

The Personality Profiles of Pre-service Teachers: An Examination of Discipline Differences and
Predictive Validity on Future Job Satisfaction

A Dissertation Presented for
The Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Amy S. Beavers

May 2011

Dedication

To those who give me
the *courage* and the *strength*
to chase my dreams.

Acknowledgements

I would like to thank each of my doctoral committee members, Schuyler Huck (chair), Gary Skolits, John Lounsbury, Jennifer Richards, and Donna Jacobs, for providing their support and unique perspective throughout this process. I also want to thank Debbie Murray, Hariett Cannon, Emily Polenz, and Amanda Binder at Lee University for all of their help. Without the contributions from each of these people, this project would not have been possible.

It is to Chris, who provided unconditional support, and to Caleb and Ryan, who made me smile when no one else could, that I owe the greatest debt of gratitude. Thank you for your unfathomable love.

Abstract

Teacher job satisfaction has been shown to impact teacher retention, attrition and absenteeism (Perrachione, Rosser, & Peterson, 2008). Given the significant investment of resources required to train effective classroom teachers, retention of those teachers is important. Research strongly supports the connection between personality traits and occupational related outcomes such as work performance, career success, and job satisfaction across occupational groups. Developing an understanding of the personality profile of satisfied teachers as a whole, as well as by teaching area, could serve to better equip teachers for the reality of teaching, potentially having the ability to increase job satisfaction. The purposes of this study were to investigate the similarities and differences of personality traits within teacher groups, as well as examine the effects of personality on job satisfaction for teachers, through a longitudinal study using analysis of covariance and multiple regression. When differences attributable to gender were controlled, two groups within the teacher sample emerged. Math, science, and physical education teachers were more resolute, analytical and investigative, where as elementary, secondary English and history, and special education teachers were more open-minded and sensitive. Among the traits distinctive of the teacher occupational type as a whole, teacher groups in this sample were generally extraverted, warm, energetic, dutiful, and patient. Having an accurate understanding of the personality traits that may influence teacher satisfaction could serve to inform teacher preparation programs and best practices in leadership for in-service teachers, potentially having the ability to increase job satisfaction.

TABLE OF CONTENTS

Chapter 1: Introduction	1
Background	1
Statement of Problem	3
Purpose of the Study	3
Importance of the Study	4
Design of the Study	4
Research Questions.....	5
Assumptions	5
Limitations.....	6
Definition of Terms	6
Job Satisfaction.....	6
Teaching Areas	7
Teacher Candidate	7
Organization of the Study	7
Chapter 2: Literature Review	9
Introduction	9
Job Satisfaction of Teachers.....	9
Personality of Teachers	11
Dimensions of Personality	11
<i>The Sixteen Personality Factor Questionnaire</i>	13
Personality Profiles of Teachers	15
Occupational Type.....	19
Personality and Occupational Types	20
Summary of Teacher Personality	21
Personality and Job Satisfaction.....	24
Conclusion.....	26
Chapter 3: Methodology	28

Introduction	28
The Personality Profile of Teachers	28
The Relationship between Personality and Job Satisfaction of Teachers	29
Context and Setting	29
Participants and Procedures	30
Measures.....	32
Personality	32
Occupational Type.....	33
Teaching Area.....	34
Job Satisfaction.....	35
Analyses	36
Data Management.....	37
Statistical Assumptions.....	37
Precautions against Test Error	39
Research Questions.....	41
Chapter 4: Results	44
Introduction	44
The Personality Profile of Teachers	44
Research Question 1A	44
Research Question 1B	52
Summary of the Personality Profile of Teachers.....	55
The Relationship between Personality and Job Satisfaction of Teachers	61
Research Question 2A	61
Research Question 2B	62
Chapter 5: Discussions and Implications	64
Introduction	64
Conclusions	64
The Personality Profile of Teachers	64

The Relationship between Personality and Job Satisfaction of Teachers	66
Implications	67
Dispositional Investigation	67
Field Experience Placement	69
Job Satisfaction.....	69
Recommendations for Future Research	70
Expand the Sample	70
Reduce the Restricted Range.....	70
Extend the Analysis	71
List of References	73
Appendices.....	82
Appendix A: Dimensions of the Sixteen Personality Factor Questionnaire	83
Appendix B: Final Job Satisfaction Items.....	85
Appendix C: Statistical Results.....	86
Question 1A.....	86
Question 1B	104
Question 2B	112
Vita.....	114

LIST OF TABLES

Table 1. <i>Descriptions of the Five Factors of Personality</i>	12
Table 2. <i>Alignment of the Five Factors of Personality across Measures</i>	13
Table 3. <i>Structural Contributions of the Primary Factors to the Global Factors</i>	14
Table 4. <i>Holland's Occupational Types, Personality Features, and Occupational Activities</i>	20
Table 5. <i>Summary of Personality and Occupational Profiles for Teachers</i>	23
Table 6. <i>Variables, Measures, and Data Sources</i>	31
Table 7. <i>Results of A Priori Power Analysis</i>	41
Table 8. <i>Comparison of Teachers' Personality Profiles by Grade Level to the Norm Average</i> ...	49
Table 9. <i>Comparison of Teachers' Personality Profiles by Subject Area to the Norm Average</i> ...	50
Table 10. <i>Personality Summary Scores for Teacher Groups, Global Factors</i>	57
Table 11. <i>Personality Summary Scores for Teacher Groups, Primary Factors</i>	58
Table 12. <i>Occupational Type Summary Scores for Teacher Groups</i>	60
Table A.1. <i>General Interpretation of 16PF Global Factor Scores</i>	83
Table A.2. <i>General Interpretation of 16PF Primary Factor Scores</i>	84
Table A.3. <i>Results of One Sample t-tests Comparing the Overall Sample</i>	86
Table A.4. <i>Results of One Sample t-tests Comparing the Elementary Teacher Sample</i>	87
Table A.5. <i>Results of One Sample t-tests Comparing the Overall Secondary Teacher Sample</i>	88
Table A.6. <i>Results of One Sample t-tests Comparing Specialty K-12 Teacher Sample</i>	89
Table A.7. <i>Global Factor Personality Scores by Grade Level</i>	90
Table A.8. <i>Primary Factor Personality Scores by Grade Level</i>	91
Table A.9. <i>Results of One Sample t-tests Comparing the Early Childhood Sample</i>	93
Table A.10. <i>Results of One Sample t-tests Comparing the Primary Teacher Sample</i>	94

Table A.11. <i>Results of One Sample t-tests Comparing the Secondary Math and Science</i>	95
Table A.12. <i>Results of One Sample t-tests Comparing Secondary English and History</i>	96
Table A.13. <i>Results of One Sample t-tests Comparing the Physical Education</i>	97
Table A.14. <i>Results of One Sample t-tests Comparing the Special Education Teacher Sample</i> ...	98
Table A.15. <i>Results of One Sample t-tests Comparing the Music Education Teacher Sample</i>	99
Table A.16. <i>Global Factor Personality Scores by Subject Area</i>	100
Table A.17. <i>Primary Factor Personality Scores by Subject Area</i>	101
Table A.18. <i>Occupational Types by Subject Area</i>	103
Table A.19. <i>Personality Differences by Gender</i>	104
Table A.20. <i>Personality Differences by Age</i>	105
Table A.21. <i>Personality Differences by Grade Level</i>	106
Table A.22. <i>Personality Differences by Subject Area</i>	107
Table A.23. <i>Occupational Type Differences by Gender</i>	108
Table A.24. <i>Occupational Type Differences by Age</i>	109
Table A.25. <i>Occupational Type Differences by Grade Level</i>	110
Table A.26. <i>Occupational Type Differences by Subject Area</i>	111
Table A.27. <i>Personality Differences by Level of Intrinsic Job Satisfaction</i>	112
Table A.28. <i>Personality Differences by Level of Overall Job Satisfaction</i>	113

CHAPTER 1: INTRODUCTION

Background

Job satisfaction has been shown to impact teacher retention, attrition and absenteeism (Perrachione, Rosser, & Peterson, 2008). Issues surrounding teacher attrition and mobility continue to be of concern and remain in the forefront of educational discussions across local, state and federal levels. In recent statements made by the Secretary of Education, improving teacher retention and recruitment are a priority for improving the quality of education in the United States (DeWitt, 2010). Estimates of teacher attrition rates suggest that each year approximately 15% of the teaching workforce leaves or changes positions, resulting in 500,000 jobs to be filled (Hancock, 2009). It is estimated that the cost per year to recruit, hire and train replacement teachers is more than \$7 billion (Barnes, Crowe, & Schaefer, 2007).

While the educational field is seeing an increasing number of teachers retiring, studies suggest that 30 – 50% of new teachers leave within the first five years (Greiner & Smith, 2006; Smethem, 2007). Kukla-Acevedo (2009) found that beginning teachers were nearly 1.5 times more likely to leave the educational profession than more experienced teachers (p. 446). Many highly qualified teachers leave the classroom each year because they are dissatisfied.

Job satisfaction is a subjective evaluation of the degree to which an individual finds enjoyment and fulfillment in his or her job. Most models for assessing job satisfaction include “subjective satisfaction, compensation, and working conditions” (Granger & Marx, 1992). Job satisfaction is thought to be influenced by demographic variables, and comprised of extrinsic factors and intrinsic factors. Extrinsic job satisfaction is a result of feelings about aspects of the

job not directly related to the work itself such as work conditions. Work conditions include environment, salary, work overload, and job expectations. Intrinsic factors generally include personality and motivation, or dispositional factors, and represent feelings about job activities (Fried, Shirom, Gilboa, & Cooper, 2008; Lortie, 1975). The current study focused on the relationship between intrinsic factor of personality on job satisfaction in teacher populations.

Mastery of content and development of occupational skills are common to most professions. Few professions, however, formally list professional dispositions in their national standards. The National Board for Professional Teaching Standards (2002) and the Professional Standards of the National Council for Accreditation of Teacher Education (2008) identify three components that comprise teacher education preparation. Content knowledge, pedagogical skill, and professional dispositions must all be incorporated into the standard program of study for teacher candidates. According to National Standards, candidates must exhibit a belief that all students can learn, as well as demonstrate fairness through openness to others. Additionally, teacher education programs also commonly identify care, compassion, initiative, stability, and pro-social behavior as important traits to teacher success that extend beyond pedagogical training and preparation (Helm, 2006).

These dispositional traits are a critical component of a teacher's suitability and success in the classroom. Research strongly supports the connection between personality traits and occupational related outcomes such as work performance, career success, and job satisfaction across occupational groups (see Holland, 1996; Tokar, Fischer, & Subich, 1998; Tranberg, Slane, & Ekeberg, 1993). Understanding the personality traits integral to teacher success and satisfaction is central to the continued development of the teacher workforce.

Statement of Problem

Given the significant investment of time and other resources required to train effective classroom teachers, retention of those teachers is important. Extensive literature exists on teacher satisfaction (e.g., Chapman & Lowther, 1982; Conley & Levinson, 1993; Gardner, 2010; Granger & Marx, 1992) and on the relationships between personality and teacher effectiveness (Harris & Rutledge, 2010; Mattsson, 1974) and teaching efficacy (Henson & Chambers, 2003). What is missing from the current literature, however, is a rigorous investigation of the relationship between personality and teacher job satisfaction. While the literature contains a solid foundation for the link between personality and job satisfaction in general, it does not include a longitudinal study to assess the predictive validity of personality and subsequent job satisfaction as it pertains specifically to teachers. In fact, Tokar, Fisher, and Subich (1998) indicates that more longitudinal research should be conducted investigating the links between teacher personality and job satisfaction.

Purpose of the Study

Previous studies have examined aspects of the relationship between personality and general job satisfaction. For example, Baldwin, Slaton, Head, and Burns (1990) investigated group differences in the personality traits of teachers. Tokar and Subich (1997) researched the effects of personality on job satisfaction across occupational groups; however, their study was not specific to teachers. This study sought to replicate and extend the work of Baldwin et al. (1990) and Tokar and Subich (1997) by exploring the relationship between group differences in teacher personality traits and job satisfaction. Therefore, the purposes of this study were: 1) to

examine personality profiles across groups of K-12 teachers and 2) to evaluate the relationship between personality profiles and job satisfaction of K-12 teachers.

Importance of the Study

Career and occupational assessments use personality profiles to help an individual make decisions about his or her vocational path and are most critical at times of transition such as entering college or making a career change (Neukrug & Fawcett, 2006). Undergraduate teacher education programs routinely administer personality assessments early in a students' academic program to facilitate self-reflection and discussion. Interpretation of these results emphasizes the importance of dispositions as a component of effective teaching and develops the framework for becoming a reflective practitioner.

Developing an understanding of the personality profile of satisfied teachers as a whole, as well as by teaching area, could serve to inform programmatic changes for teacher preparation programs. Such changes might include career counseling activities, specialized workshops, and directed field experiences. These intentionally crafted experiences could better equip teachers for the reality of teaching, potentially having the ability to increase job satisfaction.

Design of the Study

A quantitative, longitudinal design was used to examine the relationship between personality profiles and teacher job satisfaction. This study used an archival data set of the personality assessments from students who graduated from a small, private university with a teaching license from 2004-2010. These teachers were contacted and asked to complete a survey

measuring current teaching status and level of job satisfaction. The teacher's level of job satisfaction was linked to his or her personality profiles completed within the undergraduate teacher preparation program.

Research Questions

The goals of this study were centered on two central themes each containing two research questions.

The Personality Profile of Teachers

- 1A: To what extent does a unique personality profile exist for K-12 teachers as measured by the *16PF*?
- 1B: To what extent do differences exist in the personality profiles of K-12 teachers?

The Relationship between Personality and Job Satisfaction of Teachers

- 2A: To what extent does personality, as measured by the *16PF*, have predictive validity for job satisfaction in K-12 teachers?
- 2B: Are there differences in personality between teachers reporting high levels of job satisfaction and those reporting low levels of job satisfaction?

Assumptions

This study was conducted under the following assumptions:

1. The *16PF* is a reliable and valid instrument capable of measuring personality on multiple dimensions.

2. Participants accurately represented their level of job satisfaction on the survey used to measure job satisfaction.

Limitations

The specificity of the sample of this study limited the generalizability of the results. First, the sample included only graduates from a single university, potentially providing results biased by common academic and professional experiences unique to the academic institution. Second, the participants of this study constituted a volunteer population that was limited by the availability of accurate contact information. Finally, based on the *16PF* results available, all participants in this study had seven years or less of classroom teaching experience.

Definition of Terms

For the purposes of this study, the following terms were defined as:

Job Satisfaction was operationalized as the subjective evaluation of the degree to which an individual finds enjoyment and fulfillment in his or her job.

Intrinsic factors included aspects of the job directly related to the job such as the opportunity to work with children, ability to make a difference, feeling challenged by work, feeling appreciated and valued (reward), teaching efficacy, and perceived occupational fit.

Extrinsic factors included aspects of the job not directly related to the work activity such as work load, supervisor support, compensation (reward), student behavior, and autonomy.

Level of Job Satisfaction:

High level of job satisfaction was operationalized as a composite job satisfaction score above the 75th percentile.

Low level of job satisfaction was operationalized as a composite job satisfaction score below the 25th percentile.

Teaching Areas indicated grade level and subject areas in which the teacher was certified to teach.

Elementary grade levels included early childhood education (Grades PK-3), primary education (Grades K-6), and middle grades education (Grades 4-8).

Secondary grade level referred to all secondary education certifications (Grades 7-12), specifically math, science, English, and history.

Specialty K-12 denoted certification in all grades in a single subject area and included special education, physical education, and music education.

Teacher Candidate is an undergraduate college student, who is enrolled in a teacher education program, with the intent to become a licensed teacher.

Organization of the Study

This dissertation includes five chapters to describe and discuss this study. Chapter One establishes the need for the study, its purpose, importance, design, assumptions, limitations, and definition of terms. Chapter Two provides a review of the pertinent literature on teacher job satisfaction, personality dimensions of teachers, and links between personality and job satisfaction. Chapter Three details the methodological structure of this study and includes

descriptions of the research questions, participants, instruments, procedures, and data analysis.

Chapter Four provides the results of these analyses organized by research question. Finally,

Chapter Five discusses the conclusions and implications of the results and provides direction for future research.

CHAPTER 2: LITERATURE REVIEW

Introduction

The purpose of this chapter is to provide a review of the literature investigating the relationship between teacher personality and job satisfaction. The existing literature thoroughly explores factors contributing to teacher job satisfaction, as well as the personality characteristics of effective teachers. Also prevalent in the literature are a number of resources discussing the relationship between personality and job satisfaction across occupational groups. However, missing from the current literature is an investigation specifically of the relationship between personality and job satisfaction in teacher populations. This literature review is comprised of research representing several disciplines including education, social psychology, and human resource management.

Job Satisfaction of Teachers

Job satisfaction is broadly defined as the degree to which an individual finds enjoyment and fulfillment in his or her job. While this definition may seem simplistic, there are many factors contributing to one's perception of occupational satisfaction. Exploring the components of job satisfaction continues to be a predominant area of focus for researchers. The understanding of the influences of this construct is rapidly expanding; however, research generally supports that job satisfaction is comprised of demographic factors, extrinsic factors, and intrinsic factors.

Demographic factors potentially influencing job satisfaction include age, gender, marital status, work experience, and level of education. Research has consistently found that women in teaching generally experience higher levels of job satisfaction than men (e.g., Chapman & Lowther, 1982; Swanson, 2008). Age has also been found to be a significant factor in the amount of influence personality has on job satisfaction. For example, Meir (1999) indicates that job satisfaction is more closely linked to personality in individuals who are 35 and under, suggesting that other factors such as marital status, number of children, and job benefits influence satisfaction more strongly for those over the age of 35.

Beyond the effects of demographic variables, job satisfaction is discussed in terms of extrinsic factors and intrinsic factors (Kukla-Acevedo, 2009; Plash & Piotrowski, 2006; Swars et al., 2009). Extrinsic factors are defined as those related to the job but are not inherent to the work itself. Most often in research, extrinsic factors of teacher job satisfaction include work conditions such as workload, classroom autonomy, student behavior, supervisor support, salary, opportunities for promotion, and job flexibility (Barmby, 2006; Kukla-Acevedo, 2009). While extrinsic factors have been found to be significant to choosing teaching as a profession, extrinsic factors were not found to be as significant in influencing teacher job satisfaction as intrinsic factors (Barmby, 2006).

Personality, motivation, and value contribute to intrinsic job satisfaction and include items directly related to the job activity. Dik, Strife, and Hansen (2010) define intrinsic job satisfaction “as the extent to which a person is challenged and able to exercise her or his skills on the job” (p. 355). Teachers commonly cite the opportunity to work with children and ability to

make a difference as a significant motivational factor contributing to job satisfaction (Perrachione, Rosser, & Peterson, 2008; Watt & Richardson, 2007).

