EFFECTS OF GENERATION ON TENURE-TRACK FACULTY SATISFACTION

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DEDICATION

This dissertation is dedicated to the memory of my grandmother, Mary Petrovich Kuhrik, for inspiring me through her daughters. She loved learning and instilled strong academic integrity in her children, even though she was only formally educated through the eighth grade. She single-handedly raised her daughters to value education and fostered a love of learning that inspired all her children and grandchildren to obtain postgraduate degrees.

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LIST OF ABBREVIATIONS

AAUP……American Association of University Professors

COACHE…...Collaborative on Academic Careers in Higher Education

GDE……...Generation defining event

GDM……..Generation defining moment

GWA……..Gallup Workplace Audit

IPEDS…….Integrated Postsecondary Education Data System

JDI……..Job Descriptive Index

JDS…….Job Diagnostic Survey

JIG……..Job in General Scale

JSS……..Job Satisfaction Survey

MANOVA…..Multiple analysis of variance

MSQ……...Minnesota Satisfaction Questionnaire

NCES…….National Center for Education Statistics

NSF……National Science Foundation

SED……Survey of Earned Doctorates

ABSTRACT

EFFECTS OF GENERATION ON TENURE-TRACK FACULTY SATISFACTION

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The academy is generationally diversifying as Baby Boomer faculty members continue to move into retirement and younger faculty enter the workforce. People are dispositionally inclined to explain differences they perceive in others, but oftentimes these judgments are based on assumptions and stereotypes. Consultants and practitioners predict that generational diversification will lead to employee friction. The reality is that at this time the proposed relationship is not well understood and substantial systematic evidence supporting the hypothesis is limited. However, if administrators continue to consider the generational recommendations published in the popular press, it may be an indication there truly *is* some phenomenon occurring in higher education employees. Therefore, understanding and addressing generational differences becomes increasingly more important for the good of faculty and administrators alike, as employees across a broad age range will be working together.

This quantitative study explored the effects of demographic variables, namely generation, on tenure-track faculty job satisfaction. Aside from obtaining a much-needed generational snapshot of tenure-track faculty, this study sought to determine if generation could be utilized to predict a variety of job satisfaction indices. Multiple regression analyses were conducted on variables obtained from a pre-existing aggregated *COACHE*

Tenure-Track Faculty Job Satisfaction Survey dataset. Statistically significant demographic effects emerged in seven job satisfaction indices, but multiple regression results provided little evidence to suggest demographic variables, which have frequently been used to explain differences between groups, are strong predictors of tenure-track faculty satisfaction. Obviously, these findings raise questions about the credibility of claims coming from generational practitioners and consultants and signify that more research is urgently needed. Future researchers may consider capturing information on a variety of work-related outcomes, not just job satisfaction, on a broad age-range of faculty members over an extended period of time. However, before any meaningful advances in answering questions about entire groups of employees based solely on their generational membership can be made, researchers must come to an agreement on the exact taxonomy, attributes, and boundaries of the generations

CHAPTER ONE: BACKGROUND

Most people don't need a researcher to tell them that 25-year-old employees, 40-year-old employees, and 65-year-old employees are different – "people already know that" (Pew Research Center, 2010, preface).

Higher education has been undergoing a new silent generational diversification, and for the first time in history the academy has employees from four generations: Silent, Baby Boomer, GenX, and Millennial (Howe, Strauss, & Nadler, 2008; Lovely, 2010; Lancaster & Stillman, 2003; Ponjuan, Conley, & Trower, 2011; Strauss & Howe, 1991). As younger faculty members enter academe and work side-by-side senior faculty members, higher education is more generationally diverse than ever before (Gemme & Gringras, 2012; Hannay & Fretwell, 2011; Kelly, 2007; Quinn & Antony, 2009; Trower, 2010). Current conditions in higher education are causing a widening of the generation gap:

- the graying of faculty members (Harrison & Hargrove, 2006; Conley, 2007; Morrison, 2003; Schuster, 2011; Steinberg, Snyder, & Klein-Collins, 2008; United States Census Bureau [USCB], 2011),
- the deferring of retirement by some older faculty members (Cartwright, 2008; Dorfman, 2009; Gewin, 2012; Larson & Diaz, 2012; Masterson, 2011), and
- the growing demand for faculty to fill higher education's ever-increasing vacancies (Conley, 2007; Harrison & Hargrove, 2006).

Within their institutions, higher education faculty ranks align in a common hierarchy based on their relationship to tenure, a contractual status guaranteeing

procedural due process (American Association of University Professors [AAUP], 2010b; Integrated Postsecondary Education Data System [IPEDS], n.d.). Tenure-track professors (i.e., assistant professors) occupy probationary status with the guarantee of consideration for tenure at some point in their careers (IPEDS, n.d.). Tenured professors (i.e., associate and full professors) are faculty members who selectively received tenure and demonstrated a record of achievement (AAUP, 2010b; IPEDS, n.d.). Other common faculty ranks (e.g., adjuncts, lecturer, and instructor) are ineligible for tenure (AAUP, 2010a; IPEDS, n.d.). In 2012, the National Center for Education Statistics (NCES, 2013) reported 761,619 full-time instructional faculty members employed in degree-granting institutions. Of those 174,045 were assistant professors, 155,200 were associate professors, 181,508 were full professors, and 250,866 were non-tenure-track faculty.

More than 41 million Americans were 65 years old or older in 2011 with 13.0% of the total population at retirement age (U.S. Census Bureau [USCB], 2011). This is the fastest growing subpopulation in the nation; the Census Bureau projects the number of people at retirement age will swell to 47.695 million by 2015 and to reach 55.969 million by 2020. This trend is also being seen in the workplace, where growing numbers of older faculty members are reaching retirement age (Conley, 2007; Larson & Diaz, 2012; Schuster, 2011; USCB, 2011). In 2012, the median age of American professors was 55 (AAUP, 2010a; Larson & Diaz, 2012). As these faculty move into retirement, younger faculty are entering academe (Bureau of Labor Statistics [BLS], 2013; Cartwright, 2008; Finkelstein, 2008; Steinberg et al., 2008; Trower, 2008). According to *The Survey of Earned Doctorates*, roughly 50,000 doctoral students (median age 32.0 years) received doctorates from U.S. universities in 2011 (National Science Foundation [NSF], 2012). In

addition, 51.8% of the 14,179 graduates reported had signed contracts for employment in the academe field (NSF, 2012).

The predicted mass retirement of older faculty and entrance of younger faculty has caused some researchers to predict a radical turnover of current faculty over the next decade (Conley, 2007; Hannay & Fretwell, 2011, Kelly, 2007; Steinberg et al., 2008). However, emerging research (e.g., Bensen & Trower, 2012; Conley, 2007, 2008; Dorfman, 2009; Larson & Diaz, 2012; Masterson, 2011; Trower, 2012) posits a more gentle turnover is likely because older faculty are more frequently choosing to defer retirement for professional and monetary reasons. Trower (2012) proposes that the turnover will likely manifest as "a series of swells rather than [a] surge" (in Gewin, 2012, p. 233) over the next 20 years. Regardless of the *rate* of turnover, the face of faculty in the academy is changing (BLS, 2013; Gappa & Austin, 2010; Gappa, Austin, & Trice, 2007; Howe et al., 2008; Thelin, 2011). Another compounding factor is that enrollment growth numbers continue to demand more institutional positions (BLS, 2013; Gappa et al., 2007). Roughly six million more students enrolled in American colleges and universities in 2011 than in 2000 (NCES, 2012). According to the U.S. Bureau of Labor's *Occupational Outlook Handbook* (2013), postsecondary teacher employment demands will increase 17% between 2010 and 2020.

The concept of the *generation gap* became popular in the 1960s, when college age students started working alongside their parents (Giancola, 2008). While it is impossible to assign universal qualities across a broad array of people with complete certainty, research consistently reveals differences (e.g., personality, attitudes, behaviors) across generations (e.g., Helms, 2010; Lester, Standifer, Schultz, & Windsor, 2012; Macky,

Gardner, & Forsyth, 2008; Ryder, 1965; Smola & Sutton, 2002). Generational differences can sometimes cause misunderstandings and false perceptions, and have been linked to tension and clashes between generation groups (Cennamo & Gardner, 2008; Collins, Hair, & Rocco, 2009; Durkin, 2004; Heckler, Michelich, & Sullivan, 2008; Hochwarter et al., 2009; Kowske, Rasch, & Wiley, 2010; Lester et al., 2012). Even though considerable research supports the existence of generational differences and their propensity for causing misunderstandings, we do not fully understand the relationship between generational differences in workplace attitudes and values (Busch, Venkitachalam, & Richards, 2008; Carver, Candela, & Gutierrez, 2011; Gibson, Greenwood, & Murphy, Jr., 2011; Helms, 2010).

Practitioners and consultants have assumed there is a link between generational differences and workplace outcomes (Costanza, Badger, Fraser, Severt, & Gade, 2012; Parry & Urwin, 2011), which formed the basis for the intergenerational workplace popular press literature (e.g., Behrens, 2009; Durkin, 2004; Ehrenberg, 2008; Eisner, 2005; Harward, 2008). "Professional organizations, …practitioners, and consultants have seized on alleged generational differences developing seminars and intervention designed to help organizations deal with them" (Costanza et al., 2012, p. 376). Practitioner literature has blatantly stated that organizations will be fraught with serious generational conflict if they do not change the way they

- recruit (Behrens, 2009; Kelly, 2007; Lovely, 2010; Quinn & Trower, 2009),
- communicate (Behrens, 2009; Hannay & Fretwell, 2011; Kelly, 2007; Masterson, 2011; O'Brien, 2006),
- reward (Sujansky & Ferri-Reed, 2009; Trower, 2012), and

- lead (Berl, 2006; Harrison, 2007; Morrison, 2003; Sujansky & Ferri-Reed, 2009; Tulgan, 2000).

