job satisfaction for telecommuters in the southern United States. Telecommuting has already shown to be a significant phenomenon in the workplace and the number of employees who participate at least once per week is climbing. If there is a causal relationship between the frequency of telecommuting or the demographic characteristics of the employee that raise the job satisfaction, then employers could create strategic recruiting policies centered on those who could extract the most satisfaction from the position. Employees who are more satisfied in their positions tend to remain with organizations longer, and the organization benefits from an increased level of productivity (Dutcher, 2012; Latif et al., 2013).

The design of the study allows other researchers to continue with the research and replicate the study in other geographic regions of the country, within specific industries, or even among specific demographics. The use of the standardized instrument developed at the University of Minnesota many years ago, shows the staying power of the MSQ and its relevance in the workplace today. The correlational analysis is critical in understanding how two variables relate to one another. In this study, the researcher utilized the appropriate correlational analysis and could not reject any of the null hypotheses.

In Chapter 5, the researcher will provide the conclusion of the study and what those findings implicate for the industry on both a theoretical and practical level. A summary of findings is presented along with how other researchers can continue to
expand upon the knowledge gathered in this study. The researcher will also identify any improvements or changes that could be made in future research to enhance the applicability into everyday business practices.

Summary of the Study

The purpose of this non-experimental, quantitative, correlational study was to examine the relationship between the number of days an employee telecommutes and the age or gender of an employee to employee job satisfaction. To participate in the study, employees had to telecommute at least once per week and be primarily located within the southern United States. The independent variables were defined as the number of days an employee telecommutes in days (1 day-7 days) and the demographic information (age and gender) given in the survey response. The dependent variable of employee job satisfaction was measured by the responses of each participant on the MSQ (Short Form). The research questions and hypotheses are below.

RQ1: What is the relationship between the number of days telecommuting and job satisfaction in a telecommuting environment?

H10: There is no relationship between the number of days an employee telecommutes and job satisfaction in a telecommuting environment (r=0)

H1A: The number of days telecommuting does predict job satisfaction (r≠0)

RQ2: What is the relationship between the age of the employee and job satisfaction in a telecommuting environment?

H20: There is no relationship between the age of an employee and job satisfaction in a telecommuting environment (r=0)
H2A: There is a relationship between the age of an employee and job satisfaction in a telecommuting environment ($r \neq 0$)

RQ3: What is the relationship between the gender of the employee and job satisfaction in a telecommuting environment?

H30: There is no relationship between the gender of an employee and job satisfaction in a telecommuting environment ($r=0$)

H3A: There is a relationship between the gender of an employee and job satisfaction in a telecommuting environment ($r \neq 0$)

RQ4: How does the number of days telecommuting, age, and gender predict job satisfaction in a telecommuting environment?

H40: A predictive model cannot be created ($R^2=0$)

H4A: A predictive model can be created ($R^2 \neq 0$)

A sample of 77 telecommuters from the southern United States completed a self-administered survey through SurveyMonkey. This survey included three screening questions, a demographic section, and the MSQ (Short Form) to measure job satisfaction. In order to participate, the respondents had to agree on the consent form, telecommute once per week, and be primarily located within the southern United States.

Once the survey was closed, the dataset was downloaded into SPSS for analysis. After analyzing the respondent demographic information and calculating the Cronbach Alpha score for the job satisfaction survey, the researcher analyzed the normality of each dataset. After performing a logarithmic transformation on any dataset that was not normally distributed, the researcher set out to confirm or reject each null hypothesis.
The survey was conducted with several assumptions. The first assumption is that each participant and respondent to the study was truthful and forthcoming concerning the provided information. Since their participation is voluntary and participants could withdraw from the survey at any time; this assumption should not influence this study or future studies negatively.

Another assumption is that the organizational culture of a company was insignificant on the impact of the job satisfaction of a telecommuter. Traditionally, organizational culture has an impact in regards to employee satisfaction (Ahmed & Veerapandian, 2012), but because of the potentially remote nature of the employee’s location, it is assumed that organizational culture has minimal impact from organization to organization.

Summary of Findings and Conclusion

Each of the research questions posed its own unique contemplation on the nature of how telecommuters experience job satisfaction and what causal relationships exist. The first research question focuses on the frequency of telecommuting. This is a unique characteristic of this study because this is something that can be assigned and changed by the employer. The second two independent variables are inherent in the telecommuter and cannot be changed by the employer.