Beyond generalized quantification of these components, extrinsic and intrinsic factors are not consistently operationalized within the literature (Watt & Richardson, 2007). Job satisfaction is a subjective measure, dependent upon one's perception of workload, support, student behavior, challenge, and personal influence. Personality has consistently been confirmed to be an important part of job satisfaction (Judge, Locke, Durham, & Kluger, 1998; Seibert & Kraimer, 2001; Staw, Bell, & Clausen, 1986). While personality is generally identified as an intrinsic factor of job satisfaction, one's personality influences perception, adaptability, and need for support, reward, and autonomy, suggesting personality crosses categorizations of job satisfaction. Therefore, other influences of job satisfaction are beyond the scope of this study, and the remainder of this review will focus on the contributions of personality on job satisfaction among teachers.

Personality of Teachers

Dimensions of Personality

Within the literature, personality is discussed, defined, and measured in myriad ways. There is, however, a consensus that personality may be described through five underlying dimensions, or *global factors*. These five factors are generally called *extraversion*, *neuroticism*, *agreeableness*, *openness*, and *conscientiousness* (Popkins, 1998). Table 1 identifies the characteristics of these personality dimensions.

Table 1

Descriptions of the Five Factors of Personality

Personality Factor	Characteristics
Extraversion	One's interest and willingness to participate in social settings
Neuroticism	One's level of anxiety and emotional instability
Agreeableness	One's independence and compatibility with others
Openness	One's receptivity and willingness to adjust to new ideas or situations
Conscientiousness	One's reliability, self-control, and consideration of others when making decisions

Examples of personality assessments that provide measures of personality across the five dimensions include the *NEO* (Costa and McCrae, 1985), the *Big Five* (Goldberg, 1990), and the *Sixteen Personality Factor Questionnaire* (Cattell, 1994). The five global factors measured by these widely accepted models have been found to closely align (Cattell & Mead, 2008; Hansen & Dik, 2004). Table 2 identifies these global factors as they are named by varying assessments of the five-factor model of personality.

While these scales align across dimensionality and conceptual framework, the interpretation of scores varies. For example, the Tough-mindedness scale of the *16PF* and the Openness scale of the *NEO* are aligned inversely. A low score on Tough-mindedness indicates receptivity and open-mindedness, which corresponds to a high score on its *NEO* counterpart, Openness.

Table 2

Alignment of Five Factors of Personality across Measures

Personality Measure	<i>16PF</i>	<i>NEO-PI-R</i>	<i>Big Five</i>
	Extraversion	Extraversion	Surgency
	Anxiety	Neuroticism	Emotional stability
Factor Name	Tough-mindedness	Openness	Intellect or culture
	Independence	Agreeableness	Agreeableness
	Self-Control	Conscientiousness	Conscientiousness

Note. Adapted from Cattell & Mead, 2008, p. 141.

The Sixteen Personality Factor Questionnaire

The *Sixteen Personality Factor Questionnaire (16PF)*, originally published in 1949 as a self-report personality assessment, is based on the theoretical premise that the domain of personality may be explained through 16 primary traits. These primary traits, or *primary factors*, are Warmth, Reasoning, Emotional Stability, Dominance, Liveliness, Rule-Consciousness, Social Boldness, Sensitivity, Vigilance, Abstractedness, Privateness, Apprehension, Openness to Change, Self-Reliance, Perfectionism, and Tension. The primary factors, with the exception of Reasoning, contribute to five second order factors, the *global factors*, which are named Extraversion, Anxiety, Tough-mindedness, Independence, and Self-Control. Reasoning is not directly related to the global factors of personality because it is thought to measure ability and not personality (Hansen & Dik, 2004). The factorial groupings are presented in Table 3.

Each of these factor scales are bipolar, anchored by unique descriptions at opposing sides. For example, a low score on the primary scale of Warmth (A) maybe interpreted as

Table 3

Structural Contributions of the Primary Factors to the Global Factors

Primary Factors	Global Factors	Global Factor Definitions
A: Warmth F: Liveliness H: Social Boldness N: Privateness (-) Q2: Self-Reliance (-)	Extraversion	Social orientation; the desire to be around others and be noticed by them; the energy invested in initiating and maintaining social relationships.
C: Emotional Stability (-) L: Vigilance O: Apprehension Q4: Tension	Anxiety	Response to environmental controls on behavior; internal self discipline.
A: Warmth (-) I: Sensitivity (-) M: Abstractness (-) Q1: Openness to Change (-)	Tough-mindedness	The way a person processes information; the extent to which they will solve problems at an objective cognitive level.
E: Dominance H: Social Boldness L: Vigilance Q1: Openness to Change	Independence	The role a person assumes when interacting with others; the extent to which they are likely to influence or be influenced by the views of other people.
F: Liveliness (-) G: Rule-Consciousness M: Abstractness (-) Q3: Perfectionism	Self-Control	Emotional Adjustment; the types of emotions experienced and the intensity of these.

Note. Adapted from *The Sixteen Personality Factor Questionnaire-Fifth Edition* Interpretive Report (2010).

reserved, impersonal, cold, or distant, whereas, a high score for Warmth (A) indicates someone is warm, caring, and attentive (Cattell & Mead, 2008). Descriptions and interpretations of these scales are included in Appendix A.

Currently in the fifth edition (1994), the *16PF* is widely used across disciplines, including educational, clinical, occupational, and research settings (Schuerger, 1995). The authors of the test indicate the *16PF* is “useful in predicting specific behavioral criteria such as social skills, but does not adequately assess other factors that may affect or predict future behavior such as motivation” (Rotto, 1995, para. 2). Because of the instrument’s extensive history, the utility, stability and validity of the *16PF* are established in the literature (see Cattell & Mead, 2008; Pietrzak & Page, 2001; Schuerger, 1995).

Personality Profiles of Teachers

The *16PF* has been widely used to investigate teacher characteristics and personality profiles (Harris & Rutledge, 2010; Schuerger, 1995). These personality profiles are used to investigate the effects of personality on many variables such as teacher effectiveness, teaching efficacy, satisfaction, job stress, and burnout. Before definitive conclusions can be made as to the contributions of personality on these constructs of interest, a general understanding of the profile of teachers is beneficial. Using personality profiles to examine group differences provides valuable insight for teacher training programs, teacher evaluation protocols, and professional development.

Baldwin et al. (1990) examined the personality profiles, as measured by *16PF*, of 199 undergraduate students from a regional state university majoring in education. The sample included 149 participants majoring in elementary education and 50 participants majoring in secondary education.

The purpose of the study was two-fold. The first objective was to describe the personality profile of teacher candidates as compared to the norms identified by the *16PF* manual. The second objective was to examine group differences in personality between elementary and secondary education teacher candidates.

The personality profiles were investigated using the mean primary factor scores of the teacher candidates for both elementary and secondary education majors. The *16PF* identifies the mean score of the norm group as 5.5 for each of the factor scales. Based on this value, this study classified mean scores above 6.0 as 'above average' and mean scores below 5.0 as 'below average' (p. 9). Using these standards, the sample of teachers was found to be different from the norm group on six personality factors. The teacher candidates were above average on Rule-Consciousness (G+), Privateness (N+), Self-Reliance (Q2+), and Perfectionism (Q3+). Below average scores were observed for Liveliness (F-) and Abstractedness (M-).

The differences between elementary teacher candidates and secondary teacher candidates were analyzed using *t*-tests to compare group means for each factor. Group differences were statistically significant ($p < .05$) on four of the factors. Elementary teacher candidates scored significantly higher than their secondary counterpart on Emotional Stability (C) and Abstractness (M), ($t = 1.99$ and 2.11 , respectively), while secondary teacher candidates scored higher on Dominance (E) and Self-Reliance (Q2), ($t = -2.05$ and -2.07 , respectively). The personality

profile of this sample of teachers may be generally described as being different from population norms in demonstration of duty (G+), discretion (N+), self-reliance (Q2+), organization and discipline (Q3+), cautiousness (F-), and practicality (M-).

Within the population of teachers, elementary teacher candidates exhibited higher adaptability and maturity (C), as well as greater imagination than the secondary teacher candidates. The secondary teacher candidates reported greater assertiveness (E) and self-reliance and independence (Q2) than elementary teacher candidates. These generalizations are consistent with educational standards and skills expected of qualified teachers.

Sparks and Lipka (1992) used the *16PF* to examine the personality profiles of 29 secondary school teachers and the relationship of those unique profiles when comparing teacher groups based on teacher effectiveness. Three ratings were utilized to categorize these 29 teachers as either “master” or “not-so-masterful” teachers: teacher ratings, student ratings, and administrator ratings. Based on these grouping, the personality profiles for each of the primary and global factors included in the *16PF* were compared using point-biserial correlations. Statistically significant group differences, as defined by teacher ratings, were observed on seven of the factors. Master teachers were found to score significantly different than “not-so-masterful” teachers at $p < .01$ on the factors of Vigilance (L), Openness to Change (Q1), Tension (Q4), and Anxiety (AX). At a significance level of $p < .05$, group differences existed on the factors of Warmth (A), Sensitivity (I), and Apprehension (O). The group comparisons, as defined by student ratings, supported these results, identifying significant differences ($p < .05$) on the factors of Warmth (A), Vigilance (L), and Openness to Change (Q1). Based on the *16PF* factor descriptions, the master teachers were more skeptical (L+), traditional (Q1-), driven (Q4+),

warm (A+), sensitive (I+), self-assured (O-), and demonstrated higher anxiety (AX+) than their “not-so-masterful” counterparts. Sparks and Lipka (1992) describe the master teacher as “a warm-hearted, socially outgoing individual, who is attentive to people, generous in personal relations, and maintains interpersonal contacts. This person is hard to fool, has a high-drive level, and respects traditional ideas while being sensitive and intuitive” (p. 309).

These findings, suggesting a unique personality profile of teachers, are also supported through research investigating personality in which the five-factor model of personality is not used. Studies often use the Myers-Briggs type indicator (MBTI) personality assessment to investigate the personality of teachers. The MBTI is comprised of four dichotomous measures: Extraversion v. Introversion, Sensing v. Intuition, Thinking v. Feeling, and Judging v. Perceiving, producing 16 possible personality types. Teacher profiles based on the MBTI vary in specification of Extraversion v. Introversion and Judging v. Perceiving; however, a consensus exists in the literature that teachers are most commonly identified as Sensing and Feeling types. Sensing types interpret external information practically and factually. They are detail-oriented and tend to focus on the concrete elements of a situation. Additionally, Feeling types make conclusions and decisions based on an understanding of the impacts for others (Hughes, Costner, & Douzenis, 2001; Rushton, Morgan, & Richard, 2007).

This evidence suggests that some personality traits are more common and appropriate for classroom teachers. Occupational theory includes the idea that occupational groups generally draw individuals who share personological similarities. To fully understand the personality profile of teachers, it becomes necessary to additionally understand the occupational description and characteristics (Seibert & Kraimer, 2001).

Occupational Type

Occupational theory includes the idea that occupational groups generally draw individuals who share personological similarities. John Holland, one of the most prominent theorists in the field of career development and occupational choice, classified occupations into six categories based on of work environment. The six occupational types are realistic, investigative, artistic, social, enterprising and conventional, sometimes referred to as the RIASEC (Weinrach, 1996). Table 4 provides examples of the six occupational types as described by Holland (1996).

Occupations are classified by a dominate type and supported by two related occupational types. Teaching is identified as a Social occupation, including traits associated with Artistic and Enterprising occupational types. Holland's theory emerged as he explored the parallels between individual and vocational personality types (Gottfredson & Johnstun, 2009). "The [occupational] typology assumes it is useful to characterize people according to their resemblance to six personality types and to characterize environments according to six ideal environments. Each type is assumed to flourish in an environment having the same label" (Holland, 1996, p. 397). Individuals are characterized by their likeness to each of the six occupational domains, resulting in a three letter code reflective of the occupational domains best suited for their personality. The degree to which an individual's personality is suited towards the demands and characteristics of an occupational environment is described as *occupational fit*. Table 4 also identifies and the personality traits that correspond with each occupational type.

Table 4

Holland's Occupational Types, Personality Features, and Occupational Activities

Type	Personality Features	Occupational Activities
Realistic	Asocial, conforming, persistent, unsightful, inflexible	Concrete, practical activity; use of machines, tools, materials
Investigative	Analytical, complex, independent, introspective, reserved, unpopular	Analytical or intellectual activity aimed at problem-solving
Artistic	Expressive, impulsive, introspective, nonconforming, sensitive, open	Creative work in writing, performance, or unstructured intellectual endeavors
Social	Cooperative, friendly, helpful, understanding, sociable, warm	Working with others in a helpful or facilitative way
Enterprising	Ambitious, domineering, energetic, extraverted, self-confident, sociable	Selling, leading, manipulating others to attain personal or organizational goals
Conventional	Careful, conforming, conscientious, efficient, unimaginative, inhibited	Working with things or numbers to meet predictable demands or specified standards

Note. Adapted from Holland, 1996, p. 398-399 and from Tokar & Fischer, 1998, p. 247.

Personality and Occupational Types

The relationship between the six occupational types and the dimensions of personality have been investigated through a variety of methods and settings (Hogan & Blake, 1999; Tokar & Fischer, 1998). Blake and Sackett (1999) examined the overlap between Holland's typology and personality dimensions of the Five-Factor Model using the trait adjectives associated with each occupational type. Similarly, Judge et al. (1999) investigated the relationship between personality, as measured by the Big Five model, and the RIASEC occupational types using both correlation and multiple regression analyses. After controlling for the variance attributed to

general intelligence, Extraversion and Agreeableness (or Independence) were found to positively relate to the Social occupational type ($p < .05$).

The *16PF* technical manual reports the results of a multiple regression analysis used to identify the relationships between the five global factors of the *16PF* and the six occupational types. The results indicate that the Social occupational type is significantly associated with Extraversion (EX+) and Tough-mindedness (TM-), further defining the Social type by those who are extraverted, receptive, and open-minded (Cattell & Mead, 2008).

In the *Handbook of Personality Theory and Assessment* (2008), Cattell and Mead further expand the connections between the *16PF* and occupational profiles. The Social occupational profile defines general characteristics and traits commonly seen in people who work in social occupations. People in social occupations tend to report scores on the global factors of Extraversion, Tough-mindedness, and Anxiety that are different from the general population norms. They tend to be above average on Extraversion (EX+) and below average on both Tough-mindedness (TM-) and Anxiety (AX-). The profile for those in social occupations is further identified by considering the primary factors that contribute to the global factors. They tend to be above average on Warmth (A+), Emotional Stability (C+), Perfectionism (Q3+), Rule-Consciousness (G+), Sensitivity (I+), and Open to Change (Q1+). They also report scores that are below average on Tension (Q4-), Apprehension (O-), and Vigilance (L-).

Summary of Teacher Personality

Investigating the dimensions of teacher personality through individual personality and occupational profiles allows a general picture for the personality of a teacher to emerge. Table 5

summarizes the personality factors that have been associated uniquely with teachers or social occupations across four studies. Teachers are identified as dutiful (G+), sensitive (I+), organized and self-disciplined (Q3+) in three of the four studies. Additionally, in two of the four studies, teachers tended to be warm (A+), emotionally stable (C+), trusting (L-), discreet (N+), patient (Q4-), agreeable (TM-), and not anxious (AX-).

Group differences among elementary and secondary teachers are suggested. These differences are necessary and expected in order for teachers to be able to meet the needs of diverse student groups. For example, higher levels of Vigilance (L+) are likely needed in secondary teachers than for elementary teachers. However, Chapman and Lowther (1982) described teachers as:

Exhibiting a combination of social, artistic, and enterprising skills and abilities [and] should be good at explaining things to others, supervising others, organizing, and getting people to do things their way. Teachers with greater communication and organizational abilities and accomplishments should experience greater satisfaction with their career than teachers with lesser skills and accomplishments in these areas. (p. 241)

Table 5

Summary of Personality and Occupational Profiles for Teachers

	Factor	Baldwin, 1990	Schuerger, 1995	Sparks and Lipka, 2002	Cattell and Mead, 2008
EX	Extraversion				+
AX	Anxiety		-	+	-
TM	Tough-mindedness		-		-
IN	Independence				
SC	Self-Control		+		
A	Warmth			+	+
C	Emotional Stability		+		+
D	Dominance				
F	Liveliness	-			
G	Rule-Consciousness	+	+		+
H	Social Boldness		+		
I	Sensitivity		+	+	+
L	Vigilance		-	+	-
M	Abstractedness	-			
N	Privateness	+	+		
O	Apprehension		-	-	-
Q1	Openness to Change			-	+
Q2	Self-Reliance	+			
Q3	Perfectionism	+	+		+
Q4	Tension		-	+	-

Note. +/- indicates the study reported identified the teacher sample as being high/low on each personality factor. The factors of Independence (IN) and Dominance (E) were not identified as significant contributors to the profile in any of the represented findings.

Personality and Job Satisfaction

The relationships between personality, occupational type and job related outcomes such as performance, success, and satisfaction have been widely studied and discussed in the literature (for reviews, see Tranberg et al., 1993; Tsabari, Tziner, & Meir, 2005). It is generally accepted that the global factors of Neuroticism and Extroversion contribute most significantly to job satisfaction, specifically that low neuroticism and high extraversion generally are correlated with higher levels of job satisfaction (see, Boudreau, Boswell, & Judge, 2001; Judge, Heller, & Klinger, 2008; Lounsbury et al., 2003; Seibert & Kraimer, 2001; Tokar & Subich, 1997).

The usefulness of congruence as a predictor of job satisfaction for all occupational types is uncertain. Numerous studies concluded that there is insufficient evidence to support the idea that congruence was a significant predictor of job satisfaction (e.g. Seibert & Kraimer 2001; Tokar & Subich, 1997; Tranberg et al., 1993; Tsabari, Tziner, & Meir, 2005). Meta-analyses by Tranberg et al. (1993) and Tsabari, Tziner, and Meir (2005) both confirmed that the congruence-satisfaction relationship is stronger, however, with those with a Social occupational type. Tokar and Subich (1997) hypothesize that congruence may be a better predictor of satisfaction in the earlier stages of career development (p. 490). The meta-analysis conducted by Tsabari et al. (2005) supports that the congruence measure is a better predictor of vocational outcomes in younger age groups, defined as those between the ages of 20 and 30.

Tokar and Subich (1997) investigated the effects of personality on job satisfaction. The sample was comprised of 679 employed adults from a metropolitan area. Using the NEO personality assessment, a hierarchical regression analysis identified neuroticism (anxiety) and extraversion as unique predictors of participants' job satisfaction. Neuroticism was confirmed to

have an inverse relationship with job satisfaction, ($\beta = -.14$, $t = -2.63$, $p = .01$), whereas extraversion demonstrated a positive relationship, ($\beta = .11$, $t = 2.07$, $p = .04$) (p. 489). Additionally, Tokar and Subich (1997) found that congruence did not significantly contribute to job satisfaction, ($F(1, 393) = 1.03$, $p = .31$). However, their discussion recommends the relationship between congruence and satisfaction be evaluated in a single occupational group, suggesting congruence may be a significant predictor of satisfaction in some occupational groups and not in others.