For example, Behrens (2009) strongly cautioned, "most workplaces are not designed to integrate the needs and preconceptions of successive generations of employees" (p. 21). Kelly's (2007) publication in *Academic Leader* proposed ways to make a *Millennial-friendly workplace* and stressed, "the ways that institutions adapt to differences between Millennials and previous generations and capitalize on their strengths will have long-term implications for every institution" (p. 1).

People are dispositionally inclined to explain perceived differences in others, but researchers caution that the claims in popular press are anecdotal, based on assumptions, and can propagate the formation of generational stereotypes (Costanza et al., 2012; Lester et al., 2012). The reality is that generational research is extremely complex, and at this time substantial evidence of this correlational relationship is lacking (Twenge, Campbell, Hoffman, & Lance, 2010).

Problem Area

While there is an overwhelming amount of anecdotal information about generational differences in attitudes, results of systematic and empirical research on the relationship between generation and work attitudes have shown mixed results. A relatively large body of systematic research conducted on employees outside academe supports the hypothesis that generation and job satisfaction are related (e.g., Beutell & Wittig-Berman, 2008; Collins et al., 2009; Helms, 2010; Morgan & Ribbens, 2006; Sessa, Kabacoff, Deal, & Brown, 2007; Smith, 2010; Wieck, Dols, & Landrum, 2009). Three research studies in academe supported the relationship (Carver et al., 2011; Quinn

& Antony, 2009; Quinn & Trower, 2009). Other systematic and empirical research study results demonstrated differences existed to some extent (e.g., d'Amato & Herzfeldt, 2008; Davis, Pawlowski, & Houston, 2006; Hansen & Leuty, 2012; Lamm & Meeks, 2009; Lyons, Duxbury, & Higgins, 2007; Smola & Sutton, 2002) while others reported moderately small or no relationship (e.g., Cennamo & Gardner, 2008; Kowske et al., 2010; Twenge & Campbell, 2008; Twenge et al., 2010; Westerman & Yamamura, 2007). At this time, only a handful of systematic generational-faculty satisfaction research studies have been conducted.

Significance of the Study

Understanding and addressing generational differences becomes increasingly more important for the good of faculty and administrators alike; the generation gap widens as Millennial faculty integrate into universities and employees across a broad age range will be working together (Austin, 2011; Behrens, 2009; Bousquet, 2008; Finkelstein, 2008; Gemme & Gringras, 2012; Hannay& Fretwell, 2011; Kelly, 2007; Lovely, 2010; Quinn & Trower, 2009). Administrators who understand of differences in generational personalities and consider perspectives from other viewpoints may be more aptly prepared and willing to adapt their leadership styles and decision-making processes to meet the needs of their intergenerational workforce (Bousquest, 2009; Cennamo & Gardner, 2008; Eisner, 2005; Hannay & Fretwell, 2011; Howe et al., 2008; Kelly, 2007; Martin & Tulgan, 2006; Sujansky & Ferri-Reed, 2009; Timmermann, 2007). Researchers hypothesize those employees will report higher job satisfaction levels if they perceive their administrators as "generationally-friendly" (Sujansky & Ferri-Reed, 2009; Trower, 2010). This is especially important because high levels of faculty satisfaction reportedly

increase quality of instruction, boost morale, enrich student experiences, and decrease financial costs (Frank, Finnegan, & Taylor, 2004; Gappa et al., 2007; Harrison & Hargrove, 2006; Judge, Hulin, & Halal, 2012; Mamiseishvili & Rosser, 2011; Rosser, 2004). On the other hand, dissatisfaction and conflict decrease instructional quality, threaten organizational effectiveness, and reduce student success (Gappa et al., 2007; Harrison & Hargrove, 2006; Sujansky & Ferri-Reed, 2009; Poujuan, Conley, & Trower, 2011; Rosser, 2004).

University administrators continue to be bombarded by warnings that if they do not key into generation gap issues, they cannot effectively modify institutional policies to best support their faculty (e.g., Dorfman, 2009; Durkin, 2004; Gappa et al., 2007; Hannay & Fretwell, 2011; Harward, 2008; Kelly, 2007; Lovely, 2010; Masterson, 2011) while simultaneously receiving inconsistent and conflicting reports from systematic research. It becomes obvious that more research is essential if we are to identify, describe, and interpret generational differences in universities. This study seeks to provide insight into how faculty satisfaction perceptions vary by generation to address the apparent gap in the literature, and seeks to expand generational research and the understanding of faculty satisfaction relationships. It provides a much-needed description of current faculty generational demographics and describes the rate at which younger faculty members are entering tenure-track faculty positions. Additionally, it seeks to provide valuable information useful in future empirical studies designed to measure generational differences in job satisfaction for higher education.

Review of the Literature

Job satisfaction remains one of the most researched fields in organizational psychology (Dawis, 2004; Harrison, Newman, & Roth, 2006; Judge et al., 2012). Numerous definitions are available within the literature, but the often-favored definition is Locke's (1976) seminal one of "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experience" (p. 1304). Measuring people's *perception* of how much they like their jobs is especially complex (Storbeck & Clore, 2007). A unique combination of many complex cognitive and attitudinal variables are responsible for producing feelings of satisfaction (Aamodt, 2013; Hagedorn, 2000; Judge et al., 2012; Spector, 1997; Storbeck & Clore, 2007) as well as by lifestyle, demographics, and environmental circumstances (Hagedorn, 2000; Judge et al., 2008; Rhodes, 1983; Spector, 1997; Xu, 2008). Multidimensional job satisfaction methods evaluate the extent that different attitudes and perceptions of satisfaction independently contribute to emotions felt about one's job (Aamodt, 2013; Harrison et al., 2006; Judge, 2009; Judge et al., 2012; Spector, 1997; Storbeck & Clore, 2007). It is also possible to measure the overall satisfaction a person feels about their occupation by combining all the perceptions and attitudes into one global variable (Aamodt, 2013; Judge et al., 2012; Spector, 1997).

Most commonly, researchers prefer to measure job satisfaction quantitatively using multidimensional questionnaires designed to elucidate information on a variety of satisfaction variables (Spector, 1997). Several highly-regarded job satisfaction scales measure common universal characteristics across an array of occupations, and other well-trusted multidimensional scales measure satisfaction specifically for employees in particular occupations (e.g., accountants: *Job Descriptive Index 2*, administrators:

Employee Satisfaction Inventory, dentists: *Dentist Satisfaction Survey*, faculty: *Faculty Job Satisfaction Survey*, nursing: *McCloskey/Mueller Satisfaction Scale*, social service sector: *Job Satisfaction Survey*, and teachers: *Quality of Teacher Work Life*). Tailored satisfaction scales for different kinds of jobs are important because many satisfaction constructs are occupationally exclusive (Hagedorn, 2000; van Saane, Sluiter, Verbeek, & Frigs-Dresen, 2003). The *National Study of Postsecondary Faculty*'s (NSPOF) *faculty questionnaire*, administered four times between 1988 and 2004, captures information specific to faculty members including their satisfaction, attitudes, field of instruction, current rank, career and retirement plans (NCES, n.d.). The Collaborative on Academic Careers in Higher Education (COACHE) has collected faculty satisfaction information from its affiliated institutions annually since 2003 (COACHE, 2011b).

Age, more than any other demographic variable, continues to be accepted as the strongest and most consistent predictor of attitudes and behaviors since Rhodes' (1983) seminal conceptual analysis and review of age-related differences in work attitudes and behaviors, and other strong, positive associations for age and job satisfaction have been well-documented (Dencker, Joshi, & Martocchio, 2008; Frank, et al., 2004; Harrison & Hargrove, 2006; Janson & Martin, 1982; Parry & Urwin, 2011; Roberts, Caspi, & Moffitt, 2003). In 2009, as Millennials began entering faculty positions in larger numbers, two research groups reported generational differences in satisfaction for Boomer and GenX tenure-track faculty members (i.e., Quinn & Antony 2009; Quinn & Trower, 2009). Both studies aimed to determine if differences in faculty job satisfaction existed by generation and, if so, could cohort membership be a predictor of satisfaction. They analyzed preexisting data from the COACHE *Tenure-Track Faculty Job*

Satisfaction Survey. In 2004, Millennial faculty members accounted for less than 0.1% of the NSOPF:04 sample, and did not meet the minimum sample size quota. Both studies yielded the same results: generational differences in satisfaction existed for Boomer and GenX tenure-track faculty members. Quinn and Antony (2009) suggested that the correlations were strong enough to support the likelihood that generation can be an effective predictor of faculty satisfaction.

In 2011, Carver, Candela, and Gutierrez explored whether nursing faculty commitment differed across generational lines and if differences could predict global job satisfaction. They sampled more than 5,000 faculty members from four generations (Silent, Boomer, GenX, and Millennial) and placed them into stratified groups according to region of the country. Results suggested significant differences in organizational commitment between Silent, Boomer, and GenX faculty members. Millennial faculty member survey responses did not meet a sufficient number for inclusion in the data analysis. Eight of their outcome measures (affective commitment, normative commitment, continuous commitment, work values, perceived organizational support, perceived person-organization fit, developmental experiences, global job satisfaction) adequately predicted commitment (Carver et al., 2011). Their results add to the body of evidence from earlier studies that suggest faculty satisfaction differs by generation.