The results of the test showed no relationship between the frequency of telecommuting and the job satisfaction of the employee. Viewed through the purposeful work theory, proposed by Barrick, Mount, and Li (2013), the number of days an employee spends telecommuting may not contribute to their personal escalation through the steps to attain purposeful work in their lives. While the frequency with which an
employee telecommutes may contribute or detract from two of the levels in the model (communion and autonomy), it would seem that the purposeful work of an employee is more of an intangible progression based off of the individual personality trait(s) of the employee and less on factors created by their environment. Employers can significantly contribute to the job satisfaction of an employee, but in the telecommuting environment, it would seem the frequency would not have an apparent impact on employees, in general.

This finding is similar to the results of a study conducted by Johnson (2016) in which she found no correlation between the number of days telecommuting and a relationship with job satisfaction. The results of this study would support organizations allowing telecommuting at any frequency level. There would be no benefit (from purely a job satisfaction standpoint) to increasing or decreasing an employee’s level of telecommuting based on these studies.

There was a weak relationship between the variables age and job satisfaction. An post hoc analysis was performed on the relationship between the age of the employee and both the intrinsic and extrinsic questions for the survey. The relationship between intrinsic job satisfaction was insignificant after the Bonferroni correction ($r_s = .118, p = .039$). However, the relationship between age and extrinsic job satisfaction ($r_s = .248$) was not significant after the Bonferroni correction ($p = .082$).

The purposeful work theory would postulate that each individual employee would be unique in their quest to create purposeful work in their lives. While the specific personality traits of the employee would influence how dedicated each person was in pursuing each level, genetics may play a role, both through the individual personality
traits, as suggested in the literature, but also through the age of the employee. While the null hypothesis could not be rejected, further research should be conducted on the effect age has on both intrinsic and extrinsic job satisfaction. Because the null hypothesis could not be rejected, there is not a strong enough relationship to implicate changes in organizational policy around hiring or selecting those employees that would be best suited for telecommuting.

In an earlier study, Johnson (2016) identified a weak relationship between age and the level of telecommuting ($r_s = .248$), but that result could not be duplicated unless the intrinsic job satisfaction questions were removed. This could be due to the limiting of the geographic region of this study or the use of an entirely different data sample. However, in the previous study, Johnson (2016) grouped employees into several age categories rather than allowing the respondent to utilize their exact age. There were also no respondents in Johnson’s study that fell into the 28 and under group. The difference between a categorical variable and an ordinal variable may contribute to a different measurement in the significance of the correlation, but both Johnson and this researcher found some evidence of a relationship between the age of the employee and the job satisfaction score. Whether the region contributed to the contradiction in results or not, it would certainly warrant further study.

It would seem the gender of the employee does not contribute to the overall job satisfaction score as measured by the MSQ (Short Form). Once again, the purposeful work theory would seem to point to the individual personality of the employee and their progress through the four stages of purposeful work. It is then, most likely, a combination of the individual employee and their needs, talents, and season of life that should predict
their job satisfaction and less to do with the demographic or genetic predispositions of an individual employee. This finding is similar to the results of a study conducted by Johnson (2016) in which she found no correlation between the gender of an employee and the relationship with job satisfaction.

Finally, using a quadratic modeling, Age can be shown to predict Job Satisfaction stronger in a curvilinear approach rather than a linear approach. However, the effect of the prediction is small.

**Implications**

**Theoretical implications**

Person-interaction theories are models built to explain how an individual or a group of persons may interact with their environment based on the individual’s traits and the situation in which they are placed (Johnson, 2016; Leroy et al., 2015). The person-interaction theory that framed this study is the purposeful work behavior theory developed by Barrick et al. (2013). The purposeful work theory is a derivation of the five-factor model of personality and expands on how individual characteristics, in combination with job characteristics, can influence work outcomes.

Personality traits, when properly identified in each individual, can be predictive of the types of behavior each person may exhibit (Allport & Allport, 1921). It was upon this theory that each of the person-interaction theories was developed (Thompson, S., 2015). The work performed by the researcher indicated that the demographics of an employee (age and gender) do not interfere with the person-interaction theories that point more towards an individual’s personality and environment as predictors of job satisfaction as opposed to genetic predisposition.
Since the practice of telecommuting can help employees achieve all the higher order goals of purposeful work, this study focused on the attributiveness of the individual demographic traits and characteristics to overall job satisfaction. As result of not being able to reject the null hypotheses, the researcher concluded that none of the predictor variables contributed significantly to the overall job satisfaction scores of the participants. While the ad hoc report may indicate a relationship between age and extrinsic job satisfaction as measured through the MSQ, the results of the overall job satisfaction tests do not support the existence of these variables serving as predictors to job satisfaction among telecommuters.