Similarly, Seibert and Kraimer (2001) conducted a study including 496 adults with backgrounds in business and engineering to examine the relationship between personality and career success using hierarchical regression analysis. Within their study, intrinsic career success was operationalized as job satisfaction, and personality was measured using the Big Five personality traits (p. 3). The regression analysis corroborated previous studies, indicating that neuroticism was negatively related to job satisfaction, ($\beta = -.20$, $p < .01$), while extraversion related positively to job satisfaction, ($\beta = .15$, $p < .01$). Additionally, the results identified agreeableness as having a negative relationship with job satisfaction, ($\beta = -.09$, $p < .05$) (p. 11). A low score on the agreeableness scale indicates stronger tendencies towards agreeableness, suggesting that participant's with a higher score who demonstrate independence have lower job satisfaction.

Further investigation of these results revealed that in this sample, the influence of agreeableness was greater among those with jobs requiring high levels of interpersonal interactions (p. 15). The variability of personality as a predictor of job satisfaction among

specific occupational groups further supports that some personality traits are more appropriate in certain occupations than others (Seibert & Kraimer, 2001).

As illustrated in the previous studies, neuroticism, or anxiety and emotional instability, consistently reveals an inverse relationship with job satisfaction, regardless of the occupation included within the study (Schuerger, 1995). Similarly, extraversion proves to be a significant predictor of job satisfaction. Seibert and Kraimer (2001) concluded that, “greater job satisfaction is related to lower neuroticism and its variants, as well as to higher extraversion and related traits” (p. 144).

Boudreau, Boswell, and Judge (2001) support these findings, reporting neuroticism and extraversion were both significant predictors of job satisfaction. However, they also identified inverse relationships between both agreeableness and conscientiousness with job satisfaction. The significance of agreeableness and conscientiousness as predictors of job satisfaction have been shown to vary based on occupational groups, supporting the foundational tenets of occupational theory (Schuerger, 1995).

Conclusion

Teacher job satisfaction is comprised of three general dimensions: personal attributes, extrinsic and intrinsic factors. Personal attributes found influencing teacher job satisfaction the most are age, gender, and years of work experience. Intrinsic factors, such as motivation and fulfillment, have been found to contribute more significantly to teacher job satisfaction than extrinsic factors, such as workplace conditions and pay (Barmby, 2006). In teacher populations, age, years of teaching experience, and personality have been found to have a significant

relationship, suggesting that personality has a greater impact on job satisfaction in the early stages of career development.

The teaching profession is classified as a social occupational type. People in social occupations tend to be extraverted, receptive, and open-minded. Research examining individual personality profiles of teachers suggest group differences in personality among elementary and secondary teachers; however, teachers are generally identified as dutiful (G+), sensitive (I+), organized and self-disciplined (Q3+). Across occupational groups, the personality traits of extraversion and neuroticism (anxiety) are consistently established as predictors of job satisfaction. However, based on occupational theory, certain personality traits may contribute more significantly to job satisfaction than in other occupations. In social occupations, agreeableness and conscientiousness have also been identified as significant.

This review has identified the need for further investigation in three areas. 1) While discussions of generalized personality characteristics of teachers are prevalent, an investigation of the differences that exist in teacher personality profiles within subject area groups is needed. 2) The literature thoroughly discusses the relationship between personality and job satisfaction across occupational groups; however, it is lacking studies focusing on the relationship between personality and job satisfaction specifically in teacher populations. 3) Longitudinal studies are needed to further understand the causal links between personality and job satisfaction (Schuerger, 1995; Tokar, Fischer, & Subich 1998). As such, the purposes of this study are to examine personality profiles across groups of K-12 teachers and longitudinally assess the causal links of personality and job satisfaction for K-12 teachers.

CHAPTER 3: METHODOLOGY

Introduction

Teacher job satisfaction has been found to influence both teacher retention and performance (Perrachione, Rosser, & Peterson, 2008). Consequently, many highly qualified teachers leave the classroom each year because they are dissatisfied. Given the significant investment of time and other resources required to train effective classroom teachers, retention of those teachers is important. As such, a thorough investigation to understand the factors contributing to teacher satisfaction is warranted. Having an accurate understanding of the personality traits that may influence teacher satisfaction could serve to inform teacher preparation programs and best practices in leadership for in-service teachers, potentially having the ability to increase job satisfaction.

Previous studies have examined aspects of the relationship between personality and general job satisfaction. This study sought to extend these studies by exploring the specific relationship between group differences in teacher personality traits and job satisfaction. Additionally, a quantitative, longitudinal design was used to assessing the predictive validity of personality profiles for teacher job satisfaction. The research questions around which this study was designed are:

The Personality Profile of Teachers

- 1A: To what extent does a unique personality profile exist for K-12 teachers as measured by the *16PF*?
- 1B: To what extent do differences exist in the personality profiles of K-12 teachers?

The Relationship between Personality and Job Satisfaction of Teachers

- 2A: To what extent does personality, as measured by the *16PF*, have predictive validity for job satisfaction in K-12 teachers?
- 2B: Are there differences in personality between teachers reporting high levels of job satisfaction and those reporting low levels of job satisfaction?

Context and Setting

The sample for this study was selected from a private, religiously affiliated, liberal arts university located in southeast Tennessee, with a current enrollment of approximately 4,400 undergraduate students. The Teacher Education Program (TEP) within the College of Education is nationally accredited (NCATE) and offers four undergraduate programs of study: early childhood education, interdisciplinary education, middle grades education, and special education. Secondary education programs are dually supported through collaborations with departments across campus to provide pedagogical foundations as well as thorough content knowledge. The stated purpose of the university Teacher Education Program is to prepare dedicated and competent teachers. This purpose is supported by three objectives: to provide (1) a broad general background in liberal education, (2) a thorough preparation in a specific academic discipline, and (3) professional preparation, including an understanding of the responsibilities and procedures of effective teaching.

Participants and Procedures

This study included graduates from the Teacher Education Program (TEP) at the university between Fall 2004—Spring 2010. Eligible participants were identified using graduation records from the Office of Institutional Research and College of Education. Within the TEP, any student wishing to pursue a degree in education completes a personality assessment during their first education course. Any graduate whose record did not include the personality assessment was removed from the sample. Data were collected on 587 education graduates, of whom 18% were male and 82% were female. Race/ethnicity data were not available.

This study utilized participant data collected across three time points to capture personality, teaching area, and job satisfaction. The first time point occurred during the participants' first education course of an undergraduate teacher education program (TEP). Approximately 2-3 years after the first education course, the participants of this study completed an undergraduate teaching degree within a specialized area. The application for teaching licensure submitted by the College of Education for each graduate indicates the participants' final area of initial teaching licensure qualifications. Finally, the participants provided current measures of job satisfaction in the teaching profession with years of teaching experience ranging from zero up to seven years in the classroom. Table 6 organizes the constructs/variables, data sources, and corresponding time point in which the data were collected.

Table 6

Variables, Measures and Data Sources

Participant Data	Source	Time Point Collected
Personality	Archival Data	First Year in TEP
Teaching Area	Archival Data	Graduation from TEP
Job Satisfaction	Survey of participants	Current Teaching Placement

The *16PF* personality profiles of the participants are part of the archival data collected by the College of Education at the university for all students enrolled in their courses. Upon completing the inventories, students agree to release the results to the university for evaluation and research purposes. The names of these students are archived within the university College of Education Assessment System. The rights to use that data for research purposes included within the scope of this project were acquired through formal request with the Office of the Vice President of Academic Affairs.

To obtain the teacher satisfaction data, the 587 graduates were asked to complete the job satisfaction items via SurveyMonkey. Previous surveys administered electronically to this population have yielded response rates ranging from 25-32%. To optimize the response rate, alumni records, student files, and school system websites were used to identify current email addresses for each graduate; however, email addresses for 106 participants were inactive. The invitation to participate was given by the Dean of the College of Education at the university. Additionally, three follow-up emails were sent to non-respondents (Sheehan, 2006). These efforts yielded a response rate of 24% (113 respondents), with 17% male and 83% female; 94%

Caucasian, 4% African American, and 2% Hispanic; and median age of 28. The gender composition of the sample is consistent with the national population of teachers. The National Center for Education Statistics reported 84% of public school teachers in the 2007-08 school year were female (16% male) and approximately 85% of teachers were white, 7% black, and 7% Hispanic (*The Condition of Education*, 2010).

Measures

Personality

The *Sixteen Personality Factor Questionnaire (16PF)*, Fifth Edition (1994) was used to measure personality traits of the teachers. The 185 items produce scores across 16 primary factors and five global factors. The 16 primary factors are Warmth, Reasoning, Emotional Stability, Dominance, Liveliness, Rule-Consciousness, Social Boldness, Sensitivity, Vigilance, Abstractedness, Privateness, Apprehension, Openness to Change, Self-Reliance, Perfectionism, and Tension. According to the Fifth Edition Manual (1994), internal consistency for the primary scales ranges from 0.66 to 0.86. These primary scales contribute to the five global factor scores of Extraversion, Anxiety, Tough-mindedness, Independence, and Self-Control:

Extraversion: Warmth, Liveliness, Social Boldness, Privateness (-), Self-Reliance (-);

Anxiety: Emotional Stability (-), Vigilance, Apprehension, Tension;

Tough-mindedness: Warmth (-), Sensitivity (-), Abstractedness (-), Openness to Change;

Independence: Dominance, Social Boldness, Vigilance, Openness to Change;

Self-Control: Liveliness (-), Rule-Consciousness, Abstractedness (-), Perfectionism.

For example, a high score in Extraversion is comprised of high scores in Warmth, Liveliness, and Social Boldness, as well as low scores in Privateness and Self-Reliance.

All of the personality scales are bipolar, with both high and low scores having unique interpretations. See Appendix A for scale descriptions. The scale scores range from 1 to 10 and have a mean of 5.5 and a standard deviation of 2, according to the most recent standardization of the scores released in 2002 (Cattell & Mead, 2008). Additionally, the *16PF Fifth Edition Questionnaire Manual* identifies significant gender differences within the norm group on the primary factors of Warmth (A), Sensitivity (I), and Apprehension (O), with females scoring higher than males (Conn & Rieke, 2009). Score ranges are categorized, and often discussed, as low (1-3), average (4-7) and high (8-10) (Hansen & Dik, 2004). Schuerger (1995) states that approximately 80% of respondents will score in the average range, with the remaining 20% divided between the low and high ranges.

For interpretation and analysis, McLellan (1995) advises that the global factors be interpreted first because they are more stable. The primary factors may then serve to further investigate the personality factors. Additionally, the *16PF* interpretive report includes the age of the participant at the time of completion. For all analyses of personality, in the present study, the influence of age is assessed as the age reported on the *16PF*. The median age of completion of the *16PF* in this sample was 20.

Occupational Type

The teachers' occupational type was determined using the *16PF* conversion of the Holland Types, producing six scores based on the Holland typology of vocational preference:

Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. Holland's typology "assumes it is useful to characterize people according to their resemblance to six personality types and to characterize environments according to size ideal environments. Each type is assumed to flourish in an environment having the same label" (Holland, 1996, p. 397). The results are reported as a measure of similarity between the individual's personality characteristics and each of the six occupational types on a scale of 1 (low congruence) to 10 (high congruence).

Teaching Area

The teaching area indicated age level of students taught and subject areas in which the teacher was certified to teach. The sample was divided into three major categories: elementary ($n = 323$, 55%), secondary ($n = 101$, 17%), and specialty K-12 ($n = 163$, 28%) certification. *Elementary* included early childhood education (Grades PK-3, $n = 35$, 6%), primary education (Grades K-6, $n = 274$, 47%), and middle grades education (Grades 4-8, $n = 14$, 2%). *Secondary* referred to all secondary education certifications (Grades 7-12). This study specifically included certification in math or science ($n = 29$, 5%), and English or history ($n = 59$, 10%). *Specialty K-12* certification denoted ability to teach a specialty subject in all grades and included special education ($n = 71$, 12%), physical education ($n = 38$, 6%), and music education ($n = 54$, 9%).

The teaching areas of those who responded to the survey ($n = 113$) are distributed similarly to the overall sample of 587: 49% elementary (4% early childhood, 37% primary, 7% middle grades), 25% secondary (9% math or science, 16% English or history), and 26% specialty K-12 (3% physical education, 13% special education, 9% music education). These proportions are generally representative of the national composition of the teaching profession. In the 2010-

11 edition of the *Occupational Outlook Handbook* published by the Bureau of Labor Statistics, kindergarten teachers comprise 5% of the teacher workforce. Elementary teachers comprise 45% of the teaching population, while 19% of teachers are in middle grades, with the remaining 31% teaching in secondary education.

Job Satisfaction

A survey of 17 items measured teachers' satisfaction, which is defined as the subjective evaluation of the degree to which a teacher finds enjoyment and fulfillment in his or her job. The participants indicated level of agreement with each item using a 5-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree or Disagree, 4 = Agree, and 5 = Strongly Agree). The items reflect both intrinsic and extrinsic satisfaction. Items measuring intrinsic job satisfaction included factors directly related to the job activity and was operationalized by items reflecting the opportunity to work with children, ability to make a difference, feeling challenged by work, feeling appreciated and valued (reward), and perceived occupational fit. Items measuring extrinsic job satisfaction included factors not directly related to the job activity such as work load, supervisor support, compensation (reward), student behavior, and classroom autonomy.

Cronbach's alpha coefficient of 0.87 indicated the 17 item scale has acceptable internal consistency. Factor analysis, using maximum likelihood estimation and varimax rotation, supports the theoretical composition of the job satisfaction scale ($\chi^2 = 54.56, p = 0.38$). Additionally, the *Life Satisfaction Inventory* (Lounsbury & Gibson, 2011) was used as a criterion measure of job satisfaction. The 26 items, rated on 5-point Likert scale of agreement scale,

provide three sub-scores: job satisfaction, career satisfaction, and life satisfaction. The 17 item job satisfaction scale used in this study is significantly correlated with the job satisfaction sub-scale of the criterion measure at ($r = 0.79, p < 0.001$).

Additionally, those participating in the survey were asked to provide information about their professional teaching experience and current teaching placement (Gardner, 2010; Perrachione, Rosser, & Peterson, 2008). Of the 113 respondents, 16% (18) had never taught, 4% (5) were no longer teaching, and 80% (90) were currently teaching. Of the 95 with teaching experience, 74% of those who were currently teaching had been in their current position less than three years, and 87% had been in the profession for less than five years, which is consistent with the sample of graduates collected.

Analyses

Univariate and multivariate analyses were used to examine the research questions of this study. This study used statistical processes, such as *t*-tests, analysis of variance (ANOVA) and analysis of covariance (ANCOVA), designed to assess group differences. Bivariate correlation and multiple regression was used to determine the presence and strength of relationships.

Parametric statistics assume the data are absent of outliers, normally distributed, and the variables have a linear relationship. Data must meet additional assumptions for the use of multivariate statistics beyond normality and linearity. ANOVA additionally requires homogeneity of variance. When covariates are included, ANCOVA requires the absence of multicollinearity, the independence of covariates, and homogeneity of regression. Multiple

regression is dependent on similar assumptions, requiring normality, linearity, absence of multicollinearity, homoscedasticity, and independence of residuals.

Data Management

Due to the large volume of data included in the study, multiple precautions were taken during data collection and entry to ensure accuracy. The sample was partitioned and spot checked at the completion of each set of data entered. Frequency analyses were also utilized to identify errors in coding and data entry. Upon entering all data, cases in which more than 5% of the data was missing were omitted from the sample (Furr & Bacharach, 2008).

Statistical Assumptions

Normality. Descriptive statistics for each personality and job satisfaction variable were used to identify outliers. Outliers were modified by adjusting the score to 0.5 above/below the highest/lowest normal value depending on the extreme to which it was outlying (Osborne & Overbay, 2004). Normality was checked after the outliers were modified by viewing the newly calculated skewness and kurtosis. Using the criteria that skewness and kurtosis must be smaller than ± 1 , all variables were sufficiently normally distributed for the use of parametric statistics. Multivariate outliers were assessed by examining the standardized residuals for each sub-group.

Homogeneity of variance and covariance. Homogeneity of variance assumes that the variance is equal across populations. Equal sample sizes, where possible, were selected as a precaution against the *t*-tests and *F*-tests not functioning as intended under violation of this assumption. Using random selection, equal groups for independent variables, such as grade level

and subject area, were created. Additionally, participant age at time of personality assessment was grouped by quartiles: 1 ($\text{Age16PF} \leq 19$), 2 ($\text{Age16PF} = 20$), 3 ($21 \leq \text{Age16PF} \leq 23$), and 4 ($23 \leq \text{Age16PF}$). Levene's test of homogeneity of variance was evaluated for each group included in a *t*-test or ANOVA. Where Levene's test was not significant, the population variances were assumed to be equal. When the test was significant, the variances were not assumed to be equal and the *t*-tests were evaluated using the correction for unequal variances.

Multicollinearity. Absence of multicollinearity was assessed through review of bivariate correlations of the predictor variables. Consistent with Cattell's personality theory, the personality factors were significantly correlated; however, in all cases ($r < .60$). In order to reduce the influence the relationships between the predictor variables, step-wise regression was used only including significant predictors in the model. The tolerance measures provided an indication of how much variance is not shared with other predictors and all exceeded .10 for this study. Additional discussion of this assumption is provided with the results in chapter 4.

Independence of covariates. Covariates should be independent of each other and the independent variables. Gender and age were used as covariates when their influence was found to be significant on the dependent variable. All bivariate correlations between gender, age, and teaching area were all non-significant, ($r < |.06|$, $p \geq .179$), indicating this assumption was met.

Homogeneity of regression. In ANCOVA, the overall relationship between each covariate and dependent variable should be similar to the individual relationships between the covariate and dependent variable for each sub-group. This was assessed by plotting the regression line for each relationship and confirming the overall ANCOVA result applied to the sub-groups.

Homoscedasticity and independence of residuals. For the use of multiple regression, the residuals, or error terms, should be the same for all dependent scores. Additionally, the error terms should not be correlated with one another. Examination of the residual plots confirmed these assumptions were not violated for any analysis conducted within the study.

Precautions against Test Error

Inferential statistics, which suggest differences (or relationships) exist or do not exist, contain the risk of error. If the test result indicates the difference between groups is significant, when, in fact, the groups do not differ, then a type I error has occurred. The level of significance (α), or p -value, is the probability that a type I error has been made. Statistical tests are generally considered significant if the p -value is less than .05. This study, however, is dependent upon numerous inferential tests; therefore, the risk for type I error is inflated. The Bonferroni adjustment was used within each analysis to control the inflated risk of erroneously identifying a result as significant. The Bonferroni adjustment requires the desired level of significance to be divided by the number of tests used. For example, in this study, the level of significance used when comparing groups across twenty personality factors (five global factors and 15 primary factors) was $p < .05/20 = .0025$, or .003.