For the Millennial group, however, it remains unknown if differences in faculty job satisfaction exist. Will they report different levels of job satisfaction than Silent, Boomer, and GenX faculty members? Can generational cohort membership predict satisfaction? The popular literature strongly argues that the answers to these questions are all “yes”. Many systematic and empirical research studies on Silent, Boomer, GenX and

Millennial non-academic employees have reported mixed evidence of generational influences on work-related attitudes and job satisfaction. Silent, Boomer, GenX and, to some extent, Millennial employees differ regarding

- conflicts between work and home (Beutell & Wittig-Berman, 2008; Busch et al., 2008; Dilworth & Kingsbury, 2005; Smith, 2010; Twenge et al., 2010),
- motivation (Wong, Gardiner, Lang, & Coulon, 2008),
- leadership styles (Collins et al., 2009; Eisner, 2005; Moody, 2008; Morgan & Ribbens, 2006; Quinn & Antony, 2009; Sessa et al., 2007),
- organizational commitment (Cennamo, & Gardner, 2008; D'Amato & Herzfeldt, 2008), and
- financial compensation and benefits (Wieck et al., 2009; Wilson, Squires, Widger, Cranley, & Tourangeau, 2008).

Even though satisfaction constructs vary by profession, some factors related to job satisfaction are universal across occupations (Zemke, Raines, & Filipczak, 2000). Consequently, the evidence of generational trends in attitudes across a variety of professions from outside the academy shows the possibility that these relationships also exist in faculty members and supports the untested hypothesis that Millennial tenure-track faculty members may report satisfaction differently from Boomers and GenXers. The possibility also exists, however, that differences between tenure-track faculty members and non-faculty employees limit the transferability this hypothesis.

Tenure-track faculty members "have been embedded within long-standing understandings of what it means to be part of the academic profession" (Austin, 2011, p. 145). Organizational rules and routines surrounding the tenure process strongly

contribute to faculty identity and behavior (O'Meara & Bloomgarden, 2011; Youn & Price, 2009). Doctoral students are socialized to exhibit specific attitudes and professional habits that help them assimilate into the highly-competitive tenure-track culture (Austin, 2011; Hudd, Apgar, Bronson, & Lee, 2009). Therefore, when a faculty member is rewarded with tenure, it signifies that their characteristics align with the characteristics of the institutional culture (Youn & Price, 2009).

Furthermore, it is important to note that in spite of the fact that a large body of evidence supports the existence of the relationship across numerous fields, a number of research studies provided mixed or contradictory evidence and cite the methodological challenges associated with generational research. Yes, there are unanswered questions and methodological concerns in generational research, but these limitations should not hinder future research. The field is too important to ignore.

Theoretical Framework and Rationale

The theoretical underpinnings of this investigation are rooted in cognitive job satisfaction and generational cohort theory. At this time, there is not one mainstream job satisfaction theory; models evolve or new ones surface to explain unresolved conflicts (Dalal, 2013; Dawis, 2004; Judge et al., 2012). Satisfaction theories tend to group into three categories: content theories, process and cognitive theories, and dispositional theories (Aamodt, 2013; Jex, 2002; Judge et al., 2012). Regardless of model used, researchers generally agree environmental circumstances (e.g., relationships with supervisors, position requirements, and salary and benefits) and personal characteristics (e.g., individual cognitive and attitudinal characteristics) are important satisfaction influencers (Aamodt, 2013; Hackman & Oldham, 1976; Highhouse & Becker 1993;

Judge et al., 2012; Locke, 1969; Spector, 1997). Further complicating matters, there are two types of job satisfaction: global and multidimensional (Jex, 2002; Judge et al., 2012; Kristensen & Westergaard-Nielson, 2007; Rafferty & Griffen, 2009; Spector, 1997). For this investigation, the cognitive job satisfaction construct best explained specific components of how tenure-track faculty produce attitudes about their work.

The theoretical framework for the other side of this research, the generational side, is equally complicated. While it is widely accepted that generational cohorts of individuals have unique characteristics distinct from other generations (e.g., Kupperschmidt, 2000; Lancaster & Stillman, 2003; Manneheim, 1952; Ryder, 1965; Strauss & Howe, 1991; Smola & Sutton, 2002; Zemke et al., 2000), generational researchers disagree on the conceptualizations, degree of differences, and how those differences arise (e.g., Giancola, 2008; Macky et al, 2008b, Parry & Urwin, 2011; Smola & Sutton, 2002). Most cohort theories assume members of the same generation have the same group personality coming from shared biographical, social, and historical time experiences (Alwin & McCammon, 2007; Costanza et al., 2012). Because members of the same generation experience the same cultural and historical events around the same age, they tend to construct the same perceptions and exhibit a "unique type of peer personality" (Alwin & McCammon, 2007; Rhodes, 1983; Strauss & Howe, 1991, p. 73). Even though members of different cohorts experience the same socialization events, generations interpret them differently because they events occur at different biological and psychological developmental stages between groups (Baltes, Reese, & Lipsitt, 1980; Noble & Schewe, 2003; Ryder, 1965).

A major critique against the use of generational cohort theories is that generational differences exist because of intertwined variables coming from three areas: age effects, period effects, and cohort effects to fully explain why generational differences exist (Costanza et al., 2012; Pew Research Center, 2010; Yang & Land, 2008). Under ideal circumstances, an age, period, cohort (APC) model could give more information, but the quantity of information that would be required for an APC framework does not exist for tenure-track faculty members.

Selecting a generational cohort framework for this investigation, however, does not automatically limit the findings. Generational cohort theory continues to be the standard choice in generational research studies and nonpartisan fact tanks (e.g., Beutell & Wittig-Berman, 2008; Busch et al., 2008; Cennamo & Gardner, 2008; Collins et al., 2009; D'Amato & Hertzfeldt, 2008; Dilworth & Kingsbury, 2005; Hansen & Leuty, 2012; Moody, 2008; Noble & Schewe, 2003; Pew Research Center, 2012; Sessa et al, 2007; Smith, 2010; Twenge et al., 2010; Wieck et al., 2009; Wilson et al., 2008; Wong et al., 2008). Additionally, other social theories, not directly related to generational cohort theory, theoretically support the main assumptions of cohort theories (Costanza et al., 2012). Life course theory (Elder, 1998) describes how significant social-historical events and lifetime experiences shape behaviors of groups of people over their lifetimes as well as across generations (e.g., Elder, 1998; Gade, 2009). For these reasons, generational cohort theory remains the ideal theoretical framework for investigations seeking to measure and compare the cognitive and attitudinal characteristics of job satisfaction between cohorts.

Purpose of the Study

The purpose of this study is to examine tenure-track faculty job satisfaction relationships and trends over time. It seeks to extend generational research in academe and explore the effects of demographic variables, namely generation, on tenure-track faculty job satisfaction. By doing so, it uses preexisting aggregated data collected between 2005 and 2010 by the *Tenure-Track Faculty Job Satisfaction Survey* to

- provide a current description and describe changes in the tenure-track faculty members who participated in the survey,
- explore job satisfaction relationships across generational cohorts, and
- compare current job satisfaction trends with what has been offered in the literature

Research Questions

This study examines the relationship between generation and tenure-track faculty job satisfaction and seeks to answer the following research questions:

1. How do tenure-track faculty members categorize into generation, gender, and race groups from 2005-2010?
2. How predictive is generational membership from faculty demographic variables?
3. How predictive are faculty demographic variables of tenure-track faculty job satisfaction?
4. How predictive is generation of tenure-track faculty job satisfaction, controlling for faculty demographic variables?

Appendix A provides a list of all statistical hypotheses related to possible correlations between variables for research questions two, three, and four.

Research Design

Design. It is difficult to measure people's perception of how satisfied they are in their jobs (Aamodt, 2013; Harrison et al., 2006; Spector, 1997; Storbeck & Clore, 2007), but most researchers favor quantitative methods using well-designed, trusted, multi-dimensional questionnaires (Spector, 1997; van Saane et al., 2003). Systematic cross-sectional instruments collect the same information from all participants; survey developers often formulate questions with great consideration for validity so the questions accurately capture the information they are supposed to measure (Creswell, 2008; Sapsford, 2007, T. Smith, 2008). Survey methods are especially useful in identifying and measuring people's current attitudes, such as those about their job, and making comparisons and testing relationships among variables or groups (Creswell, 2008; Sapsford, 2007; T. Smith, 2008). Repeated cross-sectional instruments can capture information on data trends and subgroup changes (Creswell, 2008; Frees, 2004; T. Smith, 2008). Large-scale surveys generate ample amounts of high-quality data, which can often be used by others in future research studies (Bryman, 2012; T. Smith, 2008).

Secondary data analysis, that is analyzing pre-existing datasets from other sources such as organizations or researchers generally not directly involved in the new research project, has many advantages (Bryman, 2012; E. Smith, 2008). If the secondary data come from a trusted primary source, they can be of extremely high quality (Bryman, 2012). For example, many high-quality datasets are available from large social research organizations that use well-established sampling procedures and rigorous instruments on national samples (Bryman, 2012). Another quality of secondary data analysis is that it offers an alternative to developing a new survey instrument, which can be very time-

consuming and costly (Bryman, 2012; Sapsford, 2007; E. Smith, 2008). This form of analysis, however, does have disadvantages: the researcher lacks familiarity with the data, which may be missing key variables of interest, and has no control over the quality of the data (Bryman, 2012; E. Smith, 2008). The researcher selected a dataset with responses to the *COACHE Tenure-Track Faculty Job Satisfaction Survey* for this study because its themes are relevant to tenure-track faculty, and it delivers the most comprehensive tenure-track faculty job satisfaction information available from established multidimensional job satisfaction scales.