When viewed through the purposeful work theory, employees determine how committed they are to their work and their progress through the stages of purposeful work should identify how satisfied they are. This study has helped to reinforce this person-interaction theory of job satisfaction. The results of this research support previous research conducted in the area of job satisfaction and predictor variables among telecommuters (Gajendran & Harrison, 2007; Johnson, 2016; Kossek, Lautsch, & Eaton, 2006).

**Practical implications**

Telecommuting in organizations provides several benefits. It can provide benefits to certain employees and their perceived work-life balance. It can enable employees to be more productive and cut overhead costs of housing employees in large office buildings. The decrease in traditional commuters can also decongest highways and roadways and reduce the number of vehicles on the road. An increase in the number of telecommuters can yield significant benefits to any organization (Basak, 2014).
The conclusions of this study can be used to start a conversation among employers around telecommuting programs. While no broad sweeping changes can be implemented as a result of this study, employers can explore some of the benefits of telecommuting and how they can be introduced or expanded within their organization. The frequency of telecommuting may not have had any relationship with job satisfaction in this study, but the average job satisfaction score among all participants was above average (3.9).

The above average job satisfaction score could be tied to different factors outside of this study, but a satisfied employee has been shown to be more productive than their unsatisfied employee (Basak, 2014; Dutcher, 2012; Latif et al., 2013). Not only can organizations benefit from more productive employees, the decreased overhead costs of less real estate, maintenance, and utilities can also be realized. These cost savings can be funneled into other areas of the organization, such as research and development (or innovation), or employee benefits. Telecommuting can be used to save the company money (Dutcher, 2012), conserve energy (Nakanishi, 2015), increase individual performance (Aboelmaged & El Subbaygh, 2012), and even serve as accommodation to employees that have physical disabilities (Rocco, 2014).

**Recommendations**

**Recommendations for future research**

Recommendations for future research include viewing the variables through a different theory, only one organization or industry, different geographic region, a smaller effect size, or include those employees who do not telecommute. The purposeful work theory was used as the theoretical framework for this research study, but future
researchers could use others such as Maslow’s Hierarchy of Needs (1943) or Digman’s Five Factor Model (1990). Researchers could also use different theory structures, such as social exchange theories, various person-environment theories, or motivational theories.

One of the assumptions of the researcher was the ability to detect a correlation using a medium effect size, as supported through previous research (Gajendran & Harrison, 2007; Johnson, 2016; Kossek, Lautsch, & Eaton, 2006). However, the values derived from analysis would point to the need to utilize a small effect size in further research for this field. By coupling a smaller effect size with a larger sample, more meaningful conclusions may be drawn.

Different results may be achieved by utilizing participants from only one organization or industry. By narrowing the focus and parameters of the study, future research could be more applicable to specific industries by narrowing the study to a single company that utilizes both telecommuters and regular employees. Also, by focusing on a single industry known to utilize telecommuters, future researchers could provide results applicable to specific industries or sectors, such as healthcare, education, or government.

This research study was focused on the southern United States. By shifting the focus to a different region of the country, or even to a different country, future researchers can compare the results to see if the geographic location of the employees affects the outcomes. Another recommendation would be to utilize a larger sample to determine causality. Because of the size of the sample compared to the population, a different sample from the same population could provide different results.
Lastly, it would provide beneficial to include employees who do not telecommute in the study. Not only could the researcher compare the job satisfaction scores of different ages, genders, and frequency of telecommuting, but by including those who do not telecommute a baseline could be established to determine what the benefit of telecommuting is if any. Future research could focus on any one of these recommendations and add to the body of knowledge of job satisfaction and telecommuting.

**Recommendations for practice**

Increases in job satisfaction among employees increases productivity and can increase profitability. Programs that can increase employee job satisfaction should be explored by organizations. Telecommuting programs have been shown to increase job satisfaction among employees, but if specific groups of the population would derive more satisfaction than others, then those variables should be included in the discussion.

The outcome of this research should help human resource professional and organizational leaders discuss the potential benefits of telecommuting within their organizations and how it could transform the workforce. Although no sweeping changes should be made from the results of this study, the existence of relationships in future research, if identified, could help companies discuss these and other predictor variables that may increase the overall effectiveness of their workforce. This study can also contribute to dispelling rumors or stereotypes surrounding telecommuting.