Effect Size. Effect size is a measure of the relationship between variables indicating the practical significance of the relationship. Standardized effect measures were used for this study. For this study, Cohen's d was used to measure effect size for t -tests, and interpreted using the following criteria: $d \leq .35$, small effect; $.35 < d \leq .70$; medium effect; $d > .70$; large effect. Partial eta squared, η_p^2 , was used as a measure of effect for ANOVA/ANCOVA tests and

interpreted using the following criteria: $\eta_p^2 \leq .04$, small effect; $.04 < \eta_p^2 \leq .10$; medium effect; $\eta_p^2 > .10$; large effect. These criteria were established considering both the general criteria for interpreting these measures and the specific factors within this study such as sample size, level of significance, and the nature of variables (Huck, 2008, p. 246). For the regression analyses, R^2 provided an indication of the practical significance of the model and was generally interpreted as small = .02, medium = .13, and large = .26.

Power. Type II error describes the event of failing to identify a significant difference (or relationship) between groups, when, in fact, significance does exist within the groups. Power is the ability of the test to protect against making such an error. A priori power analysis was used to determine the sample sizes needed to achieve power of 80% with medium effect. In this case, identifying the needed sample size was used to reduce the sample through random selection by analysis to protect against test results having very large statistical significance, yet very little practical significance. Table 7 summarizes the criteria specified for each power analysis and the needed sample size.

Table 7

Results of A Priori Power Analysis

Research Question	Statistical Test	Sample Size Needed ^a
1A	One sample <i>t</i> -test	$n = 63$; or $\alpha = .01$, $n = 51$; or $\alpha = .05$, $n = 34$
1B: Gender	Independent <i>t</i> -test	$n_1 = 74$, $n_2 = 294$ with an allocation ration of 1:4 to preserve the sample composition.
1B: Age	One-way, fixed ANOVA	$F(3, 304)$, total $n = 308$
1B: Grade Level	ANCOVA	1 CV: $F(3, 302)$, total $n = 306$ 2 CVs: $F(4, 327)$, total $n = 331$
1B: Subject Area	ANCOVA	1 CV: $F(6, 363)$, total $n = 371$ 2 CVs: $F(8, 396)$, total $n = 404$
2A	Multiple Regression	5 predictors: $n = 92$ 15 predictors: $n = 139$
2B	Independent <i>t</i> -test	$n_1 = 96$, $n_2 = 96$

Note. ^aFor all statistical tests, $\alpha = .003$, power = .80, effect, $d = .50$ (medium) were used as the test criteria unless otherwise specified.

Research Questions

Question 1A: *To what extent does a unique personality profile exist for current K-12 teachers as measured by the 16PF?* The existence of a unique personality profile was examined using one sample *t*-tests comparing the sample of 587 teachers to the published test scale average of 5.5 (Cattell & Mead, 2008). The Bonferroni adjustment was used to control for type I error. With five global factors and 15 primary factors, the *p*-value of .05 was divided by 20 and significance was assessed at $p < .003$.

Question 1B: *To what extent do differences exist in the personality profiles of K-12 teachers?* ANOVA was used to evaluate group differences within the sample by teaching area, comparing the personality profiles of those in elementary (early childhood, primary, middle grades), secondary (math or science, English or history), and specialty K-12 (physical education, special education, music education). Where the effects of gender and/or age were significant, group differences were assessed using analysis of covariance (ANCOVA). Post hoc analyses followed significant test results. For ANCOVA, the covariate(s) became additional independent variable(s) creating a factorial ANOVA. Tukey HSD post hoc comparisons were then used for all ANOVAs. The Tukey post hoc test is robust against violation of type I error. As such, significant differences were evaluated at $p < .05$.

Question 2A: *To what extent does personality, as measured by the 16PF, have predictive validity for job satisfaction in K-12 teachers?* The generalizability of the personality profiles for participants who completed the job satisfaction items to the larger sample within the study, independent samples *t*-test were used to confirm there was no significant difference in the personality profiles of those who completed the survey and those who did not. The groups were found to have no statistical differences in gender, age or personality score.

Composite scores were created for overall job satisfaction, intrinsic job satisfaction, and extrinsic job satisfaction, using mean scores for the combined variables in order to preserve the unit of measure. The items that contributed to each composite are listed in Appendix B. After assumptions were met for each new variable, the relationship between personality and job satisfaction was tested using step-wise multiple regression. Additionally, composite scores from

sub-scale scores from the *Life Satisfaction Inventory*, were tested, examining the relationship of personality and job satisfaction and career satisfaction.

Question 2B: *Are there differences in personality between teachers reporting high levels of job satisfaction and those reporting low levels of job satisfaction?*

For this study, a high level of job satisfaction was operationally defined as a composite job satisfaction score above the 75th percentile of the sample distribution of scores. Conversely, low job satisfaction was defined as a composite job satisfaction score below the 25th percentile of composite job satisfaction. Level of job satisfaction was determined for both overall job satisfaction and intrinsic job satisfaction. Using level of job satisfaction as the grouping variable, independent samples *t*-tests examined personality differences between those reporting high and low levels of satisfaction. Significance was assessed at the adjusted value .003.

CHAPTER 4: RESULTS

Introduction

The purpose of this study was to investigate the relationship between personality and job satisfaction among teachers through longitudinal examination of personality profiles and current job satisfaction. The first objective was to compare the personality profile of teachers to the overall population group as well as across teacher groups. The second objective was to assess the predictive validity of the *16PF* for the job satisfaction of K-12 teachers.

This study includes participant data collected across three time points, identifying personality, teaching area, and current job satisfaction. An archival data set of *16PF* results and licensure applications from 587 previous education graduates was collected. Current job satisfaction of the previous graduates was measured through an online survey. This chapter discusses the results of the study and is organized by research questions. Each question is addressed individually with data sources and results detailed. Tables reporting statistical results for research questions are included in Appendix C, unless otherwise specified.

The Personality Profile of Teachers

Research Question 1A

To what extent does a unique personality profile exist for K-12 teachers as measured by the 16PF?

Overall teacher group. The standardization for the general population of the *16PF* identifies 5.5 as the mean score for each of the personality factors in the norm group (Cattell &

Mead, 2008). One sample *t*-tests, comparing the personality factors of teachers in this study to the population mean at an adjusted *p*-value = .003, revealed that teachers were statistically different from the population norm group on four of the five global factors and nine of the 15 primary factors.

The teacher sample was above the norm average in Extraversion (EX+), ($t(69) = 6.79$, $p < .001$), with a large effect size, (Cohen's $d = .82$). See Appendix C. The following primary factors which contribute to higher Extraversion scores were also significant at $p < .003$: Warmth (A+), ($d = 1.13$), Liveliness (F+), ($d = .52$), Privateness (N-), ($d = .39$), and Self-Reliance (Q2-), ($d = .60$), with results indicating both statistical and practical significance.

Liveliness (F) contributes to the EX score and also inversely relates to the global factor trait of Self-Control (SC). Higher scores on Liveliness (F) contribute to lower scores on Self-Control (SC); however, the teacher sample produced scores that were statistically above the mean at $p < .001$, on Liveliness (F+), ($d = .52$), Rule-Consciousness (G+), ($d = 1.17$), and the global factor Self-Control (SC+), ($t(69) = 5.13$, $p < .001$), with a medium effect size, ($d = .62$).

Conversely, the teacher sample was significantly lower than 5.5 on the global factors of Anxiety (AX-), ($t(69) = -3.20$, $p = .002$, $d = .38$), and Tough-mindedness (TM-), ($t(69) = -3.30$, $p = .002$, $d = .39$). While these results were statistically below the norm group average of 5.5, the effect sizes, ($d = .38$ and $d = .39$), suggested the difference had relatively small practical significance. However, four primary factors related to these global factors demonstrated both statistical significance at ($p < .001$) with medium to large practical significance: Emotional Stability (C+), ($d = .52$), and Tension (Q4-), ($d = .97$) are both related to a lower Anxiety score

(AX-). Similarly, Warmth (A+), ($d = 1.13$), and Sensitivity (I+), ($d = .46$), contribute to a lower Tough-mindedness score (TM-).

The teacher sample was not statistically different from the norm group in Independence (IN), ($t(69) = -2.27, p = .027$). An a priori power calculation determined with a sample size of approximately 60-70, at a level of significance of .003, there was sufficient power (80%) to identify existing differences. The teachers' primary scores on Dominance (E-) were lower than 5.5, ($t(69) = -4.85, p < .001$), with a large effect size, ($d = .86$).

The overall sample of teachers in this study was significantly different ($p < .003$) than the *16PF* norm of an average factor score of 5.5 on all of the global factors, with the exception of Independence (IN). Extraversion (EX) and Self-Control (SC) were significant with medium to large effect sizes. The effect size for the mean difference was large ($d \geq .86$) for four of the nine significant primary factors. Those factors are Warmth (A), Dominance (E), Rule-Consciousness (G), and Tension (Q4). Emotional Stability (C), Liveliness (F), Sensitivity (I+), and Self-Reliance (Q2) all had medium effect sizes, ($d \geq .46$). Privateness (N-) was statistically significant; however, a small to medium effect size suggests this difference may not be practically significant ($d = .39$).

Teacher groups by grade level. Additionally, each of the three teaching grade levels (elementary, secondary, and specialty K-12) were compared to the norm group average score of 5.5 at $p < .003$. In the secondary and K-12 groups, the group means were weighted to avoid bias from disproportionate sample sizes.

Elementary teacher sample. Teachers in grades PK-8 comprise approximately 50% of the overall sample, which is congruent with the occupational proportions. As such, it is not

surprising that the elementary teacher sample most closely resembles the overall sample profile. Similar to the overall sample, elementary teachers were significantly different from the norm group mean of 5.5 in global traits Extraversion (EX+), Tough-mindedness (TM-), and Self-Control (SC+), as well as the primary traits of Warmth (A+), Emotional Stability (C+), Dominance (E-), Liveliness (F+), Rule-Consciousness (G+), Sensitivity (I+), Privatness (N-), Self-Reliance (Q2-), and Tension (Q4-) at $p < .003$, with medium to large effects, d ranging between .41 and 1.41. Unlike the overall sample, elementary teachers in this sample were not significantly lower than the norm group in Anxiety (AX), ($t(69) = -2.99, p = .004$); however, results revealed additional differences existed on Abstractedness (M-), ($t(69) = -3.79, p < .001$), and Apprehension (O+), ($t(69) = 4.91, p < .001$), with medium effects, ($d = .45$ and $d = .58$, respectively). See Tables A.3-A.8 in Appendix C for full test results.

Secondary teacher sample. Teachers in grades 7-12 generally represent teachers who have expertise in a subject area and have developed skills to teach that content to others. It follows, then, that the secondary sample would most closely resemble the general population, revealing the fewest differences from the norm group. The secondary teacher sample did reveal significant differences above the population average in Extraversion (EX+), ($t(69) = 4.10, p < .001, d = .50$). The primary factors Warmth (A+), ($d = .50$), Liveliness (F+), ($d = .40$), and Self-Reliance (Q2-), ($d = .39$), which contribute to the EX score, were also significant at $p < .003$, with results indicating both statistical and practical significance. Additionally significant were Rule-Consciousness (G+) and Tension (Q4-) at ($t = 5.94, p < .001, d = .72$) and ($t = -3.40, p = .001, d = .41$), respectively.

Specialty K-12 teacher sample. Like secondary teachers, specialty K-12 teachers have a specialized area of expertise; however, they were trained to work with students in all grade levels, both elementary and secondary. At $p < .003$, the three groups all showed significant differences from the general population norms in Extraversion (EX+), Warmth (A+), Liveliness (F+), Rule-Consciousness (G+), Self-Reliance (Q2-), and Tension (Q4-). The effect sizes suggested greatest practical significance for A ($d = .94$) and G ($d = .79$), with other effects ranging from .40 to .67.

It is not surprising that the specialty K-12 teachers were significantly different from the norm group on fewer traits than were elementary teachers and differed on more traits than did secondary teachers because specialty K-12 teachers share occupational traits with both primary and secondary teacher positions. The specialty K-12 teachers were similar to the primary teacher sample in Tough-mindedness (TM-), ($d = .38$; small/medium effect), Emotional Stability (C+), ($d = .44$; medium effect), and Sensitivity (I+), ($d = .38$; small/medium effect). However, like the secondary teacher sample, there was no difference in Self-Control (SC), Dominance (E), or Privateness (N). Significant differences for each of the groups from the norm average are summarized in Tables 8 and 9.

Teacher groups by subject area. To further understand the differences between teacher groups and the general population, each of the seven teaching subject areas (early childhood, primary, secondary math and science, secondary English and history, physical education, special education, and music education) were compared to the norm group average score of 5.5 at $p < .003$. Across groups, significant differences from the norm average were found in Extraversion (EX+), Warmth (A+) (with exception of math and science, $p = .005$), Rule-Consciousness (G),

Table 8

Comparison of Teachers' Personality Profiles by Grade Level to the Norm Average

Personality Factor		Overall	Elementary	Secondary	Specialty K-12
EX	Extraversion	+	+	+	+
AX	Anxiety	-			
TM	Tough-mindedness	-	-		-
IN	Independence				
SC	Self-Control	+	+		
A	Warmth	+	+	+	+
C	Emotional Stability	+	+		+
E	Dominance	-	-		
F	Liveliness	+	+	+	+
G	Rule-Consciousness	+	+	+	+
H	Social Boldness				
I	Sensitivity	+	+		+
L	Vigilance				
M	Abstractedness		-		
N	Privateness	-	-		
O	Apprehension		+		
Q1	Openness to Change				
Q2	Self-Reliance	-	-	-	-
Q3	Perfectionism				
Q4	Tension	-	-	-	-

Note. +/- indicates the group mean is above or below 5.5, respectively. Differences from population value of 5.5 are significant at $p < .003$, with $d \geq .38$.

Table 9

Comparison of Teachers' Personality Profiles by Subject Area to the Norm Average

Personality Factor		<u>Elementary</u>		<u>Secondary</u>		<u>Specialty K-12</u>		
		Early Childhood	Primary	Math and Science	English and History	Physical Education	Special Education	Music Education
EX	Extraversion	+	+	+	+	+	+	+
AX	Anxiety						-	
TM	Tough-mindedness		-		-		-	-
IN	Independence							
SC	Self-Control		+				+	
A	Warmth	+	+		+	+	+	+
C	Emotional Stability	+	+			+	+	
E	Dominance							
F	Liveliness	+	+		+	+	+	
G	Rule-Consciousness	+	+	+	+	+	+	+
H	Social Boldness					+		
I	Sensitivity	+	+		+		+	+
L	Vigilance							

Note. +/- indicates the group mean is above or below 5.5, respectively. Differences from population value of 5.5 are significant at $p < .003$.

Table 9, continued

		<u>Elementary</u>		<u>Secondary</u>		<u>Specialty K-12</u>		
Personality Factor		Early Childhood	Primary	Math and Science	English and History	Physical Education	Special Education	Music Education
M	Abstractedness							
N	Privateness	-	-				-	
O	Apprehension							
Q1	Openness to Change							+
Q2	Self-Reliance	-	-			-	-	
Q3	Perfectionism							
Q4	Tension	-	-	-	-		-	-

Note. +/- indicates the group mean is above or below 5.5, respectively. Differences from population value of 5.5 are significant at $p < .003$.

and Tension (Q4-) (with exception of physical education, $p = .014$). Readers should use caution when interpreting these results because, in some cases, the sample size of the subject area groups did not approximate 60-70, as determined by a priori power analysis, for sufficient power. The results for each subject group are included in Tables A.9-A.15.

Research Question 1B

To what extent do differences exist in the personality profiles of K-12 teachers?

Gender. Independent samples t -tests were used to evaluate group differences in gender across personality factors. To control for type I error, significance was evaluated according to Bonferroni adjusted p -values, at $p < .003$. Gender differences existed on the global factor of Tough-mindedness (TM), with men reporting significantly higher scores than women, ($t(367) = 3.39, p = .001, d = .42$; medium effect). Additional differences existed on three primary factors: Warmth, Sensitivity, and Apprehension. Women scored significantly higher than men on Warmth (A), Sensitivity (I), and Apprehension (O), ($t(367), p < .001$), with medium effects, which is consistent with the norm data for the *16PF* (Conn & Rieke, 2009). This suggests that men are generally more tough-minded and independent, than women, whereas women are generally more reliable, warm, sensitive, and prone to worry than men.

Age. Using the participants' age at the time in which they completed the *16PF*, one-way ANOVAs revealed no significant differences in personality across the age groups of this sample. Differences were tested at ($df = (3, 331), p < .003$), which based on the a priori power analysis discussed in Chapter 3, suggests the failure of significant differences was not a result of insufficient power. Test results are included in Appendix C. Although age was not independently

significant in this sample, the effects of age contribute significant variance to some of the factors such as Anxiety, Warmth, and Apprehension. In such instances, age was used as a covariate in order to more accurately interpret variance in personality resulting from teaching area.

Teaching area. This study identified teacher groups in two ways: generally, by level, and, more specifically, by subject area. When personality was compared by level (elementary, secondary and specialty), controlling for effects of gender and age, group differences were significant only on the Warmth factor, ($F(2, 332) = 9.93, p < .001, \eta_p^2 = .05$; medium effect). Tukey post hoc comparisons of a $3 \times 2 \times 4$ three-way ANOVA followed the significant ANCOVA test, revealing that secondary teachers scored significantly lower than both primary and specialty teacher groups in Warmth, ($p < .001$). However, when Warmth was examined across the seven subject areas, controlling for gender and age effects, group differences were not significant when the adjusted p -value of .003 was used, ($F(6, 250) = 2.63, p = .017$).

Examining personality of the seven teacher subject areas, rather than grade level, provided a more precise look at the differences in teacher personality. Significant differences across these teaching areas existed in Tough-mindedness (TM) and Sensitivity (I), which is a contributor to TM. Gender was found to contribute significantly to group differences on both Tough-mindedness and Sensitivity. As such, gender was used as a covariate in the analysis for each factor. Tough-mindedness (TM) was significant across teaching areas at ($F(6, 250) = 4.24, p < .001, \eta_p^2 = .09$). Tukey post hoc comparisons revealed music teachers scored significantly lower on TM than physical education ($p = .004$) and secondary math and science teachers ($p = .017$), suggesting music teachers are more open-minded than physical education, math, and science teachers. Physical education, math, and science teachers also scored significantly lower

than other teacher groups at ($p < .005$) on Sensitivity, ($F(6, 250) = 6.75, p < .001$), with large effect, ($\eta_p^2 = .14$). Tables A.16 and A.17, summarize the group means and standard deviations for each personality trait by grade level and subject area.

Occupational Types

Gender. Independent samples t-tests were used to evaluate group differences in gender across the six occupational types. To adjust for type I error, the significance level of .05 was adjusted and evaluated at ($p < .003$). Men in this study had a greater similarity to the Realistic and Investigative occupational types than women, at ($n = 369, t = 8.73, d = 1.21$ and $t = 9.91, d = 1.28$), respectively. Large effect sizes indicate these differences are practically significant. This suggests that men are generally more disposed toward practical, analytical, and goal-oriented work activities than are women in the sample.

Age. Using the participants' age at the time in which they completed the *16PF*, one-way ANOVAs were used to examine differences in occupational type by age. Assessing significance at ($p < .003$), no significant differences were found in occupational type across age groups.