Sample. As described previously, this study uses a pre-existing aggregated dataset containing responses to the *COACHE Tenure-Track Faculty Job Satisfaction Survey* collected during 2005- 2010. Therefore, the accessible population for this study is tenure-track faculty members at COACHE-member institutions during 2005, 2006, 2007, 2008, 2009, and 2010. Faculty from a variety of public and private institutions located in all NCES regions (New England, Mideast, Southeast, Great Lakes, Plains, Rocky Mountains, Southwest, and Far West) and from an array of NCES urbanicity codes (rural district, rural fringe, town remote, town distant, small suburb, midsize suburb, large suburb, small city, midsize city, and large city) participated in the *Survey*. The sample contained data from a range of Carnegie classification institutions (arts and sciences baccalaureate colleges, baccalaureate/associate's colleges, diverse baccalaureate colleges, small master's colleges and universities, medium master's colleges and universities, large master's colleges and universities, doctoral research universities, high research activity doctoral research universities, and very high research activity doctoral institutions). All full-time, tenure-track faculty who carried an expectation of teaching and research for at

least one year at their COACHE-member institution had the opportunity to complete the *Tenure-Track Faculty Job Satisfaction Survey* (COACHE, 2010b).

Data collection procedures.

Variables. The researcher created the generation variable from responses to question 14 ("In what year were you born?") into age-range generation groups (Table 1).

Table 1

Age-Range Generation Groups

	Age-Range[a]			
Survey Year	Silent (1925-1945)	Boomers (1946-1964)	GenX (1965-1979)	Millennial (1980-2000)
2005	60-80	41-59	29-40	10-28
2006	61-81	42-60	30-41	11-29
2007	62-82	43-61	31-42	12-30
2008	63-83	44-62	32-43	13-31
2009	64-84	45-63	33-44	14-32
2010	65-85	46-64	34-45	15-33

[a]Age in years

Other independent variables used in this study were gender (Male and Female), race (American Indian or Native Alaskan, Asian, Asian-American, or Pacific Islander, White [non-Hispanic], Black or African-American, Hispanic or Latino, Other, Multiracial, and Visible minority), salary (Under $30,000, $30,000 < $44,999, $45,000 < $59,999, $60,000 < $74,999, $75,000 < $89,999, and $90,000 and above), and prior tenure-track appointments (first tenure-track appointment, not first tenure-track

appointment). Table 2 lists all independent variables and describes how they were calculated. Since the independent variables were all nominal, the researcher converted them to individual, dichotomous dummy variables prior to multiple regression calculations.

Table 2

Independent Variables and the COACHE Survey Item Used in Their Population

Independent Variable	Survey Item
Gender	Q13
Generation	Q14
Race	Q11
Prior Tenure-Track Appointments	Q6a
Salary	Q15

Table 3 lists the nine job satisfaction contributor variables deemed most important to tenure-track faculty success with their corresponding *COACHE Survey* question number. The researcher standardized dependent variable subscales by averaging the scores for their respective survey question.

Table 3

Dependent Variable Subscales and Corresponding COACHE Tenure-Track Faculty Job Satisfaction Survey Item Numbers

Dependent Variable	Survey Items
Tenure practices	Q19, Q20, Q21, Q22
Clarity of institutional expectations for tenure	Q24a, Q24b, Q24c, Q24d, Q24e, Q24f
Reasonableness of institutional expectations for tenure	Q25a, Q25b, Q25c, Q25d, Q25e, Q25f
Nature of the work (overall)	Q28, Q28b
Nature of the work (teaching)	Q29a, Q29b, Q29c, Q29d, Q29e, Q29f, Q29g
Nature of the work (research)	Q30b, Q30c, Q30d
Work and home	Q34a, Q34b, Q35a, Q35b, Q35c, Q35d, Q35e
Climate, culture, and collegiality	Q38a, Q38b, Q38c, Q38d, Q39a, Q39b, Q39c, Q39d, Q40, Q41a, Q41b, Q41c, Q42
Compensation and benefits	Q36

Instrument. Between 2005 and 2010, COACHE administered the *Tenure-Track Faculty Job Satisfaction Survey* annually to all tenure-track faculty at member institutions. A COACHE research team generated the multidimensional questionnaire from rigorous focus group interviews, pilot survey studies, and policy analyses; it is systematically validated in stages over several years and has good interrater reliability, content validity, homogeneity, and test-retest reliability (COACHE, 2010b; Helms, 2010; Trower, 2012; Trower & Bleak, 2004). Test-retest correlations (including correlation,

time, and number of participants) are high, indicating instrument stability of participant scores, and congruencies of focus group and pilot responses suggest good convergent validity (Trower & Bleak, 2004; Creswell, 2008). The high correlation of responses between the two indicates that scores appropriately reflect the job satisfaction construct (Trower & Bleak, 2004).

Data analysis. The first research question seeks to describe the breakdown of tenure-track faculty members into generation, gender, and race groups from 2005-2010. The researcher generated and described measures of central tendency (mean, median, and mode) and variability (range and standard deviation) results for each independent dummy variable: generation (Silent, Boomer, GenX, and Millennial), gender (Male and Female), race (American Indian or Native Alaskan, Asian, Asian-American, or Pacific Islander, White [non-Hispanic], Black or African-American, Hispanic or Latino, Other, Multiracial, and Visible minority), salary (Under $30,000, $30,000 < $44,999, $45,000 < $59,999, $60,000 < $74,999, $75,000 < $89,999, and $90,000 and above), family (no children and children), and prior tenure-track appointments (first tenure-track appointment, not first tenure-track appointment). Frequencies and percentage frequencies for each subgroup described the categorization of tenure-track faculty and made it possible to compare groups of differing sizes (Thorne & Giesen, 2003). Relative frequency tables and pie charts reported group sizes and trends over time.

The second research question explores how predictive generation is from the other faculty demographic variables (i.e., gender, race, salary, and prior tenure-track experience). Again, the researcher calculated and described central tendency and variability results for each variable and generated and reported distribution (skewness and

kurtosis) information for dependent variables before carrying out standard multiple linear regressions. Standard multiple regressions for the generation dummy dependent variable against gender, race, salary, and prior tenure-track demographic dummy variables determined the extent to which generation was predictive from demographic data. Multiple regression tables, scatterplots, and narratives described the findings from the statistical tests.

Research question three considers how predictive faculty demographic variables (i.e., gender, generation, race, prior tenure-track appointments, and salary) are of tenure-track faculty job satisfaction. Narratives and tables explained the central tendency, variability, and distribution statistics. The researcher conducted standard multiple linear regressions on each job satisfaction variable by entering the gender, generation, race, salary, and prior tenure-track experience dummy variables simultaneously and described the findings in narratives, multiple regression tables, and scatterplots.

Finally, research question four extends generational research in academe and seeks to describe whether generation can be used to predict tenure-track faculty job satisfaction controlling for the other faculty demographic variables (i.e., gender, race, salary, and prior tenure-track experience). After the researcher generated central tendency, variability, and distribution statistics for the dependent variables, she conducted stepwise multiple linear regressions on each job satisfaction outcome variable against the generation dummy predictor variable controlling for the gender, race, salary, and prior tenure-track experience dummy variables. Stepwise multiple regressions are useful in obtaining information about a relationship by considering variables one step at a time by successively controlling for variables based on level of variance (Sapsford,

2007). For each of the satisfaction models, the regression entered the dummy covariates in the following order: gender, race, salary, and prior tenure-track experience in step one and the generation dummy variable as the predictor variable in step two. Narratives, multiple regression tables, error box plots, and regression scatterplots all described the regression results.

Operational Definitions

Table 4 defines the most common terms used in this study.

Table 4

Operational Definitions for Current Study

Term	Definition
Adjunct Faculty	A faculty member in a part-time or temporary teaching position usually with a load below that which is required to earn benefits (AAUP, 2010a; IPEDS, n.d.).
Assistant professor	A faculty member employed in a probationary period who is guaranteed, at some point in his career, a consideration for tenure (AAUP, 2010b; IPEDS, n.d.).
Associate professor	A faculty member who has successfully received tenure who has demonstrated a record of scholarly accomplishment (AAUP, 2010b; IPEDS, n.d.).
Attitude	A psychological tendency that can be expressed cognitively, affectively, or behaviorally (Judge et al., 2012).
Boomer	A member of the Baby Boom generation, 1946-1964.
Degree-granting institution	A higher education institution that grants associate's degrees or higher and participates in Title IV federal financial aid programs (NCES, 2012).
Full-time faculty	A faculty member classified by his institution as "full-time" where he teaches at least one-for credit course (COACHE, 2010b).

Term	Definition
Generational cohort	A cultural group of individuals who were born during a specific date range and have experienced the same significant biographical and historical events during key developmental periods in their lives contemporaneously (Kupperschmidt, 2000; Mannheim, 1952; Rhodes, 1983; Strauss & Howe, 1991).
Generational trait	The general similarities between members of the same generation and differences between members of differing generations.
GenXer	A member of Generation X marked by the dates 1965-1979.
Job satisfaction	The multidimensional psychological responses to one's job. These responses have cognitive (evaluative) and affective (emotional) components" (Judge et al., 2012, p. 5).
Millennial	Millennial generation marked by the dates 1980-2000.
Point of Divergence	Differences in generational attitudes and values that cause "tension...as the different generational perspectives result in misinterpretation and misunderstanding" (Weston, 2006, p.1).
Professor	A faculty member who has a distinguished track record of scholarly achievement within his university and discipline (AAUP, 2010b; IPEDS, n.d.).
Secondary data	Information that has been collected from other sources or researchers (Bryman, 2012).
Silent	A member of the Silent generation, 1925-1945.
Tenure	A contractual status earned after the successful completion of a probationary period guaranteeing procedural due process (AAUP, 2010b; IPEDS, n.d.).
Tenure-Track Faculty	See "assistant professor."
Tenured faculty	A faculty member who has selectively received tenure at his institution (AAUP, 2010b; IPEDS, n.d.).