**Concluding Remarks**

This study was significant in adding value to the existing body of knowledge. The researcher validated findings from previous research and showed in this study that
telecommuters had an above average job satisfaction score. Employers and leaders of organizations can utilize this study to be confident that the frequency of telecommuting, age, and gender has no significant effect on the job satisfaction of employees, in general.

As a result of this study, it is the hopes of this researcher that employers truly have a conversation within their organization about establishing or expanding their telecommuting programs to benefit both the employees and the organization. While telecommuting is not an appropriate fit for every organization, the constant evolution of technology changes the employment and organizational paradigm in every industry. The key element is to focus on the employees within the organization and to prioritize their job satisfaction to ensure a productive, efficient, and effective workforce.
References


Hancer, M., & George, R. T. (2004). Factor structure of the Minnesota Satisfaction Questionnaire Short Form for restaurant employees. *Psychology Reports, 94*(1), 357-362. doi:10.2466/pr0.94.1.357-362


Krzywinski, Martin; Altman, Naomi (2013). Points of significance: Significance, P values and t-tests. Nature Methods, 10, 1041–1042. doi:10.1038/nmeth.2698


doi:10.1037/a0038357

http://www.jstor.org/stable/2236844


Appendix A

Consent Form and Rights of the Participant

You are being asked to be part of a research project. All participants must telecommute at least once per week. We’re trying to learn more about predictors of job satisfaction among telecommuters in the southern United States. If you agree to be part of this research, we will ask you to take a survey of about 25 questions. It should take about 15 minutes to finish the survey. The research is being conducted by Brian McGinley, Jr. of Columbia Southern University, spaatz1635@live.com (228-383-4919).

This is an independent survey and is not associated with LinkedIn, Facebook or any other organizations, however; the researcher is currently an employee of Texas A&M University-Commerce. Please note that I am conducting that study as a Columbia Southern University doctoral student and the study has no bearing on my role or employment status at Texas A&M University-Commerce. The purpose of this survey is to determine if any correlation exists between the level of telecommuting, age, gender and job satisfaction.

There are not any serious risks to you, but some of the questions may take a moment to contemplate how you really feel about your current employer and the position in which you are employed.

All of the questions require an answer, so at any time, if you feel you cannot finish the survey, please exit the survey.

There are no direct benefits to you for participating in this research. However, you may benefit from a deeper understanding of how satisfied you are in your current
employment situation. Society may benefit from the results. You will not receive anything for participating.

The surveys are anonymous; we are not recording your name. The survey results will only be retained on the SurveyMonkey servers until after the study has been concluded. After that, we will destroy the surveys. Only the researcher, Brian McGinley, Jr., will have access to the surveys.

This project was approved by the Columbia Southern University IRB (699998IRB) on September 28, 2016. Pertinent questions or concerns about the research, research participants’ rights, and/or research-related injuries to participants should be directed to the IRB chair, Dr. Phil Harris (joseph.harris@columbiasouthern.edu) or to the student’s Dissertation Committee Chair, Dr. Donna Graham (donna.graham@columbiasouthern.edu).

Your participation is voluntary, and refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled.

As a research participant, you have the right to…

• know why the research is being done
• know what will happen to you
• know the risks, side effects, or pain that may occur
• know what good may come of the study
• know how your private information will be kept safe
• know whom to contact with questions or concerns
• ask questions at any time
• decide whether to participate without being pressured
• drop out at any time without penalty
• keep a copy of the consent form

A summary of the findings will be provided to participants upon completion of the study if requested. For accessing results of the study, contact Brian McGinley, Jr.

Do you consent to participate in the research study?

“I agree”

“I decline”
Appendix B

MSQ Short Form

Section IV-A

minnesota satisfaction questionnaire

The purpose of this questionnaire is to give you a chance to tell how you feel about your present job, what things you are satisfied with and what things you are not satisfied with.

On the basis of your answers and those of people like you, we hope to get a better understanding of the things people like and dislike about their jobs.

On the next page you will find statements about your present job.

• Read each statement carefully.

• Decide how satisfied you feel about the aspect of your job described by the statement.

Keeping the statement in mind:

— if you feel that your job gives you more than you expected, check the box under "Very SAT." (Very Satisfied);

— if you feel that your job gives you what you expected, check the box under "SAT." (Satisfied);

— if you cannot make up your mind whether or not the job gives you what you expected, check the box under "N" (Neither Satisfied nor Dissatisfied);

— if you feel that your job gives you less than you expected, check the box under "Dissat." (Dissatisfied);

— if you feel that your job gives you much less than you expected, check the box under "Very Dissat." (Very Dissatisfied).