Teaching area. No significant group differences existed in occupational types by grade level; however, using gender as a covariate, significant group differences across subject areas existed on Realistic and Investigative occupational types ($F(6, 250) = 4.82, p < .001, \eta_p^2 = .10$; medium/large effect) and ($F(6, 251) = 5.45, p < .001, \eta_p^2 = .12$; large effect), respectively. Post hoc analysis indicated, with the exception of physical education teachers, secondary math and science teachers identified more strongly than all other teacher groups with the Realistic type, (p

< .01). Additionally, physical education teachers were higher on the Realistic occupational type than early childhood, primary, and special education teachers, ($p < .02$).

Similarly, secondary math and science teachers were more compatible with the Investigative occupational types than all other teaching groups ($p < .01$), confirming the analytical and problem-oriented disposition of math and science teachers. Tukey post hoc comparisons also revealed early childhood teachers were significantly less disposed toward the Investigative type than were music teachers and physical education teachers ($p < .01$). However, regardless of group differences, all teacher groups had the highest similarity with the Social occupational group ($M = 6.9$, $SD = 1.69$). Table A.18 summarizes the group mean for each occupational type by teaching area.

Summary of the Personality Profile of Teachers

Group differences between grade level (elementary, secondary, and specialty K-12) did not largely emerge as is traditionally thought; however, when the teacher sample was examined by subject area, two clusters formed. When differences in personality were found, teachers in secondary math and science and physical education were generally different than teachers in elementary grades, secondary English and history, and special education. Math, science, and physical education teachers were more tough-minded and analytical, whereas elementary, secondary English and history, and special education teachers were more receptive and sensitive. Characteristics unique to the teacher population are those in which groups are different from the norm population, and no difference was found between teacher groups. Among the traits distinctive of the teacher occupational type, teacher groups in this sample were generally

extraverted (EX+), warm (A+), energetic (F+), dutiful (G+), and patient (Q4-). Tables 10 - 12 summarize and compare the scores on each personality factor and occupational type for the two emergent groups.

Table 10

Personality Summary Scores for Teacher Groups, Global Factors

Factor	Group	Mean	SD	95% Confidence Interval for the Mean
Extraversion (EX)				
	Group 1	6.97	1.80	6.54 – 7.40
	Group 2	7.05	1.58	6.89 – 7.20
Anxiety (AX)				
	Group 1	5.03	1.56	4.66 – 5.40
	Group 2	4.96	1.77	4.78 – 5.13
Tough-mindedness (TM)				
	Group 1	5.62	1.56	5.25 – 5.99
	Group 2	4.73	1.52	4.58 – 4.88
Independence (IN)				
	Group 1	6.00	1.79	5.58 – 6.42
	Group 2	5.20	1.70	5.03 – 5.37
Self-Control (SC)				
	Group 1	5.68	1.79	5.25 – 6.10
	Group 2	6.12	1.44	5.98 – 6.26

Note. Group 1 includes secondary math and science teachers and physical education teachers ($n = 71$), Group 2 includes elementary teachers, secondary English and history, special education and music teachers ($n = 394$).

Table 11

Personality Summary Scores for Teacher Groups, Primary Factors

Factor	Group	Mean	SD	95% Confidence Interval for the Mean
Warmth (A)				
	Group 1	6.56	1.62	6.18 – 6.95
	Group 2	7.47	1.38	7.33 – 7.61
Emotional Stability (C)				
	Group 1	6.48	1.59	6.10 – 6.86
	Group 2	6.39	1.63	6.23 – 6.55
Dominance (E)				
	Group 1	5.44	1.97	4.97 – 5.90
	Group 2	4.72	1.65	4.55 – 4.88
Liveliness (F)				
	Group 1	6.76	1.74	6.35 – 7.17
	Group 2	6.35	1.67	6.18 – 6.51
Rule-Consciousness (G)				
	Group 1	6.59	1.40	6.26 – 6.92
	Group 2	6.86	1.45	6.72 – 7.00
Social Boldness (H)				
	Group 1	6.46	2.05	5.98 – 6.95
	Group 2	5.91	2.19	5.69 – 6.13
Sensitivity (I)				
	Group 1	4.88	1.51	4.52 – 5.24
	Group 2	6.62	1.51	6.48 – 6.77

Note. Group 1 includes secondary math and science teachers and physical education teachers ($n = 71$), Group 2 includes elementary teachers, secondary English and history, special education and music teachers ($n = 394$).

Table 11, continued.

Personality Summary Scores for Teacher Groups, Primary Factors

Factor	Group	Mean	SD	95% Confidence Interval for the Mean
Vigilance (L)				
	Group 1	6.20	1.76	5.78 – 6.61
	Group 2	5.52	1.58	5.36 – 5.68
Abstractedness (M)				
	Group 1	5.34	1.75	4.92 – 5.75
	Group 2	5.05	1.61	4.89 – 5.21
Privateness (N)				
	Group 1	4.89	1.89	4.44 – 5.34
	Group 2	4.68	1.70	4.51 – 4.85
Apprehension (O)				
	Group 1	5.65	1.62	5.26 – 6.03
	Group 2	6.16	1.66	6.00 – 6.33
Openness to Change (Q1)				
	Group 1	5.73	1.66	5.34 – 6.13
	Group 2	5.47	1.69	5.30 – 5.63
Self-Reliance (Q2)				
	Group 1	4.37	1.93	3.91 – 4.82
	Group 2	4.44	1.61	4.29 – 4.60
Perfectionism (Q3)				
	Group 1	5.41	2.19	4.89 – 5.93
	Group 2	5.83	1.76	5.66 – 6.01
Tension (Q4)				
	Group 1	4.58	1.70	4.18 – 4.98
	Group 2	4.31	1.59	4.15 – 4.46

Table 12

Occupational Type Summary Scores for Teacher Groups

Occupational Type	Group	Mean	SD	95% Confidence Interval for the Mean
Realistic	Group 1	5.77	1.51	5.42 – 6.13
	Group 2	4.05	1.49	3.90 – 4.20
Investigative	Group 1	5.66	1.65	5.27 – 6.05
	Group 2	4.19	1.48	4.04 – 4.33
Artistic	Group 1	5.49	1.63	5.11 – 5.88
	Group 2	5.87	1.72	5.70 – 6.04
Social	Group 1	6.61	1.78	6.18 – 7.03
	Group 2	7.03	1.63	6.87 – 7.19
Enterprising	Group 1	6.25	1.69	5.85 – 6.65
	Group 2	5.54	1.58	5.38 – 5.69
Conventional	Group 1	5.94	1.96	5.48 – 6.41
	Group 2	5.63	1.56	5.47 – 5.78

Note. Group 1 includes secondary math and science teachers and physical education teachers ($n = 71$), Group 2 includes elementary teachers, secondary English and history, special education and music teachers ($n = 394$).

The Relationship between Personality and Job Satisfaction of Teachers

Research Question 2A

To what extent does a personality profile, as measured by the 16PF, have predictive validity for job satisfaction in K-12 teachers?

This study examined the influence of personality on job satisfaction using a series of hierarchical and step-wise regression analyses. Gender and age were entered as the first step in each analysis and, in each case, found to have no significant contribution to the model; therefore, they were not included in further analysis. The contribution of personality to job satisfaction was first examined by testing the influence of the global factors on the overall job satisfaction composite score, followed by testing the effects of the primary factors on overall job satisfaction. The analysis revealed no significant effects of either the global personality factors or the primary factors on overall job satisfaction for teachers in this sample. Simultaneous regression design yielded, ($F(5, 84) = 0.95, p = .454$ and $F(15, 74) = 0.91, p = .553$, respectively). Likewise, composite job satisfaction scores from the Life Satisfaction Inventory revealed no significant effects for the 16PF factors ($F(5, 84) = 1.16, p = .336$ and $F(15, 74) = 1.08, p = .390$).

Personality is thought to be more strongly linked to intrinsic job satisfaction than with other dimensions of job satisfaction. The second examination was the relationship between personality and intrinsic job satisfaction. The effects of global and primary factors on intrinsic job satisfaction were not statistically significant, ($F(5, 84) = 0.93, p = .476$ and $F(15, 74) = 0.88, p = .592$, respectively).

The predictive effects of personality on career satisfaction were tested using the composite career satisfaction score. Tough-mindedness was identified as having a significant

influence on career satisfaction, ($F(1, 88) = 4.69$, $\beta = -.107$, $p = .033$, with $R^2 = .05$ suggesting small effect). A model testing the primary factors was significant at ($F(1, 88) = 6.19$, $p = .015$, with $R^2 = .06$), including only Tension (Q4) ($\beta = -.136$).

The teacher groups in this sample demonstrated high levels of extraversion ($M = 6.89$, $SD = 1.71$) and moderate to low levels of Anxiety ($M = 4.87$, $SD = 1.64$), which are established contributors to job satisfaction. Examination of limitation of the sample and instrumentation are discussed further in chapter 5; however, the results of this study do not provide evidence to suggest that the *16PF* has predictive validity for teachers on job satisfaction.

Research Question 2B

Are there differences in personality between teachers reporting high levels of job satisfaction and those reporting low levels of job satisfaction?

Because of sample size, low satisfaction was defined for this analysis as a composite job satisfaction score below the 25th percentile, and high satisfaction was defined as a composite job satisfaction score above the 75th percentile, resulting in ($n_{low} = 26$) and ($n_{high} = 26$). Group differences in personality by level of job satisfaction were examined using composite scores on both overall job satisfaction and intrinsic satisfaction. No significant differences were identified in personality by level of satisfaction. For all personality factors, ($t(50) < 2.03$ and $p > .05$); however, these results should be interpreted with caution. The t -tests lack sufficient power to confidently conclude the absence of significant group differences are not a result of type II error. The a priori power analysis indicated a sample size of 119 for each group was needed to achieve

sufficient power with medium effect size and $\alpha = .003$, suggesting this analysis did not have adequate power to detect significant differences between groups.

CHAPTER 5: DISCUSSIONS AND IMPLICATIONS

Introduction

Personality and dispositional traits are an integral component of a teacher's suitability and success in the classroom. The relationship between personality and job related outcomes such as performance, success, and satisfaction is validated across occupational groups; therefore, a thorough awareness of the personality traits among teachers is central to the development of the teacher workforce. The purposes of this study were to investigate the similarities and differences of personality traits within teacher groups, as well as examine the effects of personality on job satisfaction for teachers. This chapter will address conclusions for each research question, discuss the implications of those conclusions, and make recommendations for future research.

Conclusions

The Personality Profile of Teachers

This study was successful in confirming the uniqueness of the *16PF* personality profile of the teacher occupational group from the norm group and confirmed that all teacher groups included in this study most strongly identified with the social occupational type. The results were consistent with personality descriptions of teachers and social occupational types in the literature, confirming that the teacher occupational group in this sample was generally extraverted (EX+), receptive (TM-), stable (C+), warm (A+), energetic (F+), dutiful (G+), sensitive (I+), group-oriented (Q2-), and patient (Q4-). This study also examined group

differences in personality within the teacher occupational type beyond what may be explained by gender. This is a significant distinction because the elementary teacher population is predominantly female, whereas the secondary teacher population includes more males; therefore, differences thought to exist between teacher groups may be confounded by the personality differences between men and women. When the variance attributed to gender was controlled, the results of this study only identified a significant difference between elementary and secondary teachers in Warmth (A); elementary teachers had higher scale scores than secondary teachers.

Although there were not many identified differences between elementary and secondary teacher groups in this study, when the sample was further disaggregated, two sub-groups within the teacher sample emerged. Teachers in secondary math and science and physical education were different than teachers in elementary grades, secondary English and history, special education, and music education. Math, science, and physical education teachers were more resolute, analytical and investigative, which is expected as those disciplines include formal problem-solving. Elementary, secondary English and history, special education, and music education teachers were more open-minded and sensitive, which are traditionally characteristic of disciplines within the humanities. However, among the traits distinctive of the teacher occupational type as a whole, teacher groups in this sample were all generally extraverted (EX+), warm (A+), energetic (F+), dutiful (G+), and patient (Q4-).

Limitations. The generalizability of the conclusions are limited, however, because the sample of teachers was limited to a single university. Characteristics unique to the population of students who attend the institution were unable to be controlled in the analysis. Additionally, the sample did not contain diversity in either race/ethnicity or age.

The Relationship between Personality and Job Satisfaction of Teachers

The personality traits of extraversion and anxiety have been consistently established as predictors of job satisfaction (Boudreau, Boswell, & Judge, 2001; Seibert & Kraimer, 2001). The sample of teachers in this study is similar among those personality traits most strongly linked to job satisfaction such as Extraversion and Anxiety; however, the results do not provide evidence to suggest that the *16PF* has predictive validity for teachers on job satisfaction, nor does evidence exist to indicate that teachers differ in personality by level of reported job satisfaction. Conversely, the results cannot confirm that the relationship between personality and job satisfaction does not exist.

Limitations. The similarity of personality in the sample resulted in a restricted range, which may mask relationships that are present (Goodwin & Leech, 2006). When the amount of variability in one or more variables is low, the distribution is said to have a restricted range, and correlations “can be reduced if the range of scores in one or both variables is artificially limited or restricted” (Furr & Bacharach, 2008, p. 211). Within this study, the range was restricted for both personality and job satisfaction. The range of personality was restricted as a result of homogenous responses across groups on factor scores, specifically with regard to Extraversion (EX), Anxiety (AX), Emotional Stability (C), Rule-Consciousness (G), Self-Reliance (Q2), and Tension (Q4). The range of the job satisfaction measure was also restricted as a result of non-response bias. Of the respondents who had teaching experience, only 5% of the teachers were no longer teaching, which is disproportionate of occupational statistics for attrition. The absence of significant representation of teachers who are no longer teaching likely resulted in the exclusion of a large portion of teachers who were dissatisfied with teaching. When 95% of the sample are

currently teaching, it is difficult to detect group differences in personality based on level of job satisfaction.

Additionally, the capability of the *16PF* to provide predictive value is not sound. Rotto's (1995) review indicates:

[The *16PF*] has limited range of predictive value and must be cautiously used in situations involving occupational selection and appraisal of specific qualities. This measure is useful in predicting specific behavioral criteria such as social skills, but does not adequately assess other factors that may affect or predict future behavior such as motivation. (para. 2)

The test publishers also acknowledge, "Despite the impressive body of evidence suggesting that personality does influence important behaviors and outcomes, this influence can be strongly moderated by situational influences" (IPAT, 2009, p. 186). Thus, the *16PF* is appropriate when examining an individual's propensity toward specific behavioral outcomes; however, conclusive evidence does not exist to support its use as an evaluative measure to predict performance.

Implications

Dispositional Investigation

Dispositional expectations of teacher candidates are not always clear. Commonly found in educational literature, especially teaching methods texts, are two seemingly contradictory statements. The first statement supports teacher individuality and praises the uniqueness of every teacher. Typically, soon to follow is the second statement including a list of characteristics and attributes that all teachers should possess in order to be successful. For example, to summarize

the introductory pages of Kelly's (2004) book for new teachers: teachers should be fair, consistent, and flexible; they should have a positive attitude, high expectations, and a sense of humor (p. 11). Teachers should also know that "no two teachers are alike" and should "create [their] own teaching style" (p. 20). Subsequently, quantifying dispositional factors integral to successful teaching is a challenge within teacher education programs. What attributes are important for all teachers to have? In which personality traits may teacher candidates demonstrate a variety of acceptable ranges? It may be useful to think of teacher dispositions in tiers of importance. In the first tier, as identified by the national standards, teachers are expected to demonstrate compassion and fairness. Palmer (1998) identifies teachers' "capacity for connectedness" as the most important trait of successful teachers (p. 39). Using the primary factors, higher scale scores in warmth (A+) and Rule-Consciousness (G+) could indicate a teacher candidate's propensity toward compassion and fairness. In the second tier, teachers should be emotionally mature, reliable, and genuine, which may be quantified through the primary factors of emotional stability (C+) and privateness (N-). The third tier of desired teacher dispositions, generally integral to effective interaction with adolescents, includes demonstration of energy, spontaneity, and patience, and may be operationalized through liveliness (F+) and tension (Q4-). However, extreme scores (scores below 3 or above 8) on any of the scales should be examined carefully. Other characteristics such as assertiveness, social boldness, sensitivity, creativity, and self-reliance vary depending on the grade level, subject area, and teaching style and are not necessarily indicative of effective teaching.

Field Experience Placement

Beyond characteristics essential to good teaching, teachers are encouraged to be genuine and to utilize teaching strategies reflective of their personality. Using personality identifiers to intentionally place pre-service teacher candidates in field experiences with mentor teachers having complimentary styles could serve to produce more meaningful learning experiences for teacher candidates. For example, a pre-service teacher candidate who is highly organized and inflexible (Q3+) may benefit from a field placement with a mentor teacher who is also very organized and disciplined, but has learned to be adaptable and flexible when necessary for effective teaching. Additionally, team teaching groups may benefit from multiple teaching styles, identifiable through personality.

Job Satisfaction

“The transition from initial teacher education to the workplace is a well-documented shock that centres around a conflict between new teacher beliefs and values and the reality of teaching, as beginning teachers are socialized into the culture of the employing school” (Smethem, 2007, p.467). Identifying students early in a teacher education program who may have difficulty adapting or who demonstrate extreme scores on emotional stability (C-), dominance (E+), social boldness (H-), and openness to change (Q1-) could serve to create experiences within the pre-service program to equip teachers for the reality of teaching, potentially having the ability to increase job satisfaction. For example, sensitivity and flexibility are generally identified as desirable traits for teachers; however, without balance of some firmness and structure, the teacher may have difficulty effectively managing classroom behavior.

Stress attributed to student behavior has been identified as an important component of teacher job satisfaction. Therefore, awareness of a teacher candidate's propensity to be highly sensitive (I+) and/or tolerant of disorder (Q3-), or conversely highly utilitarian (I-) and structured (Q3+), allows for targeted discussion in seminars and/or courses discussing strategies for effective classroom management.

Recommendations for Future Research

Expand the Sample

Future research on this topic could benefit from expanding the sample in several possible ways. The sample could include a greater number of teacher candidates from more licensure areas such as foreign language, middle grades, and reading specialists. Through the use of this type of sample expansion, the teacher sample could be standardized and group comparisons further explored. A sample including students within the institution from other occupational groups would enable the analysis to control for the characteristics of students who attend a single institution. Additionally, the sample from a single institution could benefit from a comparison of those students who leave the teacher education program and those who complete a licensure program; however, examination of the teacher personality profile is best furthered through the use of a broader sample including teacher candidates from a range of institutions.

Reduce the Restricted Range

The expanded sample would also benefit the examination of the longitudinal relationship of personality and job satisfaction. Based on occupational theory, certain personality traits may

contribute more significantly to job satisfaction in social occupations than in other occupations. Because extraversion has been identified as a characteristic of the occupational group of teachers across subject area, it follows that other traits may be significant contributors to job satisfaction provided a sample in which the range for both personality and job satisfaction were less restricted. The sample should include a greater percentage of teachers who have left the profession or never entered. Additionally, it would be useful to examine the relationship of personality and those who change teaching placements or subject area. Beyond the sample, this research could be expanded by including more dimensionality in job satisfaction, examining turnover intention, core self evaluations, and teacher stress.