CHAPTER TWO: REVIEW OF THE LITERATURE

This review of literature will illuminate information on how age and generation affect the values, beliefs, and actions of groups of people. Job satisfaction, one of the most researched fields in organizational psychology, will be defined and discussed from the higher education perspective and its relationship to age and other demographic variables will be addressed. Generational theories, models, and conceptualizations will be explained and compared, differences in generational taxonomies will be addressed, theoretical underpinnings of generational points of divergence will be discussed, and the role of intergenerational conflict on job satisfaction will be explored. Predominant generational research on work attitudes and job satisfaction relationship will be summarized and emerging generation-job satisfaction studies will be discussed in detail.

Job Satisfaction

Job satisfaction, or the extent to which people are happy with their jobs, remains one of the most important and heavily researched fields in organizational psychology (Aamodt, 2013; Dawis, 2004; Judge, Hulin, & Dalal, 2012; Locke, 1973; Rafferty & Griffin, 2009). An attitude is a psychological tendency that can be expressed cognitively, affectively, or behaviorally (Judge et al., 2012). Most conceptualizations of job satisfaction are built on foundations established by early industrial-organizational psychologists and theorists (e.g., Campbell, 1963, Eagley & Chaiken, 1993; Fishbein, 1980, Fishbein & Ajzen, 1972, 1975; Locke, 1969, 1976; Mannheim, 1952; Thurstone, 1928, Triandis, 1980) and include three components: (1) cognitive aspects, (2) emotional responses, and (3) individual behaviors (Berstein & Nash, 2008; Judge et al., 2012; Rafferty & Griffin, 2009; Storbeck & Clore, 2007). The most common definition of job

satisfaction is Locke's (1976) seminal definition: "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experience" (p. 1304; Dalal, 2013). For this investigation, job satisfaction will be defined as "multidimensional psychological responses to one's job. These responses have cognitive (evaluative) and affective (emotional) components" (Judge et al., 2012, p. 5).

Employee well-being reportedly impacts multiple institutional outcomes such as productivity and motivation (Frank et al., 2004; Harrison et al., 2006; Harrison & Hargrove, 2006; Judge et al., 2012; Schaufeli & Bekker, 2004; Sujansky & Ferri-Reed, 2009). From the utilitarian perspective, positive institutional outcomes are an indication that employees are generally happy in their positions (Spector, 1997). In academe, high levels of satisfaction have been shown to increase quality of instruction, boost morale, enrich student experiences, and decrease financial costs (Frank et al., 2004; Gappa et al., 2007; Harrison & Hargrove, 2006). Conversely, dissatisfaction and employee conflict have been related to decreased instructional quality, organizational ineffectiveness, and reduced student success (Harrison & Hargrove, 2006; Schaufeli & Bekker, 2004; Sujansky & Ferri-Reed, 2009).

Employee well-being is subjective, and some people identify themselves by what they do (e.g., professor, nurse, postal clerk; Judge & Klinger, 2007). From a humanitarian perspective, high satisfaction indicates that employees who feel respected, motivated, and treated fairly have higher satisfaction (Spector, 1997). The job demands-resources model, developed by Demerouti, Bakker, Nachreiner, and Schaufeli (2001), is a business model that describes the link between psychosocial work characteristics (job demands and job resources) and employee emotional well-being. Demands are aspects of the work that

require sustained physical or psychological efforts, and job resources are aspects that help the employee reach work-related goals, lower job demands, and encourage personal growth (Demerouti et al., 2001). According to this model, job demands directly relate to emotional exhaustion and inversely to job satisfaction. As demands increase, the employee becomes emotionally exhausted and less satisfied with the job (Demerouti et al., 2001). Resources, on the other hand, cause the opposite to occur: as resource availability increases, emotional exhaustion decreases and job satisfaction increases (Demerouti et al., 2001).

Job satisfaction models. There are a large number of theories that conceptualize the organizational and psychological aspects of job satisfaction (Aamodt, 2013; Dalal, 2013; Dawis, 2004; Judge et al., 2012). Conceptualizations for employee satisfaction vary widely, but most of them fit into one of three models: content theories, process and cognitive theories, and dispositional theories (Dawis, 2004; Judge et al., 2012; Rafferty & Griffin, 2009).

Content theories. Content theories emphasize how specific needs, values, or motivations must be met for a person to be satisfied at work. One of the most well-known job satisfaction theories is Herzberg's (1964) seminal dual-factor motivation theory — also known as motivation-hygiene theory and two-factor theory (Dalal, 2013; Smerek & Peterson, 2007). This motivation theory describes how motivators and hygiene factors, which increase and decrease levels of job satisfaction respectively, control job perception. Dual-factor motivation theory was the first to explain that fundamental differences in satisfaction and dissatisfaction made simultaneous measurement of the two impossible (Dalal, 2013; Herzberg, 1964; Smerek & Peterson, 2007). Motivators are

intrinsic factors that manifest as a need for enjoyment, and they strongly contribute to improved performance, achievement, promotion, and job satisfaction (Demerouti, 2006; Hagedorn, 2000; Herzberg, 1964; Locke, 1969). Hygiene factors are not as easily identifiable; they are external, environmental influences beyond an individual's control that demotivate when absent or unmet (Hagedorn, 2000; Herzberg, 1964; Smerek, & Peterson, 2007). For example, employees can become frustrated with unclear or unnecessary institutional policies, but when employees perceive the policies as equitable, the absence of frustration allows them to concentrate on work and professional growth (Demerouti, 2006). Reiss (2000) used Herzberg's dual-part theory to categorize the needs most responsible for guiding attitudes, behavior, and satisfaction (Table 5).

Table 5

Desires that Guide Behavior (Reiss, 2000)

Need	Description
Acceptance	the need for approval
Curiosity	the need to learn
Eating	the need for food
Family	the need to raise children
Honor	the need to be loyal to the traditional values of one's group
Idealism	the need for social justice
Independence	the need for individuality
Order	the need for organized, stable, predictable environments
Physical Activity	the need for exercise
Power	the need for influence of will
Romance	the need for sex
Saving	the need to collect
Social Contact	the need for friends (peer relationships)
Status	the need for social standing/importance
Tranquility	the need to be safe
Vengeance	the need to strike back/to win

Faculty members need acceptance, social contact, and loyalty to their colleagues in order to feel like a member of the campus community (Hall & Wagner, 2005). Faculty need to feel physically safe, be in a stable and predictable environment, and have a sense

that there is social justice on campus grounds (Hall & Wagner, 2005). Academic freedom manifests itself in curiosity and independence, which are motivators that help faculty thrive in the research, scholarship, and service areas (Austin, 2011; Kristensen & Westergaard-Nielson, 2007). Faculty members must have a nonthreatening platform to communicate with administrators and know that their opinions and suggestions are respected and valued by their organization, and administrators are listening to their thoughts, in order to feel they have power and status in the institution (Harrington & Hunt, 2007; Hudd et al., 2009; O'Meara & Bloomgarden, 2011).

Another well-known content theory is Maslow's (1943) seminal hierarchy of needs theory (Figure 1), which posits that people have an inherent systematic pattern of needs: (1) physiological (e.g., food, water, sleep, health), (2) safety (e.g., security, shelter), (3) social (e.g., belongingness, love, affection), (4) esteem (e.g., self-esteem, esteem from others), and (5) self-actualization (e.g., creativity-fulfillment, inner talent).

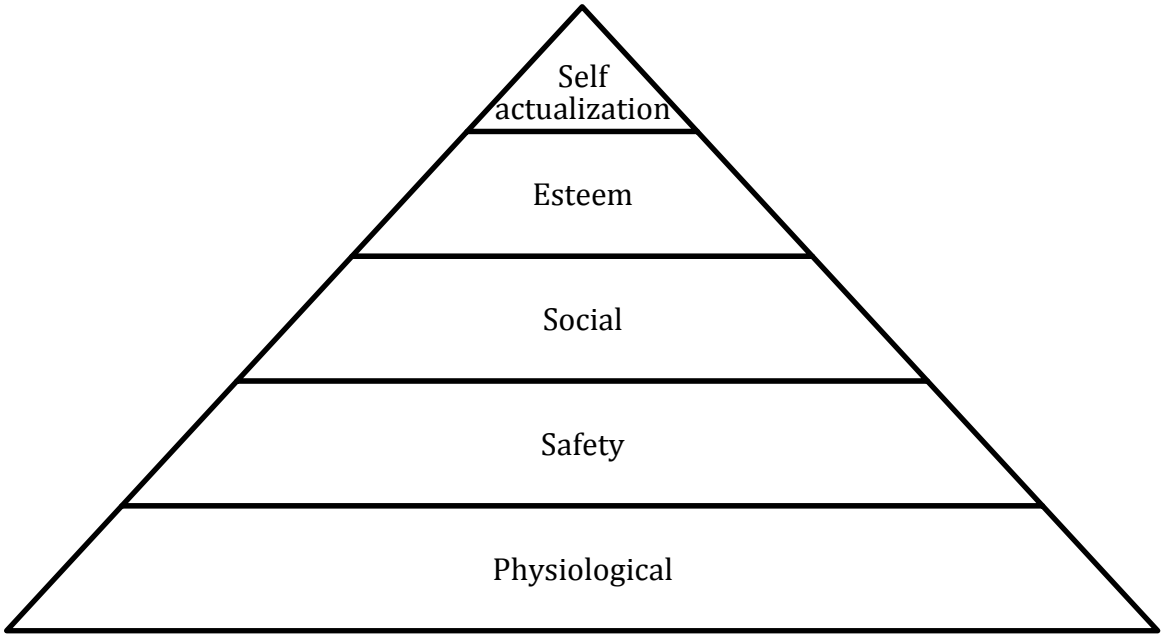

Figure 1. Needs pattern of Maslow's hierarchy of needs theory. The lower needs must be met before being able to meet the needs of the top categories. Adapted from "A Theory Of Human Motivation" by A. H. Maslow, 1943.