• Remember: Keep the statement in mind when deciding how satisfied you feel about that aspect of your job.

• Do this for all statements. Please answer every item.

Be frank and honest. Give a true picture of your feelings about your present job.
Ask yourself: How satisfied am I with this aspect of my job?

*Very Satisf.* means I am very satisfied with this aspect of my job.
*Satisf.* means I am satisfied with this aspect of my job.
*N* means I can’t decide whether I am satisfied or not with this aspect of my job.
*Dissatisf.* means I am dissatisfied with this aspect of my job.
*Very Dissatisf.* means I am very dissatisfied with this aspect of my job.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Being able to keep busy all the time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. The chance to work alone on the job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. The chance to do different things from time to time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. The chance to be “somebody” in the community</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. The way my boss handles his/her workers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. The competence of my supervisor in making decisions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Being able to do things that don’t go against my conscience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. The way my job provides for steady employment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. The chance to do things for other people</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. The chance to tell people what to do</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. The chance to do something that makes use of my abilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. The way company policies are put into practice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. My pay and the amount of work I do</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. The chances for advancement on this job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. The freedom to use my own judgment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. The chance to try my own methods of doing the job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. The working conditions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. The way my co-workers get along with each other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. The praise I get for doing a good job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. The feeling of accomplishment I get from the job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix C

Survey Instrument Qualification Questions

Page 2 – Do you telecommute?

*1. Do you telecommute (perform work functions from some place other than work) at least one day per week?
   _ Yes _ No

*2. Are you primarily located within the southern United States? (AL, AR, DE, DC, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV)
   _ Yes _ No

Page 3 – Demographic Information

*2. What is your gender?
   _ Male _ Female

*3. What is your age?
   ___ (Type whole number)

*4. How many days do you telecommute to work per week?
   ___ (Type whole number, ranging from 1 to 7)
Below, you will find statements about your present job.

- Read each statement carefully.

- Decide how satisfied you feel about the aspect of your job described by the statement. Keeping this statement in mind:
  - If you feel that your job gives you more than you expected, check the box under “Very Satisfied” (5);
  - If you feel that your job gives you what you expected, check the box under “Satisfied” (4);
  - If you cannot make up your mind whether or not the job gives you what you expected, check the box under “Neither Satisfied nor Dissatisfied” (3);
  - If you feel that your job gives you less than you expected, check the box under “Dissatisfied” (2);
  - If you feel that your job gives you much less than you expected, check the box under “Very Dissatisfied” (1).

- Remember, keep the statement in mind when deciding how satisfied you feel about that aspect of your job.

- Do this for all statements. Please, answer every item.

Be frank and honest. Give a true picture of your feelings about your present job.

When answering these questions, ask yourself, “How satisfied am I with this aspect of my job?”

5=Very Satisfied means I am very satisfied with this aspect of my job
4=Satisfied means I am satisfied with this aspect of my job
3=N means I can’t decide whether I am satisfied or not with this aspect of my job
2=Dissatisfied means I am dissatisfied with this aspect of my job
1=Very Dissatisfied means I am very dissatisfied with this aspect of my job

*5. Being able to keep busy all the time 1 2 3 4 5
*6. The chance to work alone on the job 1 2 3 4 5
*7. The chance to do different things from time to time 1 2 3 4 5
*8. The chance to be “somebody” in the community 1 2 3 4 5
*9. The way my boss handles his/her workers 1 2 3 4 5
*10. The competence of my supervisor in making decisions 1 2 3 4 5
*11. Being able to do things that don’t go against my conscience 1 2 3 4 5
*12. The way my job provides for steady employment 1 2 3 4 5
*13. The chance to do things for other people 1 2 3 4 5
*14. The chance to tell people what to do 1 2 3 4 5
*15. The chance to do something that makes use of my abilities 1 2 3 4 5
*16. The way company policies are put into place 1 2 3 4 5
*17. My pay and the amount of work I do 1 2 3 4 5
*18. The chances for advancement on this job 1 2 3 4 5
*19. The freedom to use my own judgment 1 2 3 4 5
*20. The chance to try my own methods of doing the job 1 2 3 4 5
*21. The working conditions 1 2 3 4 5
*22. The way my co-workers get along with each other 1 2 3 4 5
*23. The praise I get for doing a good job

*24. The feeling of accomplishment I get from the job

*denotes an answer to the question is required