Extend the Analysis

Increased sample size and greater dispersion would result in the ability to examine the relationship between personality and job satisfaction, as well as group differences, in greater detail. The predictive relationship between personality and job satisfaction would be more accurately represented through the use of structural equation modeling which allows the researcher to specify variable relationships and simultaneously isolate confounding influences such as age, gender, salary, and job placement. Examination of standardized regression weights and fit statistics of comparative models would provide a more comprehensive understanding of the data.

The personality profile of teachers could be further extended by utilizing the descriptive statistics for each personality factor. The literature reports the overall factor mean score of 5.5; however, the mean and standard deviation for each factor from the normative sample are

available in the *16PF Fifth Edition Questionnaire Manual* (2009). This information is propriety and available only through the test publisher, the Institute for Personality and Ability Testing.

Finally, further investigation of personality and job satisfaction in this study would benefit from the inclusion of a specific measure of congruence, or the degree to which a person's occupation choice fits his/her personality. The teacher occupational type is generally described as social, artistic and enterprising (Chapman & Lowther, 1982); however, the *Dictionary of Holland Occupational Codes* (1996) provides occupational codes specific to specialty areas within the teaching profession. Using these codes as an additional measure of fit may increase the dimensionality of the study.

LIST OF REFERENCES

- Baldwin, B., Slaton, E., Head, M., & Burns, J. (1990). Personality factors of elementary and secondary pre-service teachers. *Presented at the Annual Mid-South Educational Research Association* (pp. 2-12). New Orleans: AERA.
- Barmby, P. (2006). Improving teacher recruitment and retention: The importance of workload and pupil behaviour. *Educational Research*, 48, 247-265.
- Barnes, G., Crowe, E., & Schaefer, B. (2007). *The cost of teacher turnover in five school districts*. Washington, D.C.: National Commission on Teaching and America's Future.
- Blake, R.J., & Sackett, S.A. (1999). Holland's typology and the Five-Factor model: A rational-empirical analysis. *Journal of Career Development*, 7, 251-288.
- Boudreau, J. W., Boswell, W.R., & Judge, T.A. (2001). Effects of personality on executive career success in the United States and Europe. *Journal of Vocational Behavior*, 58, 53-81.
- Cattell, H., & Mead, A. (2008). The Sixteen Personality Factor Questionnaire. In G. M. Boyle, *The Handbook of Personality Theory and Assessment: Personality Measurement and Testing* (pp. 135-159). Thousand Oaks: Sage Publications.
- Chapman, D., & Lowther, M. (1982). Teachers' satisfaction with teaching. *Journal of Education Research*, 75, 241-247.
- Conley, S., & Levinson, R. (1993). Teacher work redesign and job satisfaction. *Educational Administration Quarterly*, 453-478.
- Conn, S. R., & Rieke, M. L. (2009). Norms and Standardization. In *16PF Fifth Edition Questionnaire Manual* (pp. 105-124). Champaign, IL: IPAT.
- Costa, P., & McCrae, R. (1985). *The NEO-PI-R Personality Inventory Manual*. Odessa: Psychological Assessment Resources.

- DeWitt, S. (2010). Addressing teacher retention and quality. *Capitol View*, 13.
- Dik, B. J., Strife, S. R., & Hansen, J. C. (2010). The flip side of Holland type congruence: Incongruence and Job Satisfaction. *The Career Development Quarterly*, 58, 352-358.
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39, 175-191.
- Fried, Y., Shirom, A., Gilboa, S., & Cooper, C. (2008). The mediating effects of job satisfaction and propensity to leave on the stress-performance relationship: Combining meta-analysis and SEM. *International Journal of Stress Management*, 15, 205-328.
- Furr, M., & Bacharach, V. (2008). *Psychometrics: An introduction*. Thousand Oaks: Sage Publications, Inc.
- Gardner, R. D. (2010). Should I stay or should I go? Factors that influence the retention, turnover, and attrition of K-12 music teachers in the United States. *Arts Education Policy Review*, 111, 112-121.
- Goldberg, L. (1990). An alternative description of personality: The Big-Five factor structure. *Journal of Personality and Social Psychology*, 59, 1216-29.
- Goodwin, L. D., & Leech, N. L. (2006). Understanding correlation: Factors that affect the size of *r*. *The Journal of Experimental Education*, 74, 251-266.
- Gottfredson, G. D., & Johnstun, M. L. (2009). John Holland's contributions: A theory-ridden approach to career assistance. *The Career Development Quarterly*, 58, 99-107.

- Granger, R., & Marx, E. (1992). The policy implications of job satisfaction ratings for recruiting and retaining early childhood teachers. *Child and Youth Care Forum*, 229-246.
- Greiner, C., & Smith, B. (2006). Analyses of selected specific variables and teacher attrition. *Education*, 129, 579-583.
- Hancock, B. C. (2009). National estimates of retention, migration, and attrition. *Journal of Research in Music Education*, 57, 92-107.
- Hansen, J. C., & Dik, B. J. (2004). Measures of Career Interests: Sixteen Personality Factor Questionnaire. In M. Hersen & J.C. Thomas (Eds.), *Comprehensive Handbook of Psychological Assessment: Industrial and Organizational Assessment* (Vol. 4, 181-188). Hoboken, NJ: John Wiley & Sons, Inc.
- Harris, D., & Rutledge, S. (2010). Models and predictors of teacher effectiveness: A comparison of research about teaching and other occupations. *Teachers College Record*, 112, 914-960.
- Heller, D. (2004). *Teachers Wanted: Attracting and Retaining Good Teachers*. Alexandria: ASCD.
- Helm, C. (2006). Teacher dispositions as predictors of good teaching. *The Clearing House*, 76, 117.
- Henson, R., & Chambers, S. (2003). Personality type as a predictor of teaching efficacy and classroom control in emergency certification teachers. *Education*, 124, 261-268.
- Hogan, R., & Blake, R. (1999). John Holland's vocational typology and personality theory. *Journal of Vocational Behavior*, 55, 41-56.

- Holland, J. (1996). Exploring careers with a typology: What we have learned and some new directions. *American Psychologist*, 51, 397-406.
- Huck, S. W. (2008) *Reading Statistics and Research* (5th ed.). Boston: Pearson/Allyn & Bacon.
- Hughes, T., Costner, M., & Douzenis, C. (2001). Personality and motivation variables in tomorrow's teachers: A center of excellence. *Education*, 108, 393-403.
- IPAT Staff (2009). Predictive validity in organizations. In *16PF Fifth Edition Questionnaire Manual* (pp. 185-196). Champaign, IL: IPAT.
- Judge, T., Heller, D., & Klinger, R. (2008). The dispositional sources of job satisfaction: A comparative test. *Applied Psychology: An International Review*, 57, 361-372.
- Judge, T., Higgins, C., Thoresen, C., & Barrick, M. (1999). The Big Five personality traits, general mental ability, and career success across the life span. *Personnel Psychology*, 52, 621-652.
- Judge, T., Locke, E., Durham, C., & Kluger, A. (1998). Dispositional effects on job and life satisfaction: The role of core evaluations. *Journal of Applied Psychology*, 83, 17-34.
- Kelly, M. (2004). *The Everything New Teacher Book*. Avon, MA: F+W Publications, Inc.
- Kukla-Acevedo, S. (2009). Leavers, movers, and stayers: The role of workplace conditions on the teacher mobility decisions. *The Journal of Educational Research*, 102, 443.
- Lortie, D. (1975). *School Teacher*. Chicago: University of Chicago Press.
- Lounsbury, J. W., & Gibson, L. W. (2011). Life Satisfaction Inventory. In *Resource Associates Personal Style Inventory: A work-based personality measure system*. Knoxville, TN: Resource Associates.

- Lounsbruy, J. W., Loveland, J.M., Sundstrom, E.D., Gibson, L.W., Drost, A.W., & Hamrick, F. L. (2003). An investigation of personality traits in relation to career satisfaction. *Journal of Career Assessment*, 11, 287-307.
- Mattsson, K. (1974). Personality traits associated with effective teaching in rural and urban secondary schools. *Journal of Educational Psychology*, 66, 123-128.
- McLellan, M. J. (1995). [Test Review of the Sixteen Personality Questionnaire, Fifth Edition]. In J. C. Conoley & J. C. Impara (eds.), *The twelfth mental measurements yearbook*. Lincoln, NE: Buros Institute of Mental Measurements.
- Meir, E. I. (1999). Congruence studies: Right and wrong conclusion. *Man and Work*, 9, 108-114.
- NBPTS. (2002). *What teachers should know and be able to do*. Arlington: National Board for Professional Teaching Standards.
- NCATE. (2008). *Professional Standards for the Accreditation of Teacher Preparation Institutions*. Washington, D.C.: National Council for Accreditation of Teacher Education.
- Neukrug, E., & Fawcett, R.C. (2006). *Essentials of Testing and Assessment*. Belmont: Thomson Brooks/Cole.
- Osborne, J., & Overbay, A. (2004). The power of outliers (and why researchers should always check for them). *Practical Assessment, Research, and Evaluation*, 9, 1-6.
- Palmer, P. J. (1998). *The Courage to Teach*. San Francisco: Jossey-Bass Publishers.
- Perrachione, B. A., Rosser, V. J., & Peterson, G. J. (2008). Why do they stay? Elementary teachers' perceptions of job satisfaction and retention. *The Professional Educator*, 32, 25-41.

- Pietrzak, D., & Page, B. (2001). An investigation of Holland types and the Sixteen Personality Factor Questionnaire-Fifth Edition. *The Career Development Quarterly*, 50, 179-188.
- Plash, S., & Piotrowski, C. (2006). Retention issues: A study of Alabama special education teachers. *Education*, 127, 125-128.
- Popkins, N. (1998). The five-factor Model: Emergence of a taxonomic model for personality psychology. Retrieved from <http://www.personalityresearch.org/papers/popkins.html>
- Rotto, P. C. (1995). [Test Review of the Sixteen Personality Questionnaire, Fifth Edition]. In J. C. Conoley & J. C. Impara (eds.), *The twelfth mental measurements yearbook*. Lincoln, NE: Buros Institute of Mental Measurements.
- Rushton, S., Morgan, J., & Richard, M. (2007). Teacher's Myers-Briggs personality profiles: Identifying effective teacher personality traits. *Teaching and Teacher Education*, 23, 432-441.
- Russell, M., & Karol, D. (2009). Profile interpretation. In *16PF Fifth Edition Questionnaire Manual* (pp. 43-86). Champaign, IL: IPAT.
- Schuerger, J. (1995). Career assessment and the Sixteen Personality Factor Questionnaire. *Journal of Career Assessment*, 3, 157-175.
- Seibert, S.E., & Kraimer, M. L. (2001). The five-factor model of personality and career success. *Journal of Vocational Behavior*, 58, 1-21.
- Sheehan, K. (2001). E-mail survey response rates: A review. *Journal of Computer-Mediated Communication*, 6, 0.

- The Sixteen Personality Factor Questionnaire-Fifth Edition Interpretive Report (2010). Available online: <http://www.pearsonassessments.com/hai/images/pa/pdfs/16pf5basicinterp.pdf>
- Smethem, L. (2007). Retention and intention in the teaching careers: Will the new generation stay? *Teachers and Teaching: Theory and Practice*, 13, 465-480.
- Sparks, R., & Lipka, R. (1992). Characteristics of master teachers: Personality factors, self-concept, locus of control, and pupil control ideology. *Journal of Personnel Evaluation in Education*, 5, 303-311.
- Staw, B., Bell, N., & Clausen, J. (1986). The dispositionl approach to job attitudes: A lifetime longitudinal test. *Administrative Science Quarterly*, 31, 56-77.
- Swanson, P. (2008). The RIASEC profile of foreign language teachers. *The Journal of Vocational Behavior*, 72, 25-30.
- Swars, S. L., Meyers, B., Mays, L.C., & Lack, B. (2009). A two-dimensional model of teacher retention and mobility: classroom teachers and their university partners take a closer at a vexing problem. *Journal of Teacher Education*, 60, 168-182.
- Tokar, D., & Fischer, A. (1998). More on RIASEC and the five-factor model of personality: Direct assessment of Prediger's (1982) and Hogan's (1983). *Journal of Vocational Behavior*, 52, 246-259.
- Tokar, D., Fischer, A., & Subich, L. (1998). Personality and vocational behavior: A selective review of the literature, 1993-1997. *Journal of Vocational Behavior*, 53, 115-153.
- Tokar, D., & Subich, L. (1997). Relative contributions of congruence and personality dimensions to job satisfaction. *Journal of Vocational Behavior*, 50, 482-491.

- Tranberg, M., Slane, S., & Ekeberg, S.E. (1993). The relation between interest congruence and satisfaction: A metaanalysis. *Journal of Vocational Behavior*, 42, 253-264.
- Tsabari, O., Tziner, A., & Meir, E. I. (2005). Updated meta-analysis on the relationship between congruence and satisfaction. *Journal of Career Assessment*, 13, 216-232.
- Watt, H., & Richardson, P. (2007). Motivational factors influencing teaching as a career choice: Development and validation of the FIT-Choice scale. *The Journal of Experimental Education*, 75, 167-202.
- Weinrach, S. (1996). The psychological and vocational interest patterns of Donald Super and John Holland. *Journal of Counseling and Development*, 75, 5-16.

APPENDICES

Appendix A: Dimensions of the Sixteen Personality Factor Questionnaire

Table A.1

General Interpretation of 16PF Global Factor Scores

	Low Score Suggests	Factor	High Score Suggests
EX	Introverted, Inhibited	Extraversion	Extraverted, Participating
AX	Hardy, Stress-resilient	Anxiety	Stress-prone, Emotionally Unstable
TM	Receptive, Open-Minded	Tough-mindedness	Tough-minded, Resolute
IN	Accommodating, Agreeable	Independence	Independent, Persuasive, Willful
SC	Unrestrained, Follows Urges	Self-Control	Self-Controlled, Reliable

Table A.2

General Interpretation of 16PF Primary Factor Scores

	Low Score Suggests	Factor	High Score Suggests
A	Reserved, Impersonal, Distant	Warmth	Warm, Outgoing
C	Reactive	Emotional Stability	Adaptive, Mature
E	Cooperative, Avoids Conflict	Dominance	Dominant, Forceful, Assertive
F	Serious, Restrained, Careful	Liveliness	Lively, Animated, Spontaneous
G	Expedient, Nonconforming	Rule-Consciousness	Rule-Conscious, Dutiful
H	Shy, Threat-Sensitive, Timid	Social Boldness	Socially Bold, Venturesome, Thick-Skinned
I	Utilitarian, Objective, Unsentimental	Sensitivity	Sensitive, Aesthetic, Sentimental
L	Trusting, Unsuspecting, Accepting	Vigilance	Vigilant, Suspicious, Skeptical, Wary
M	Grounded, Practical, Solution-Oriented	Abstractedness	Abstracted, Imaginative, Idea-Oriented
N	Forthright, Genuine	Privateness	Private, Discreet, Non-Disclosing
O	Self-Assured, Unworried, Complacent	Apprehension	Apprehensive, Self-Doubting, Worried
Q1	Traditional, Attached to Familiar	Openness to Change	Open to Change, Experimenting
Q2	Group-Oriented, Affiliative	Self-Reliance	Self-Reliant, Solitary, Individualistic
Q3	Tolerates disorder, Unexacting, Flexible	Perfectionism	Perfectionistic, Organized, Self-Disciplined
Q4	Relaxed, Placid, Patient	Tension	Tense, High Energy, Driven

Appendix B: Final Job Satisfaction Items

All items were rated on a 5 point Likert scale of agreement:

1=Strongly Disagree, 2=Disagree, 3=Neither Agree or Disagree, 4=Agree, and 5=Strongly Agree

Intrinsic Job Satisfaction:

1. I am well suited for the teaching profession.
2. I am satisfied with my choice to be a teacher.
3. My job gives me a chance to use my strengths.
4. I feel very fulfilled in my work.
5. My job is very interesting to me.
6. I get a feeling of personal satisfaction from my job.

Extrinsic Job Satisfaction:

1. Students in my classes are very well-behaved.
2. The administrators fully support me on matter of classroom discipline.
3. I have complete freedom to determine the rules and punishments that govern my classroom.
4. I have complete autonomy to choose how I teach lessons.
5. I can talk to administrators about problems in my classes.
6. I feel very valued by my supervisors.
7. I feel like my workload My job is very interesting to me. is reasonable.
8. I feel my salary is fair compensation for the work I do.
9. I feel I am provided opportunities for useful professional development.
10. My actually job duties match my job description.