With lower-order deficit needs fulfilled, people freely move up the hierarchy, ultimately ending in their quest for self-actualization (Maslow, 1943; Aamodt, 2013). Maslow proposed that once people achieve self-actualization, they work to maintain or increase the frequency they experience it. From this perspective, employees have higher levels of satisfaction when they feel that their work surroundings help them identify and meet lower-level needs (Maslow, 1970).

Alderfer (1969) developed the alternative needs theory by condensing Maslow's (1943) five needs to three: existence (E), relatedness (R), and growth (G). ERG theory incorporates aspects of the Amsel and Roussel (1952) simple frustration hypothesis and the motivational effects of Amsel's (1958) nonreward model in explaining the relationship between employee needs and their desire to have them met (Alderfer, 1969; Dawis, 2004). *Existence* needs, basic materials needed for survival, combine Maslow's

(1943) physiological and safety needs categories. Interpersonal relationships and status needs make up the *relatedness* category, which incorporates aspects of Maslow's social and external esteem needs. Finally, the *growth* category of ERG combines Maslow's internal esteem and the self-actualization needs together to describe an individual's need for personal growth. One major difference between Maslow's hierarchy of needs theory and ERG theory is how the needs align. ERG proposes that the needs align across a continuum and theorizes movement between categories using regression theory (Alderfer, 1969). If higher category needs are unmet, individuals will intensify their efforts to achieve more in the lower categories in hopes of advancing to the higher order ones (Alderfer, 1969).

Motivational needs theory (also known as three needs theory, acquired needs theory, learned needs theory, achievement motivation needs theory, and need fulfillment theory) first appeared in McClellend's (1961) groundbreaking publication, *The Achieving Society.* Motivational needs theory posits that three kinds of motivation influence people's actions: achievement motivation (n-ach), authority/power motivation (n-pow), and affiliation motivation (n-affil; McClellend, 1961). Those who feel motivated by a need for a sense of accomplishment (n-ach) participate in challenging work activities that allow them to meet realistic goals and advance in their job (McClellend, 1961). People who are motivated by prestige and power (n-pow) feel they need to lead and make meaningful contributions to their organization (McClellend, 1961). Still others are motivated by the need for meaningful social interactions with others (n-affil). Team players, such as these, are motivated to attain and preserve a popular status. Most motivations come from a unique combination of the three needs (McClellend, 1961).

From this perspective, satisfied employees feel fulfilled in terms of their combined achievement, power, and affiliation needs (Aamodt, 2013).

However, it soon became evident to organizational psychologists that content theories alone did not fully explain employee behaviors and, for that reason, content theories are not universally accepted as appropriate models for job satisfaction today (Aamodt, 2013; Barsade, Brief, & Spataro, 2003; Dalal, 2013; Dalal et al., 2009; Dawis, 2004; Judge et al., 2012;). During the second half of the twentieth century, industrial-organizational psychology underwent a "cognitive revolution" (Judge et al., 2012, p. 512) when researchers began accepting the notion that job satisfaction was most closely related to cognitive processes and affective dispositions, not just needs (Dalal, 2013; Dawis, 2004).

Process and cognitive theories. Process theories place emphasis on the cognitive process that causes feelings of motivation and satisfaction (Dalal, 2013; Harrison et al., 2006; Judge et al., 2012; Locke, 1976). Vroom's (1954) VIE (valence, instrumentality, expectancy) theory combines constructs of various motivation theories and Herzberg's (1964) dual-factor theory and repackages them into a motivation theory describing satisfaction from the employee's perspective (Aamodt, 2013; Smerek & Peterson, 2007). Employees are motivated to participate in work-related activities that maximize pleasure, minimize pain, and show the promise of attainable rewards (Vroom, 1964). Motivation can be calculated by the following equation:

Motivation = Valence x Expectancy x Instrumentality (Vroom, 1964) where:

- *Valence* = how much an employee wants to achieve a particular outcome;

- *Instrumentality* = the extent to which an employee believes he or she will be rewarded for achieving an outcome;
- *Expectancy* = the level of confidence the employee feels in his ability to be able to accomplish the outcome satisfactorily.

VIE theory posits that the content and context of an employee's role closely controls feelings of motivation, demotivation, job satisfaction, and dissatisfaction (Vroom, 1964). When valence, instrumentality, and expectancy are high, employees really want to achieve a goal, are motivated to participate in activities that help move them towards achieving a goal, believe their actions will result in attaining a reward, and regard themselves as competent enough to do the job (Aamodt, 2013; Vroom, 1964). From this perspective, satisfied employees feel they have the opportunity, ability, and reward for meeting attainable objectives they care about (Aamodt, 2013).

Equity Theory originated from behavioral psychologist Adams's seminal publication, *Toward An Understanding of Inequity* (1963). Adams used a socio-relational framework to explain the nature of employee satisfaction (Aamodt, 2013; Dalal, 2013). Part of a larger group of distributive justice organizational theories, equity theory is based on the hypothesis that employees value and are motivated by fair treatment across organizations and work to maintain a level of equity with their coworkers (Aamodt, 2013; Dalal, 2013). Employees weigh the ratio of their input (what they contribute to the organization) and outcomes to perceived input/output ratios of others and are only satisfied if they perceive the ratios to be equitable across employees (Perry, Mesch, & Paarlberg, 2006).

A popular explanation of the cognitive process of satisfaction is the Porter and Lawler (1968) expectancy model, which explains how several convergent cognitive factors control motivation (Dalal, 2013; Dawis, 2004). This model, developed from Vroom's (1954) VIE theory, incorporates rewards, ability, and perception aspects (Aamodt, 2013; Dawis, 2004). The motivation construct further developed to include what the employee

- perceives about how attractive the task is,
- perceives as to their ability to perform the task, and
- expects from intrinsic (e.g., positive feelings, sense of accomplishment, satisfaction) and extrinsic (e.g., pay raise, commission) rewards (Aamodt, 2013; Dalal, 2013; Demerouti, 2006; Porter & Lawler, 1968).

From this perspective, employee ability, role perceptions, reward attractiveness, reward equity perception, and the probability of receiving a reward mediate employee satisfaction (Dalal, 2013; Dawis, 2004; Porter & Lawler, 1968).

Locke's (1968) seminal work in task motivation introduced goal-setting theory, which explains how goals strongly influence employee motivation and satisfaction (Judge et al., 2012; Staw, 2004). When employees accept realistic and valued work-related goals, their productivity, motivation, and performance increases (Aamodt, 2013). Feedback from employers and coworkers gives employees an opportunity to identify any differences between what they are doing and what needs to be done (Dawis, 2004; Judge et al., 2012). In order to reach challenging goals, employees must have focus, a strong sense of goal importance, and persistence (Perry et al., 2006).

Job satisfaction theories up to this point focused exclusively on what employees thought about work, not on what they felt at work (Dalal, 2013; Judge & Larsen, 2001). "The 'cognitive revolution' served psychology well. The many contributions of this revolution – and there have been many – notwithstanding, we are in the midst of another revolution" (Judge et al., 2012, p. 512). Content and process theories, however, assume cognition and affect are independent, which is likely not the case (Leary, Twenge, & Wuinlivan, 2006; Storbeck & Clore, 2007).

Dispositional theories. Industrial-organizational psychology is undergoing an "affective revolution" (Barsade et al., 2003). Cognitive theories attempt to explain job satisfaction based on what employees think about their jobs, but ignore the importance of a mood, emotional disposition, and subjective well-being (Dalal, 2013; Storbeck & Clore, 2007). Early dispositional models (e.g., Fisher & Locke, 1992; George, 1992; Judge & Locke, 1992; Weiss & Cropanzano, 1996) are constructed on the hypothesis that an employee's emotional disposition, or internal mental state, is most likely the largest contributor to job attitudes, behaviors, and satisfaction (Dalal et al., 2009; Storbeck & Clore, 2007). Some people are genetically predisposed to be satisfied or dissatisfied with their work, regardless of the job they are in (Jex, 2002). Dispositional theories, supported by Beck's (1967) cognitive theory of depression, state that an individual's thought process and perceptions (e.g., irrational thinking) can cause unhappiness (Dalal et al., 2009). "There appears to be general agreement that job satisfaction is an *affective (that is emotional) reaction* to a job that results from the incumbent's comparison of actual outcomes with those that are desired (expected, deserved, and so on)" (Cranny, Smoti, and Stone, 1992, p. 1). Watson, Clark, and Tellegen, (1988) were the first to empirically

show that positive affective workers may be enthusiastic, optimistic, active, and attentive while negative affective employees can be nervous, fearful, disgusted, and angry.

Locke's (1976) range of affect theory introduced the foundations for today's dispositional theories (Aamodt, 2013; Dawis, 2004). While not a dispositional theory itself, it hypothesized that the discrepancy between what an employee wants from a job and the job he or she actually has is the controlling factor in behavior (Dalal, 2013; Judge et al., 2012). Weiss and Cropanzano (1996) sought to explain Locke's assertions and introduced the affective events theory (AET) in 1996 (Dawis, 2004). They describe job satisfaction as a combination of job affect and cognitive evaluation that takes place on parallel levels (Weiss & Cropanzano, 1996). *Between-person* level attributes are aspects related to the day-to-day work environment that influences the cognitive evaluation of job satisfaction. *Within-person attributes* are "discrete, temporally-bound events" (Weiss & Cropanzano, 1996) that have the ability to influence how the work environment is conceptualized (Dalal, Lam, Weiss, Welch, & Hulin, 2009; Weiss & Cropanzano, 1996). The within-person level has the ability to influence employee satisfaction because it accounts for roughly 60% of the employee's mood (Dalal et al., 2009). Motowidlo (1996) was the first to explain job satisfaction as a dispositional process model in which the employee moves through a series of information processing steps (Staw & Cohen-Bharash, 2005). Staw (2004) elaborated on these steps and described the process of job satisfaction:

1. The employee is in a specific job context and content;
2. The employee recognizes and evaluates the present situation;
3. The employee retrieves memories of similar situations;

4. The employee expresses some degree of job satisfaction.

Dispositional process models also include concepts of how personality moderates and mediates employee affective responses in particular work environments (Judge & Larsen, 2001), how organizational events are translated and organized into affect reactions (Weiss & Cropanzano, 1996), and how work personalities result from sequences of transactions between employees and their work environments (Caspi, Roberts, & Shiner 2005). "Researchers have done a fairly decent job in representing the cognitive content of job satisfaction, but they have rested on assumptions in their representation of the affective component of job satisfaction" (Dawis, 2004, p. 478).

Measurement and assessment. Before a discussion on the measurement of cognitive job satisfaction can take place, it must be noted that satisfaction is explained in two fundamentally different ways: globally and multidimensionally (Dalal, 2013; Dawis, 2004; Jex, 2002, Judge et al., 2012; Kristensen & Westergaard-Nielson, 2007; Locke, 1976; Spector, 1997). Global methods, first proposed by Hoppock (1935), treat satisfaction as an indivisible variable and measures how satisfied employees are with their jobs overall (Dalal, 2013). Multidimensional methods measure specific facets of the job that produce feelings of satisfaction (Dalal, 2013; Dawis, 2004; Spector, 1997). Highhouse and Becker (1993) ignored specific factors of job satisfaction and found that global satisfaction suitably measured and accurately described how happy employees were with their work. Kristensen and Westergaard-Nielson (2007) further supported these findings when they demonstrated that global job satisfaction methods offered good test-retest reliability.

At times, employees may be satisfied with some parts of their jobs but dissatisfied with others (Rafferty & Griffin, 2009). For this reason, many methods involve measuring satisfaction with specific facets of the job (Dalal, 2013; Kristensen & Westergaard-Nielsen, 2007; Rafferty & Griffin, 2009). The majority of job satisfaction researchers (e.g., Highhouse & Bekker, 1993; Smith, Kendall, & Hulin, 1969; Weiss, Dawis, England, & Lofquist, 1967) have elected to measure the specific facets of attitudes and perceptions that independently contribute to emotions about the job (Dawis, 2004; McKenna, 2000; Spector, 1997). For instance, McKenna (2000) reported the most common contributors to satisfaction are salary and benefits, opportunity for promotion, relationships with supervisors and colleagues, and requirements of the position. Job satisfaction measurement is complex because: (1) work attitudes are subjective, (2) affect is difficult to quantify, and (3) all the converging effects may be difficult to identify (Dalal, 2013; Dawis, 2004; Judge et al., 2012; Rafferty & Griffin, 2009; Storbeck & Clore, 2007). There are several trusted qualitative and quantitative methods commonly used for obtaining satisfaction measures and population norms have been established over time, allowing for more confident interpretation of the data (Dalal, 2013; Dawis, 2004; Judge et al., 2012; Rafferty & Griffin, 2009; Spector, 1997).

Qualitative interviews. The most common qualitative methods for measuring job satisfaction are open-ended interviews and workplace observations (Aamodt, 2013; Spector, 1997; Rafferty & Griffen, 2009). By choosing to collect data through interviewing carefully-selected participants, researchers can collect extensive information about this phenomenon (Creswell, 2008; Rafferty & Griffen, 2009). A major strength of this method is that participants have the chance to define individually-specific variables

that contribute to their satisfaction (Creswell, 2008; Spector, 1997). Although this form of assessment is costly and time consuming, the quality of information can be extremely valuable, especially when interviews form the groundwork for developing a qualitative instrument (Creswell, 2008; Rafferty & Griffin, 2009; Spector, 1997). However, because qualitative measures of satisfaction are very time consuming, many organizations favor quantitative approaches (Aamodt, 2013).

Quantitative questionnaires. Job satisfaction is more commonly measured quantitatively through statistical analysis of data obtained by questionnaires because survey methods are relatively cost efficient and allow the researcher to gather information from a large sample with little effort (Creswell, 2008; Kristensen & Westergaard-Nielsen, 2007; Rafferty & Griffin, 2009; Spector, 1997). Another benefit of large-scale surveys is that results collected on randomly sampled groups are generalizable to the target population (Creswell, 2008). Furthermore, questionnaires are frequently favored because major cognitive variables are easily quantifiable (Dalal, 2013; Dawis, 2004; Spector, 1997). Nonetheless, Dawis notes:

> The most difficult problem in the measurement of job satisfaction is quantifying the affect component of job satisfaction. The use of verbal anchors for the rating points on the rating scale (e.g., 'Neutral,' 'Satisfied,' 'Strongly Satisfied') is assumed to reflect the intensity of affect. But this *is* an assumption [that]…has never been tested empirically. (Dawis, 2004, p. 478)

Several well-regarded job satisfaction questionnaires have stood through the "theory wars" (Dawis, 2004, p. 478), are applicable across a diverse group of employees, and

continue to be favored in most job satisfaction research (Dawis, 2004; Dalal, 2013; Kristensen & Westergaard-Nielsen, 2007; Spector, 1997).

The Job in General Scale (JIG**),** developed by Ironson, Smith, Brannick, Gibson, & Paul (1989), measures overall satisfaction. The sum of survey items, each measured on three-item Likert-type scales, provides an overall measurement of global satisfaction. When the satisfaction bottom line is of interest, the JIG is a very useful scale (Kristensen & Westergaard-Nielsen, 2007). Spector (1997) reported the JIG was highly correlated well with other global measures (α = 0.91 - 0.95). When compared with the Brayfield–Roth Scale, the JIG has good internal consistency (α = 0.91) and convergent validities (*r* = 0.66 - 0.80; van Saane et al., 2003).

The Job Descriptive Index (JDI), created in 1969 by Smith, Kendall, and Hulin, is the most widely used, scientifically validated, multifaceted job satisfaction measure (Balzer et al., 1997; Dalal, 2013; Judge et al., 2012; Spector, 1997). Seventy-two Likert-type items assess five variables (work, pay, promotion, supervision, and coworkers) to calculate overall employee satisfaction (Balzer et al., 2000; Kristensen & Westergaard-Nielsen, 2007). While the creators suggest that the summation of the five scores provides a measure of overall job satisfaction, many satisfaction researchers prefer to measure overall satisfaction as a global variable (i.e., "how satisfied are you in your job") Dalal, 2013; Spector, 1997). Spector (1997) argued that important information about job satisfaction is lost when many facet satisfaction scores assess overall satisfaction. The construct validity of the multidimensional JDI was supported through meta-analysis (Kinicki, McKee-Ryan, Schriesheim, & Carson, 2002) and, when compared to the Minnesota Satisfaction Questionnaire (MSQ), had good internal consistency (α = 0.81 -

0.88), test-retest reliability (r = 0.62 - 0.79), and moderate convergent validity (r = 0.49 - 0.70; Van Saane et al., 2003).

The Job Satisfaction Survey (JSS) is an easily modifiable, multidimensional tool that measures nine constructs of satisfaction (pay, promotion, supervision, fringe benefits, contingent rewards, operating conditions, coworkers, nature of work, and communication; Spector, 1985, 1997). It uses a summated rating scale of combined responses for 36 variables to provide an overall description of an employee's global satisfaction. Individuals rate their satisfaction on six-point Likert-type scales ranging from 1 (*disagree very much*) to 6 (*agree very much*). Summated responses to the satisfaction subscales generate a global satisfaction scale with possible values ranging from 36 to 216, where higher numbers indicate greater satisfaction (Spector, 1997). Spector (1985) reported internal consistency as α = 0.60 - 0.91 and test-retest reliability at r = 0.37 - 0.74. When compared to the JDI, the JSS has an internal consistency of α = 0.91, test-retest reliability at r = 0.71, and convergent validity of r = 0.61 - 0.80 (van Saane et al., 2003).