Appendix C: Statistical Results

Question 1A

One sample *t*-tests comparing teacher profiles to the normative sample representative of the general population personality profile by grade level:

Table A.3

Results of One Sample T-tests Comparing the Overall Sample to the Average Scale Score of 5.5

Variable	Test Result	Mean	SD	Effect, <i>d</i>
EX	$t(69) = 6.79, p < .001$	6.89	1.71	0.82
AX	$t(69) = -3.20, p = .002$	4.87	1.64	0.38
TM	$t(69) = -3.30, p = .002$	4.93	1.45	0.39
IN	$t(69) = -2.27, p = .027$	5.09	1.53	0.27
SC	$t(69) = 5.13, p < .001$	6.16	1.07	0.62
A	$t(69) = 9.49, p < .001$	7.21	1.51	1.13
C	$t(69) = 4.28, p < .001$	6.30	1.56	0.52
E	$t(69) = -4.85, p < .001$	4.66	1.45	0.86
F	$t(69) = 4.42, p < .001$	6.41	1.73	0.52
G	$t(69) = 9.78, p < .001$	7.03	1.31	1.17
H	$t(69) = 1.53, p = .132$	5.90	2.19	-
I	$t(69) = 3.79, p < .001$	6.26	1.67	0.46
L	$t(69) = -0.65, p = .519$	5.37	1.66	-
M	$t(69) = -1.25, p = .216$	5.27	1.53	-
N	$t(69) = -3.26, p = .002$	4.71	2.02	0.39
O	$t(69) = 3.09, p = .003$	6.14	1.74	0.37
Q1	$t(69) = -0.53, p = .596$	5.41	1.35	-
Q2	$t(69) = -5.01, p < .001$	4.59	1.53	0.60
Q3	$t(69) = 1.96, p = .054$	5.87	1.59	-
Q4	$t(69) = -8.12, p < .001$	4.13	1.41	0.97

Table A.4

Results of One Sample T-tests Comparing the Elementary Teacher Sample to the Average Scale Score of 5.5

Variable	Test Result	Mean	SD	Effect, <i>d</i>
EX	$t(69) = 7.97, p < .001$	7.04	1.62	0.95
AX	$t(69) = -2.99, p = .004$	4.91	1.64	0.36
TM	$t(69) = -4.84, p < .001$	4.67	1.43	0.58
IN	$t(69) = -2.37, p = .021$	5.01	1.72	0.28
SC	$t(69) = 4.64, p < .001$	6.31	1.47	0.55
A	$t(69) = 11.78, p < .001$	7.56	1.46	1.41
C	$t(69) = 5.40, p < .001$	6.44	1.46	0.64
E	$t(69) = -5.14, p < .001$	4.59	1.49	0.61
F	$t(69) = 3.38, p = .001$	6.19	1.70	0.41
G	$t(69) = 9.19, p < .001$	7.20	1.55	1.10
H	$t(69) = 0.82, p = .418$	5.70	2.05	-
I	$t(69) = 7.78, p < .001$	6.80	1.40	0.93
L	$t(69) = 0.21, p = .832$	5.46	1.68	-
M	$t(69) = -3.79, p < .001$	4.77	1.61	0.45
N	$t(69) = -4.35, p < .001$	4.59	1.76	0.52
O	$t(69) = 4.91, p < .001$	6.37	1.49	0.58
Q1	$t(69) = -0.44, p = .663$	5.41	1.64	-
Q2	$t(69) = -6.36, p < .001$	4.36	1.50	0.76
Q3	$t(69) = 0.74, p = .460$	5.66	1.77	-
Q4	$t(69) = -7.31, p < .001$	4.13	1.57	0.87

Table A.5

Results of One Sample T-tests Comparing the Secondary Teacher Sample to the Average Scale Score of 5.5

Variable	Test Result	Mean	SD	Effect, <i>d</i>
EX	$t(67) = 4.10, p < .001$	6.40	1.81	0.50
AX	$t(67) = -0.90, p = .369$	5.29	1.89	-
TM	$t(67) = -1.62, p = .110$	5.14	1.83	-
IN	$t(67) = 0.67, p = .503$	5.63	1.62	-
SC	$t(67) = 1.71, p = .092$	5.85	1.70	-
A	$t(67) = 4.10, p < .001$	6.32	1.64	0.50
C	$t(67) = 3.09, p = .003$	6.19	1.85	0.37
E	$t(67) = -1.57, p = .122$	5.18	1.70	-
F	$t(67) = 3.42, p = .001$	6.19	1.67	0.40
G	$t(67) = 5.94, p < .001$	6.67	1.62	0.72
H	$t(67) = 2.00, p = .049$	6.04	2.24	0.24
I	$t(67) = 0.71, p = .480$	5.66	1.88	-
L	$t(67) = 1.98, p = .052$	5.87	1.53	-
M	$t(67) = 0.44, p = .664$	5.60	1.95	-
N	$t(67) = -2.14, p = .036$	5.01	1.87	0.26
O	$t(67) = 2.47, p = .016$	6.03	1.77	0.30
Q1	$t(67) = 1.22, p = .228$	5.75	1.70	-
Q2	$t(67) = -3.26, p = .002$	4.87	1.60	0.39
Q3	$t(67) = 0.77, p = .442$	5.69	2.04	-
Q4	$t(67) = -3.40, p = .001$	4.82	1.64	0.41

Table A.6

Results of One Sample T-tests Comparing the Specialty K-12 Teacher Sample to the Average Scale Score of 5.5

Variable	Test Result	Mean	SD	Effect, <i>d</i>
EX	$t(69) = 5.64, p < .001$	6.71	1.80	0.67
AX	$t(69) = -1.75, p = .084$	5.14	1.70	-
TM	$t(69) = -3.19, p = .002$	4.83	1.76	0.38
IN	$t(69) = 0.13, p = .899$	5.53	1.88	-
SC	$t(69) = 1.73, p = .088$	5.83	1.59	-
A	$t(69) = 7.84, p < .001$	6.96	1.56	0.94
C	$t(69) = 3.64, p = .001$	6.26	1.74	0.44
E	$t(69) = -2.26, p = .027$	4.96	2.01	0.27
F	$t(69) = 3.37, p = .001$	6.26	1.88	0.40
G	$t(69) = 6.57, p < .001$	6.64	1.45	0.79
H	$t(69) = 2.03, p = .046$	6.06	2.30	0.24
I	$t(69) = 3.18, p = .002$	6.19	1.80	0.38
L	$t(69) = 2.09, p = .040$	5.91	1.66	0.25
M	$t(69) = -0.32, p = .754$	5.44	1.52	-
N	$t(69) = -1.73, p = .088$	5.09	2.01	-
O	$t(69) = 2.46, p = .017$	6.00	1.70	0.29
Q1	$t(69) = 0.55, p = .586$	5.61	1.75	-
Q2	$t(69) = -4.06, p < .001$	4.63	1.80	0.48
Q3	$t(69) = 0.56, p = .576$	5.64	2.13	-
Q4	$t(69) = -4.27, p < .001$	4.56	1.85	0.51

Table A.7

Global Factor Personality Scores by Grade Level

Personality Factor		Elementary	Secondary	Specialty
EX	Extraversion			
	<i>M</i>	7.05	6.47	6.95
	<i>SD</i>	1.55	1.79	1.73
AX	Anxiety			
	<i>M</i>	5.00	5.28	4.93
	<i>SD</i>	1.81	1.82	1.66
TM	Tough-mindedness			
	<i>M</i>	4.76	4.92	4.71
	<i>SD</i>	1.54	1.78	1.69
IN	Independence			
	<i>M</i>	5.08	5.66	5.76
	<i>SD</i>	1.67	1.69	1.80
SC	Self-Control			
	<i>M</i>	6.14	5.81	5.73
	<i>SD</i>	1.43	1.55	1.57

Table A.8
Primary Factor Personality Scores by Grade Level

	Personality Factor	Elementary	Secondary	Specialty
A	Warmth			
	<i>M</i>	7.48	6.50	7.12
	<i>SD</i>	1.38	1.65	1.51
C	Emotional Stability			
	<i>M</i>	6.39	6.13	6.33
	<i>SD</i>	1.63	1.78	1.66
E	Dominance			
	<i>M</i>	4.61	5.22	5.20
	<i>SD</i>	1.62	1.86	1.91
F	Liveliness			
	<i>M</i>	6.37	6.15	6.48
	<i>SD</i>	1.65	1.71	1.79
G	Rule-Consciousness			
	<i>M</i>	6.86	6.63	6.58
	<i>SD</i>	1.46	1.51	1.38
H	Social Boldness			
	<i>M</i>	5.84	6.11	6.23
	<i>SD</i>	2.18	2.12	2.11
I	Sensitivity			
	<i>M</i>	6.68	6.06	6.03
	<i>SD</i>	1.51	1.93	1.70
L	Vigilance			
	<i>M</i>	5.54	5.78	5.69
	<i>SD</i>	1.62	1.60	1.61
M	Abstractedness			
	<i>M</i>	5.00	5.57	5.51
	<i>SD</i>	1.62	1.85	1.74

Table A.8, continued

Primary Factor Personality Scores by Grade Level

	Personality Factor	Elementary	Secondary	Specialty
N	Privateness			
	<i>M</i>	4.67	4.92	4.90
	<i>SD</i>	1.66	1.85	1.90
O	Apprehension			
	<i>M</i>	6.24	6.00	5.76
	<i>SD</i>	1.69	1.67	1.64
Q1	Openness to Change			
	<i>M</i>	5.37	5.79	5.94
	<i>SD</i>	1.68	1.68	1.67
Q2	Self-Reliance			
	<i>M</i>	4.41	4.92	4.60
	<i>SD</i>	1.59	1.67	1.77
Q3	Perfectionism			
	<i>M</i>	5.82	5.61	5.63
	<i>SD</i>	1.74	1.85	1.96
Q4	Tension			
	<i>M</i>	4.34	4.85	4.47
	<i>SD</i>	1.58	1.56	1.70

One sample *t*-tests comparing teacher profiles to the normative sample representative of the general population personality profile by subject area:

Table A.9

Results of One Sample T-tests Comparing the Early Childhood Teacher Sample to the Average Scale Score of 5.5

Variable	Test Result	Mean	SD	Effect, <i>d</i>
EX	$t(34) = 5.52, p < .001$	7.00	1.61	0.93
AX	$t(34) = -1.73, p = .093$	4.94	1.91	-
TM	$t(34) = -2.05, p = .048$	4.91	1.69	0.35
IN	$t(34) = -1.86, p = .072$	5.00	1.59	-
SC	$t(34) = 3.24, p = .003$	6.20	1.28	0.55
A	$t(34) = 8.39, p < .001$	7.57	1.46	1.42
C	$t(34) = 4.50, p < .001$	6.74	1.63	0.76
E	$t(34) = -3.18, p = .003$	4.66	1.57	0.54
F	$t(34) = 3.32, p = .002$	6.37	1.55	0.56
G	$t(34) = 5.39, p < .001$	6.77	1.40	0.91
H	$t(34) = 0.54, p = .596$	5.69	2.05	-
I	$t(34) = 4.91, p < .001$	6.91	1.70	0.82
L	$t(34) = 0.64, p = .525$	5.69	1.71	-
M	$t(34) = -3.15, p = .003$	4.69	1.53	0.53
N	$t(34) = -4.26, p < .001$	4.34	1.61	0.72
O	$t(34) = 2.57, p = .015$	6.29	1.81	0.44
Q1	$t(34) = -1.13, p = .267$	5.17	1.72	-
Q2	$t(34) = -3.32, p = .002$	4.63	1.55	0.56
Q3	$t(34) = 1.43, p = .162$	5.86	1.48	-
Q4	$t(34) = -4.05, p < .001$	4.49	1.48	0.68

Table A.10

Results of One Sample T-tests Comparing the Primary Teacher Sample to the Average Scale Score of 5.5

Variable	Test Result	Mean	SD	Effect, <i>d</i>
EX	$t(68) = 18.15, p < .001$	7.07	1.60	0.98
AX	$t(68) = -2.97, p = .004$	4.91	1.64	0.36
TM	$t(68) = -3.73, p < .001$	4.87	1.40	0.45
IN	$t(68) = -0.59, p = .561$	5.38	1.75	-
SC	$t(68) = 3.87, p < .001$	6.15	1.39	0.46
A	$t(68) = 13.45, p < .001$	7.55	1.27	1.61
C	$t(68) = 5.72, p < .001$	6.61	1.61	0.69
E	$t(68) = -2.41, p = .019$	5.00	1.72	0.29
F	$t(68) = 4.21, p < .001$	6.39	1.76	0.51
G	$t(68) = 8.36, p < .001$	6.86	1.34	1.01
H	$t(68) = 1.30, p = .197$	5.86	2.26	-
I	$t(68) = 5.16, p < .001$	6.45	1.53	0.62
L	$t(68) = 0.78, p = .441$	5.64	1.48	-
M	$t(68) = -2.39, p = .021$	5.03	1.64	0.29
N	$t(68) = -3.15, p = .002$	4.84	1.74	0.38
O	$t(68) = 3.98, p < .001$	6.25	1.56	0.48
Q1	$t(68) = -0.77, p = .447$	5.36	1.49	-
Q2	$t(68) = -6.31, p < .001$	4.30	1.57	0.76
Q3	$t(68) = 1.69, p = .095$	5.88	1.88	-
Q4	$t(68) = -6.35, p < .001$	4.25	1.64	0.76

Table A.11

Results of One Sample T-tests Comparing the Secondary Math and Science Teacher Sample to the Average Scale Score of 5.5

Variable	Test Result	Mean	SD	Effect, <i>d</i>
EX	$t(32) = 3.02, p = .005$	6.55	1.91	0.55
AX	$t(32) = -1.23, p = .227$	5.09	1.62	-
TM	$t(32) = -0.27, p = .790$	5.42	1.77	-
IN	$t(32) = 1.33, p = .195$	5.91	1.87	-
SC	$t(32) = 1.91, p = .065$	6.12	1.80	-
A	$t(32) = 2.30, p = .028$	6.18	1.70	0.40
C	$t(32) = 2.66, p = .012$	6.36	1.87	0.46
E	$t(32) = -0.66, p = .516$	5.30	1.72	-
F	$t(32) = 1.70, p = .099$	6.03	1.79	-
G	$t(32) = 4.90, p < .001$	6.88	1.62	0.86
H	$t(32) = 2.02, p = .052$	6.30	2.28	0.35
I	$t(32) = -1.78, p = .084$	5.02	1.56	-
L	$t(32) = 1.57, p = .127$	5.97	1.72	-
M	$t(32) = 0.14, p = .890$	5.55	1.87	-
N	$t(32) = -2.83, p = .008$	4.55	1.94	0.49
O	$t(32) = 1.45, p = .157$	5.97	1.86	-
Q1	$t(32) = 1.61, p = .117$	6.00	1.79	-
Q2	$t(32) = -2.05, p = .049$	4.82	1.91	0.36
Q3	$t(32) = 1.09, p = .284$	5.91	2.16	-
Q4	$t(32) = -3.84, p = .001$	4.45	1.56	0.67

Table A.12

Results of One Sample T-tests Comparing the Secondary English and History Teacher Sample to the Average Scale Score of 5.5

Variable	Test Result	Mean	SD	Effect, <i>d</i>
EX	$t(58) = 4.54, p < .001$	6.53	1.75	0.59
AX	$t(58) = -0.96, p = .340$	5.27	1.83	-
TM	$t(58) = -3.93, p < .001$	4.59	1.78	0.51
IN	$t(58) = 0.64, p = .522$	5.64	1.72	-
SC	$t(58) = 0.80, p = .428$	5.64	1.39	-
A	$t(58) = 5.48, p < .001$	6.69	1.65	0.72
C	$t(58) = 2.72, p = .009$	6.10	1.70	0.35
E	$t(58) = -0.88, p = .383$	5.27	2.00	-
F	$t(58) = 3.94, p < .001$	6.34	1.64	0.51
G	$t(58) = 5.19, p < .001$	6.45	1.40	0.68
H	$t(58) = 2.28, p = .026$	6.12	2.09	0.30
I	$t(58) = 4.38, p < .001$	6.60	1.93	0.58
L	$t(58) = 0.61, p = .543$	5.63	1.60	-
M	$t(58) = 0.04, p = .972$	5.51	1.83	-
N	$t(58) = -2.11, p = .039$	5.00	1.82	0.27
O	$t(58) = 2.20, p = .032$	5.95	1.57	0.29
Q1	$t(58) = 1.59, p = .118$	5.83	1.60	-
Q2	$t(58) = -2.85, p = .006$	4.92	1.58	0.37
Q3	$t(58) = 0.04, p = .970$	5.51	1.73	-
Q4	$t(58) = -2.39, p = .020$	5.03	1.50	0.31

Table A.13

Results of One Sample T-tests Comparing the Physical Education Teacher Sample to the Average Scale Score of 5.5

Variable	Test Result	Mean	SD	Effect, <i>d</i>
EX	$t(36) = 7.93, p < .001$	7.43	1.48	1.30
AX	$t(36) = -2.64, p = .012$	4.97	1.21	0.44
TM	$t(36) = 1.24, p = .223$	5.81	1.52	-
IN	$t(36) = 1.83, p = .075$	6.05	1.84	-
SC	$t(36) = -0.95, p = .347$	5.24	1.64	-
A	$t(36) = 5.76, p < .001$	6.92	1.50	0.95
C	$t(36) = 4.95, p < .001$	6.59	1.34	0.81
E	$t(36) = 0.11, p = .912$	5.54	2.21	-
F	$t(36) = 8.98, p < .001$	7.49	1.35	1.47
G	$t(36) = 4.34, p < .001$	6.32	1.16	0.71
H	$t(36) = 3.79, p = .001$	6.65	1.84	0.63
I	$t(36) = -3.02, p = .005$	4.76	1.50	0.49
L	$t(36) = 2.94, p = .006$	6.38	1.82	0.48
M	$t(36) = -1.24, p = .223$	5.16	1.66	-
N	$t(36) = -1.33, p = .192$	5.11	1.79	-
O	$t(36) = -0.54, p = .590$	5.39	1.36	-
Q1	$t(36) = -0.27, p = .786$	5.43	1.50	-
Q2	$t(36) = -5.13, p < .001$	3.92	1.88	0.84
Q3	$t(36) = -1.64, p = .109$	4.92	2.15	-
Q4	$t(36) = -2.57, p = .014$	4.73	1.82	0.42

Table A.14

Results of One Sample T-tests Comparing the Special Education Teacher Sample to the Average Scale Score of 5.5

Variable	Test Result	Mean	SD	Effect, <i>d</i>
EX	$t(70) = 7.51, p < .001$	7.03	1.72	1.05
AX	$t(70) = -3.92, p < .001$	4.76	1.59	0.47
TM	$t(70) = -5.43, p < .001$	4.58	1.43	0.64
IN	$t(70) = 1.20, p = .234$	5.75	1.43	-
SC	$t(70) = 3.00, p < .004$	6.03	1.48	0.36
A	$t(70) = 11.58, p < .001$	7.39	1.38	1.37
C	$t(70) = 4.45, p < .001$	6.37	1.64	0.53
E	$t(70) = -1.55, p = .125$	5.18	1.72	-
F	$t(70) = 3.41, p < .001$	6.21	1.76	0.40
G	$t(70) = 8.15, p < .001$	6.85	1.39	0.97
H	$t(70) = 2.86, p = .006$	6.25	2.22	0.34
I	$t(70) = 4.98, p < .001$	6.37	1.47	0.59
L	$t(70) = -.046, p = .650$	5.42	1.43	-
M	$t(70) = -1.04, p = .301$	5.31	1.54	-
N	$t(70) = -3.38, p < .001$	4.73	1.91	0.40
O	$t(70) = 1.93, p = .057$	5.83	1.44	-
Q1	$t(70) = 2.02, p = .047$	5.90	1.67	0.24
Q2	$t(70) = -4.63, p < .001$	4.58	1.68	0.55
Q3	$t(70) = 1.70, p = .094$	5.87	1.85	-
Q4	$t(70) = -6.70, p < .001$	4.17	1.67	0.80

Table A.15

Results of One Sample T-tests Comparing the Music Education Teacher Sample to the Average Scale Score of 5.5

Variable	Test Result	Mean	SD	Effect, <i>d</i>
EX	$t(53) = 4.31, p < .001$	6.57	1.83	0.58
AX	$t(53) = -1.42, p = .160$	5.11	2.01	-
TM	$t(53) = -5.59, p < .001$	4.13	1.80	0.76
IN	$t(53) = 0.22, p = .830$	5.56	1.89	-
SC	$t(53) = 0.69, p = .041$	5.65	1.57	0.10
A	$t(53) = 6.36, p < .001$	6.93	1.65	0.87
C	$t(53) = 2.38, p = .021$	6.11	1.89	0.32
E	$t(53) = -1.94, p = .057$	4.98	1.96	-
F	$t(53) = 2.70, p = .009$	6.19	1.86	0.37
G	$t(53) = 4.49, p < .001$	6.40	1.47	0.61
H	$t(53) = 1.54, p = .130$	5.94	2.12	-
I	$t(53) = 4.18, p < .001$	6.48	1.72	0.57
L	$t(53) = 0.17, p = .864$	5.54	1.59	-
M	$t(53) = 1.95, p = .057$	6.02	1.96	-
N	$t(53) = -2.17, p = .034$	4.93	1.94	0.29
O	$t(53) = 1.63, p = .109$	5.94	2.00	-
Q1	$t(53) = 3.52, p < .001$	6.31	1.70	0.48
Q2	$t(53) = -1.85, p = .070$	5.07	1.69	-
Q3	$t(53) = 1.09, p = .293$	5.78	1.88	-
Q4	$t(53) = -3.64, p < .001$	4.70	1.61	0.50

Table A.16

Global Factor Personality Scores by Subject Area

Factor	<u>Elementary</u>		<u>Secondary</u>		<u>Specialty K-12</u>		
	Early Childhood <i>n</i> = 35	Primary <i>n</i> = 247	Math and Science <i>n</i> = 29	English and History <i>n</i> = 59	Physical Education <i>n</i> = 32	Special Education <i>n</i> = 71	Music Education <i>n</i> = 54
EX							
<i>M</i>	7.00	7.07	6.62	6.53	7.34	7.03	6.57
<i>SD</i>	1.61	1.57	2.06	1.75	1.56	1.72	1.83
AX							
<i>M</i>	4.94	4.98	4.93	5.27	4.97	4.76	5.11
<i>SD</i>	1.91	1.79	1.81	1.83	1.20	1.59	2.01
TM							
<i>M</i>	4.91	4.75	5.55	4.59	5.79	4.58	4.13
<i>SD</i>	1.69	1.52	1.57	1.78	1.51	1.43	1.80
IN							
<i>M</i>	5.00	5.09	5.90	5.64	6.08	5.75	5.56
<i>SD</i>	1.59	1.67	1.84	1.72	1.82	1.73	1.89
SC							
<i>M</i>	6.20	6.16	6.14	5.64	5.29	6.03	5.65
<i>SD</i>	1.28	1.46	1.90	1.39	1.64	1.48	1.59

Table A.17

Primary Factor Personality Scores by Subject Area

Factor	<u>Elementary</u>		<u>Secondary</u>		<u>Specialty K-12</u>		
	Early Childhood <i>n</i> = 35	Primary <i>n</i> = 247	Math and Science <i>n</i> = 29	English and History <i>n</i> = 59	Physical Education <i>n</i> = 32	Special Education <i>n</i> = 71	Music Education <i>n</i> = 54
A							
<i>M</i>	7.57	7.48	6.14	6.68	6.89	7.39	6.93
<i>SD</i>	1.46	1.37	1.77	1.65	1.48	1.38	1.65
C							
<i>M</i>	6.74	6.38	6.52	6.10	6.58	6.37	6.11
<i>SD</i>	1.63	1.62	1.81	1.70	1.33	1.64	1.89
E							
<i>M</i>	4.66	4.61	5.28	5.27	5.55	5.18	4.98
<i>SD</i>	1.57	1.62	1.75	2.00	2.18	1.72	1.96
F							
<i>M</i>	6.37	6.40	6.21	6.34	7.39	6.21	6.19
<i>SD</i>	1.55	1.68	1.78	1.64	1.44	1.76	1.86
G							
<i>M</i>	6.77	6.91	6.90	6.45	6.34	6.85	6.40
<i>SD</i>	1.40	1.46	1.63	1.40	1.15	1.39	1.47
H							
<i>M</i>	5.69	5.85	6.45	6.12	6.61	6.25	5.94
<i>SD</i>	2.05	2.20	2.37	2.09	1.84	2.22	2.12
I							
<i>M</i>	6.91	6.68	4.84	6.60	4.76	6.37	6.48
<i>SD</i>	1.70	1.49	1.59	1.93	1.48	1.47	1.72
L							
<i>M</i>	5.69	5.53	6.03	5.63	6.39	5.42	5.54
<i>SD</i>	1.71	1.60	1.78	1.60	1.79	1.43	1.59

Table A.18
Occupational Types by Subject Area

Occupational Type	<u>Elementary</u>		<u>Secondary</u>		<u>Specialty K-12</u>		
	Early Childhood <i>n</i> = 35	Primary <i>n</i> = 247	Math and Science <i>n</i> = 29	English and History <i>n</i> = 59	Physical Education <i>n</i> = 32	Special Education <i>n</i> = 71	Music Education <i>n</i> = 54
Realistic							
<i>M</i>	3.71	3.97	5.97	4.47	5.76	4.51	4.55
<i>SD</i>	1.79	1.36	1.80	1.86	1.24	1.63	1.86
Investigative							
<i>M</i>	3.63	4.15	6.48	4.76	5.11	4.49	5.12
<i>SD</i>	1.44	1.43	1.76	1.77	1.25	1.56	1.80
Artistic							
<i>M</i>	5.63	5.80	5.55	6.34	5.37	6.18	6.50
<i>SD</i>	1.70	1.74	1.59	1.79	1.68	1.55	2.08
Social							
<i>M</i>	6.86	7.01	6.45	6.57	6.74	7.18	6.80
<i>SD</i>	1.75	1.64	2.15	1.87	1.55	1.60	1.74
Enterprising							
<i>M</i>	5.29	5.46	5.93	5.54	6.63	5.92	5.57
<i>SD</i>	1.54	1.56	1.91	1.72	1.44	1.69	1.67
Conventional							
<i>M</i>	5.71	5.65	6.07	5.22	5.95	5.54	5.07
<i>SD</i>	1.38	1.58	2.14	1.62	1.90	1.55	1.97

Question 1B

Table A.19

Personality Differences by Gender

Variable	Test Result	<u>Male</u>		<u>Female</u>		Effect, <i>d</i>
		Mean	SD	Mean	SD	
EX	$t(367) = -1.04, p = .301$	6.88	1.81	7.10	1.60	0.13
AX	$t(367) = -1.44, p = .151$	4.72	1.75	5.04	1.75	0.18
TM	$t(367) = 3.39, p = .001$	5.24	1.68	4.53	1.59	0.44
IN	$t(367) = 2.19, p = .029$	5.92	1.77	5.41	1.78	0.28
SC	$t(367) = -2.57, p = .011$	5.50	1.49	6.00	1.50	0.34
A	$t(367) = -5.88, p < .001$	6.40	1.63	7.51	1.41	0.73
C	$t(367) = 0.25, p = .800$	6.42	1.66	6.36	1.65	0.03
E	$t(367) = 2.04, p = .042$	5.36	2.02	4.87	1.82	0.26
F	$t(367) = 0.98, p = .327$	6.59	1.71	6.38	1.68	0.13
G	$t(367) = -1.64, p = .101$	6.51	1.47	6.81	1.43	0.21
H	$t(367) = 1.10, p = .272$	6.39	1.99	6.08	2.19	0.15
I	$t(367) = -8.60, p < .001$	4.95	1.77	6.69	1.50	1.07
L	$t(367) = 0.02, p = .983$	5.66	1.49	5.66	1.67	0.01
M	$t(367) = 2.52, p = .012$	5.74	1.61	5.19	1.72	0.34
N	$t(367) = 0.41, p = .681$	4.78	1.81	4.69	1.70	0.05
O	$t(367) = -3.93, p < .001$	5.32	1.56	6.15	1.64	0.52
Q1	$t(367) = 2.06, p = .040$	6.15	1.56	5.69	1.72	0.27
Q2	$t(367) = -0.60, p = .550$	4.36	1.72	4.49	1.61	0.08
Q3	$t(367) = -1.57, p = .118$	5.36	1.79	5.73	1.85	0.06
Q4	$t(367) = 0.61, p = .542$	4.54	1.75	4.42	1.51	0.08

Table A.20

Personality Differences by Age

Variable	ANOVA	Effect, η_p^2
EX	$F(3, 331) = 1.35, p = .012$	.012
AX	$F(3, 331) = 2.92, p = .034$	.026
TM	$F(3, 331) = 1.52, p = .210$	.014
IN	$F(3, 331) = 0.39, p = .758$	.004
SC	$F(3, 331) = 4.08, p = .007$	.036
A	$F(3, 331) = 3.21, p = .023$	.028
C	$F(3, 331) = 0.40, p = .752$	.004
E	$F(3, 331) = 0.12, p = .947$	.001
F	$F(3, 331) = 3.79, p = .011$	.033
G	$F(3, 331) = 2.44, p = .065$	.022
H	$F(3, 331) = 1.28, p = .283$	.011
I	$F(3, 331) = 0.87, p = .459$	.008
L	$F(3, 331) = 2.47, p = .062$	.022
M	$F(3, 331) = 3.70, p = .012$	.032
N	$F(3, 331) = 1.58, p = .193$	.014
O	$F(3, 331) = 2.22, p = .086$	.020
Q1	$F(3, 331) = 0.53, p = .665$	.005
Q2	$F(3, 331) = 0.60, p = .613$	.005
Q3	$F(3, 331) = 0.83, p = .479$	.007
Q4	$F(3, 331) = 1.93, p = .125$	.017

Table A.21

Personality Differences by Grade Level

Variable	ANOVA	Effect, η_p^2
EX	$F(2, 333) = 4.60, p = .011$	.027
AX	$F(2, 332) = 1.40, p = .247$	.008
TM	$F(2, 333) = 2.16, p = .116$	.013
IN	$F(2, 333) = 5.76, p = .003$	.033
SC	$F(2, 333) = 1.71, p = .183$	.010
A	$F(2, 332) = 13.68, p < .001$	.075
C	$F(2, 333) = 0.78, p = .457$	.005
E	$F(2, 333) = 3.26, p = .040$	.019
F	$F(2, 333) = 2.11, p = .123$	.013
G	$F(2, 333) = 0.64, p = .296$	.002
H	$F(2, 333) = 2.08, p = .127$	.012
I	$F(2, 333) = 0.16, p = .855$	.001
L	$F(2, 332) = 0.24, p = .790$	.001
M	$F(2, 332) = 5.94, p = .003$	.035
N	$F(2, 333) = 0.79, p = .456$	.005
O	$F(2, 332) = 0.48, p = .620$	.003
Q1	$F(2, 333) = 4.47, p = .012$	.026
Q2	$F(2, 333) = 1.37, p = .257$	.008
Q3	$F(2, 333) = 1.52, p = .220$	.009
Q4	$F(2, 333) = 3.49, p = .032$	.021

Table A.22

Personality Differences by Subject Area

Variable	ANOVA	Effect, η_p^2
EX	$F(6, 251) = 1.56, p = .161$	.036
AX	$F(6, 250) = 0.12, p = .994$	.003
TM	$F(6, 251) = 4.24, p < .001$	.092
IN	$F(6, 251) = 1.85, p = .090$	.042
SC	$F(6, 251) = 1.73, p = .116$	.040
A	$F(6, 250) = 4.18, p = .001$	.001
C	$F(6, 251) = 0.75, p = .611$	.018
E	$F(6, 251) = 0.92, p = .479$	.022
F	$F(6, 251) = 3.05, p = .007$	.068
G	$F(6, 251) = 1.13, p = .348$	.026
H	$F(6, 251) = 0.89, p = .508$	.021
I	$F(6, 251) = 6.75, p < .001$	.139
L	$F(6, 250) = 1.27, p = .270$	.030
M	$F(6, 250) = 2.16, p = .047$	.049
N	$F(6, 251) = 1.48, p = .186$	.034
O	$F(6, 250) = 0.35, p = .910$	.008
Q1	$F(6, 251) = 1.97, p = .071$	.045
Q2	$F(6, 251) = 1.29, p = .265$	.030
Q3	$F(6, 251) = 1.95, p = .074$	.045
Q4	$F(6, 251) = 1.18, p = .319$	.027

Table A.23

Occupational Type Differences by Gender

Variable	Test Result	<u>Male</u>		<u>Female</u>		Effect, <i>d</i>
		Mean	<i>SD</i>	Mean	<i>SD</i>	
R	$t(367) = 8.73, p < .001$	5.95	1.72	4.07	1.38	1.21
I	$t(367) = 9.91, p < .001$	6.08	1.43	4.25	1.42	1.30
A	$t(367) = -1.14, p = .255$	5.85	1.65	6.11	1.78	0.15
S	$t(367) = -3.03, p = .003$	6.50	1.75	7.15	1.64	0.38
E	$t(367) = 2.15, p = .032$	6.12	1.71	5.65	1.68	0.28
C	$t(367) = 0.79, p = .432$	5.67	1.77	5.50	1.72	0.10

Table A.24

Occupational Type Differences by Age

Variable	Test Result	Effect, η_p^2
R	$F(3, 331) = 3.07, p = .028$	.027
I	$F(3, 331) = 1.11, p = .345$	.010
A	$F(3, 331) = 1.31, p = .270$	.012
S	$F(3, 331) = 0.15, p = .931$	.001
E	$F(3, 331) = 4.74, p = .003$	.041
C	$F(3, 331) = 0.12, p = .946$	.001

Table A.25

Occupational Type Differences by Grade Level

Variable	Test Result	Effect, η_p^2
R	$F(2, 332) = 1.45, p = .236$	.009
I	$F(2, 333) = 4.57, p = .011$	.027
A	$F(2, 333) = 2.74, p = .066$	.016
S	$F(2, 333) = 3.56, p = .029$	.021
E	$F(2, 333) = 4.93, p = .008$	.029
C	$F(2, 332) = 1.89, p = .152$	.011

Table A.26

Occupational Type Differences by Subject Area

Variable	Test Result	Effect, η_p^2
R	$F(6, 250) = 4.82, p < .001$	.104
I	$F(6, 251) = 5.45, p < .001$	.116
A	$F(6, 251) = 2.04, p = .061$	.046
S	$F(6, 251) = 0.65, p = .687$	.015
E	$F(6, 251) = 2.44, p = .026$	.055
C	$F(6, 250) = 1.71, p = .120$	.039

Question 2B

Table A.27

Personality Differences by Level of Intrinsic Job Satisfaction

Variable	Test Result	<u>Low</u>		<u>High</u>	
		Mean	SD	Mean	SD
EX	$t(50) = -0.33, p = .740$	6.77	1.86	6.92	1.44
AX	$t(50) = 0.66, p = .511$	5.08	1.70	4.77	1.66
TM	$t(50) = 0.78, p = .439$	4.92	1.74	4.58	1.45
IN	$t(50) = -0.20, p = .842$	5.50	1.82	5.62	2.32
SC	$t(50) = 0.45, p = .656$	5.77	1.27	5.62	1.20
A	$t(50) = -0.69, p = .494$	7.00	1.65	7.31	1.57
C	$t(50) = 0.57, p = .288$	6.73	1.48	6.27	1.61
E	$t(50) = -0.21, p = .837$	5.15	1.69	5.27	2.29
F	$t(50) = 0.32, p = .748$	6.19	1.88	6.04	1.54
G	$t(50) = -0.71, p = .483$	6.19	1.47	6.46	1.27
H	$t(50) = -0.06, p = .950$	5.73	2.18	5.77	2.20
I	$t(50) = 0.00, p = 1.00$	6.12	1.58	6.12	1.70
L	$t(50) = 0.87, p = .389$	5.73	1.46	5.38	1.42
M	$t(50) = -0.86, p = .397$	5.46	1.58	5.88	1.97
N	$t(50) = 0.92, p = .361$	4.88	1.61	4.50	1.39
O	$t(50) = 0.45, p = .655$	6.08	1.81	5.85	1.89
Q1	$t(50) = -0.48, p = .635$	5.69	2.19	5.96	1.87
Q2	$t(50) = 0.42, p = .678$	4.69	1.67	4.50	1.66
Q3	$t(50) = 0.41, p = .688$	5.69	1.38	5.54	1.36
Q4	$t(50) = 2.03, p = .048$	4.81	1.74	3.96	1.22
R	$t(50) = -0.44, p = .664$	4.48	1.97	4.71	1.83
I	$t(50) = -0.66, p = .514$	4.87	1.85	5.21	1.94
A	$t(50) = -0.29, p = .772$	5.92	2.08	6.08	1.98
S	$t(50) = -0.62, p = .538$	6.62	1.98	6.92	1.57
E	$t(50) = -0.08, p = .936$	5.77	1.73	5.81	1.72
C	$t(50) = 0.57, p = .572$	5.46	1.56	5.23	1.37

Table A.28

Personality Differences by Level of Overall Job Satisfaction

Variable	Test Result	<u>Low</u>		<u>High</u>	
		Mean	SD	Mean	SD
EX	$t(45) = -0.65, p = .522$	6.87	1.60	7.17	1.55
AX	$t(45) = 1.76, p = .086$	5.52	1.56	4.67	1.76
TM	$t(45) = 0.99, p = .326$	4.87	1.22	4.56	1.59
IN	$t(45) = -1.08, p = .285$	5.35	1.67	5.96	2.16
SC	$t(45) = -0.34, p = .739$	5.61	1.44	5.75	1.45
A	$t(45) = -0.05, p = .962$	7.48	1.50	7.50	1.62
C	$t(45) = -0.55, p = .583$	6.26	1.71	6.54	1.77
E	$t(45) = -0.55, p = .583$	5.09	1.76	5.42	2.28
F	$t(45) = 0.53, p = .601$	6.35	1.64	6.08	1.79
G	$t(45) = -1.19, p = .239$	6.26	1.54	6.75	1.26
H	$t(45) = -1.37, p = .178$	5.48	2.11	6.38	2.37
I	$t(45) = -0.07, p = .946$	6.22	1.51	6.25	1.78
L	$t(45) = 1.75, p = .087$	6.13	1.52	5.46	1.06
M	$t(45) = -0.35, p = .735$	5.57	1.47	5.75	2.05
N	$t(45) = 1.81, p = .077$	5.04	1.46	4.25	1.54
O	$t(45) = 1.57, p = .124$	6.61	1.64	5.79	1.91
Q1	$t(45) = -1.49, p = .143$	5.39	1.41	6.13	1.92
Q2	$t(45) = 0.13, p = .895$	4.52	1.68	4.46	1.59
Q3	$t(45) = -0.15, p = .881$	5.39	1.64	5.46	1.41
Q4	$t(45) = 1.95, p = .058$	4.70	1.30	3.92	1.44
R	$t(45) = -1.04, p = .305$	4.13	1.71	4.69	2.00
I	$t(45) = -1.01, p = .317$	4.57	1.53	5.10	2.06
A	$t(45) = -0.98, p = .331$	5.83	1.67	6.33	1.86
S	$t(45) = -1.16, p = .251$	6.74	1.74	7.29	1.52
E	$t(45) = -0.64, p = .525$	5.74	1.81	6.08	1.86
C	$t(45) = -0.16, p = .870$	5.13	1.52	5.21	1.72

VITA

Amy Beavers was born in Birmingham, AL and now lives in Chattanooga, TN. In 1999, she graduated from Ooltewah High School and attended Lee University in Cleveland, TN, where she earned a Bachelors of Science Degree in Mathematics Education. Upon graduation in 2002, Amy began teaching high school math. In 2008, she enrolled in the Educational Psychology and Research doctoral program at The University of Tennessee, Knoxville. While in her program, Amy gained a variety of experiences through working as a graduate research assistant in program evaluation, measurement and statistics. Amy's areas of interest are in educational research; specifically scale development, measurement, teacher preparation, and assessment of student outcomes.