The Minnesota Satisfaction Questionnaire (MSQ) (Weiss et al., 1967) is appropriate in a variety of work settings (Dawis, 2004). It is available in long (100-item) and short (20-item) questionnaires and measures satisfaction in more detail than the JDI or the JSS (Dalal, 2013; Spector, 1997). Both the long and short surveys measure satisfaction on five-point Likert-type scales ranging from 1 (*being very dissatisfied*) to 5 (*being very satisfied*) for the same 20 variables (ability utilization, achievement, activity, advancement, authority, company policies and practices, compensation, co-workers, creativity, independence, moral values, recognition, responsibility, security, social

service, social status, supervision-human relations, supervision-technical, variety, and working conditions; Weiss et al., 1967). There is some concern, however, that the scales are not discernable or highly correlated ($r = 0.83$ and $r = 0.63$; Spector, 1997), but the MSQ remains one of the preferred measures of job satisfaction (Dalal, 2013; Dawis, 2004).

The Job Diagnostic Survey (JDS), developed in 1975, remains one of the trusted multidimensional scales (Aamodt, 2013; Hackman & Oldham, 1976). The JDS measures how certain job characteristics (e.g., the nature of the job and job tasks, motivation, personality, psychological states, and reactions to the job) affect the employee (Aamodt, 2013; Hackman & Oldham, 1976). When compared to the Job Characteristics Inventory scale, internal consistencies of $\alpha = 0.56 - 0.88$, convergent validities of $r = 0.32 - 0.71$, and discriminant validities of $r = 0.12 - 0.28$ have been reported (van Saane et al., 2003). While the JIG, GWA, JDI, JSS, MSQ, and JDS are all highly regarded as valid measures of job satisfaction (Dalal, 2013; Dawis, 2004; Spector, 1997), they would be an inappropriate choice for this investigation. Large-scale, universal instruments measure satisfaction on pre-determined variables common to many occupations (Creswell, 2008; Rafferty & Griffin, 2009; Spector, 1997). Satisfaction varies by field, and selecting a trusted instrument—developed specifically for the population of interest—becomes extremely important (Ponjuan et al., 2012; Spector, 1997). Trusted, multi-dimensional satisfaction scales exist for use in higher education that would produce better data for the variables crucial to faculty satisfaction (Quinn & Antony, 2009; Quinn & Trower, 2009).

Multidimensional scales in higher education. Until 2004, The National Center for Education Statistics (NCES) offered the most comprehensive data related to

postsecondary faculty (NCES, n.d.). The 2004 *National Study of Postsecondary Faculty*'s instrument (NSOPF:04) collected comprehensive data (gender, race/ethnicity, tenure status, and income of all faculty and instructional staff, by employment status, institution type, and program area) for all faculty in the U.S. (Cataldi, Fahimi, & Bradburn, 2005; NCES, n.d.). Eighty-three items, organized in eight subsections, collect information on the nature of employment, academic and professional background, instructional responsibilities and workload, scholarly activities, job satisfaction, compensation, sociodemographic characteristics, and opinions (Cataldi et al., 2005). While this scale provides valuable information about postsecondary faculty members from 2004 and earlier, it was not selected because:

- It contains data on all faculty from a variety of public and private institutions, regardless of rank.
- Only one of the eight subsections collects job satisfaction information.
- The dataset would be out-of-date because its most current data is from 2004.

A better scale exists for measuring satisfaction of current tenure-track faculty members. The COACHE *Tenure-Track Faculty Job Satisfaction Survey* addresses the complexity of pre-tenure faculty job satisfaction, but also specifically measures the variables that most contribute to their satisfaction (COACHE, 2011b). This 51-item questionnaire describes nine satisfaction constructs in five subsections (tenure and promotion, the nature of work, policies and practices, ~~and~~ climate, culture, and collegiality). It has been administered annually at hundreds of universities and colleges since 2005, and has generated the largest, most nationally and geographically-dispersed dataset (Maahs-Fladung, 2009; Quinn & Trower, 2009). It has good interrater reliability,

content validity, convergent validity, homogeneity, and test-retest reliability (Creswell, 2008; Heppner & Heppner, 2004). Even though the COACHE administers the *Tenure-Track Faculty Job Satisfaction Survey* only to faculty members employed at COACHE-member institutions, this scale offers the most complete measure of multidimensional, tenure-track faculty job satisfaction from an extremely large sample, and is therefore the best choice for this study.

Variables related to job satisfaction. In the infancy of job satisfaction research, organizational psychologists thought demographic variables (e.g., time in position, gender, educational level, marital status) played a role in job satisfaction, but the connections were never clearly articulated (e.g., Herzberg, Mausner, Peterson, & Capwell, 1957). Over time, a large body of literature tested this hypothesis (Scott, Swortzel, & Taylor, 2005).

Gender. Studies on the effects of gender on job satisfaction have demonstrated that women are often treated and compensated differently in the workplace than their male counterparts (Bilimoria et al., 2006; COACHE, 2010b; Finkel & Olswang, 1996; Hagedorn & Sax, 2004; Jacobs & Winslow, 2004; Scott et al., 2005). Women have consistently reported different levels of satisfaction than men, even as the pay gap has narrowed over the past two decades (Hagedorn & Sax, 2004; Quinn & Trower, 2009; Tack & Patitu, 1992; Toutkoushian & Bellas, 2003). Some researchers attributed differences in satisfaction to fundamental differences in how men and women defined their satisfaction (e.g., Bilimoria et al., 2006). Others explained the difference by fundamental differences in how men and women are influenced: women's job satisfaction has been closely tied to their perceptions of responsibility to both work and

family (e.g., Bures, Henderson, Mayfield, Mayfield, Worley, 1996), whereas men tended to be most influenced by workplace competiveness (e.g., Kleinjas, 2009). Emerging research by Ponjuan, Conley, and Trower (2012) support that gender differences by discipline also exist.

Race. Job satisfaction also varies across racial groups (Rafferty & Griffin, 2009; Scott et al., 2005). In the late twentieth century, ethnic minority faculty members tended to have lower incomes and receive less administrative support from administrators compared to their white counterparts on average (e.g., Tack & Patitu, 1992). Early in the twenty-first century, researchers linked job satisfaction differences to the unequal treatment of teachers based on race. Caucasians reported slightly higher levels of satisfaction than other groups (e.g., Scott et al., 2005). Jayakumar, Howard, Allen, and Han (2009) reported that most minority faculty felt they worked in a negative (or even hostile) racial climate at their institution, and noted that "racial hierarchy and advantage [has likely been] perpetuated without malicious intent" (p. 555). Some researchers have indicated that the satisfaction gap by race is closing and, in some instances, increases satisfaction for minority race groups (e.g., Scott et al., 2005; Tucker, 2009).

Pay. There are conflicting reports on the relationship between pay and job satisfaction. Smith, Kendall, and Hulin's (1969) significant work on pay satisfaction (what one receives relative to what one feels he should receive) described it as a core contributor to job satisfaction (Wilson, 2009). Judge, Piccolo, Podsakoff, Shaw, and Rich (2010) reported a modest associations between pay and pay satisfaction, but marginal association between pay and job satisfaction. Yet, other studies showed that pay and external rewards were ineffective predictors of job satisfaction (e.g., Pfeffer, 1998).

Spector (1997) concluded that "pay itself is not a very strong factor in job satisfaction" (p. 42). However, some researchers have reported strong positive correlations between income and job satisfaction for people who were also highly motivated by extrinsic factors and pay (e.g., Malka & Chatman, 2003).

Employee engagement. Employee engagement happens when an employee chooses to actively participate in a work activity that attempts to create new knowledge, skills, and abilities (Bezuijen, van Dam, van den Berg, & Thierry, 2010; Gubman, 2004; Seigts & Crim, 2006). Engagement in work activities can increase self-fulfillment and job satisfaction (Harter, Schmidt, & Hayes, 2002; Schaufeli & Bakker, 2004). Researchers hypothesize that engaged employees are more easily motivated than other employees (Bezuijen et al., 2010; Demerouti, 2006; Gubman, 2004; Harrison, 2007).

States of mind. Perceptions of job satisfaction and the employee's psychological state of mind (e.g., feelings of meaningfulness, responsibility, and knowledge of work) are connected (Hackman & Oldham, 1976). Administrative feedback and support from colleagues contribute to employees' knowledge of work and performance (Hackman & Oldham, 1976). Employees who work to their ability, feel they make an impact, have engagement opportunities, and feel prepared, are more satisfied in their jobs (Gubman, 2004; Hackman & Oldham, 1976; Vroom, 1964). For example, faculty who feel a sense of personal responsibility and have a voice in their institution (e.g., autonomy in teaching and research, academic freedom) tend to consistently report higher levels of satisfaction (Hackman & Oldham, 1976).

Age. Over the past few decades, researchers have shown that age, more than any other demographic variable, is the strongest and most consistent predictor of faculty

attitudes and behaviors (e.g., Bland, Center, Finstad, Risbey, & Staples, 2006; Harrison & Hargrove, 2006; Janson & Martin, 1982; Rhodes, 1983). Bland, Center, Finstad, Risbey, and Staples (2006) proposed that age groups report satisfaction differently because each have values distinct from the other groups. Though the effects of age on job satisfaction have been well-researched, the link between unique generational personalities and job satisfaction is unclear (Busch et al., 2008; Carver et al., 2011; Gibson et al., 2011; Helms, 2010). Research has provided us with a relatively large body of literature supporting the link (e.g., Beutell & Wittig-Berman, 2008; Carver et al., 2011; Collins et al., 2009; Helms, 2010; Morgan & Ribbens, 2006; Quinn & Antony, 2009; Quinn & Trower, 2009; Sessa et al., 2007; Smith, 2010; Wieck et al., 2009). New studies continue to surface that report researchers were unable to substantiate the link between generation and job attitudes (e.g., d'Amato & Herzfeldt, 2008; Davis et al., 2006; Hansen & Leuty, 2012; Lamm & Meeks, 2009; Lyons, et al., 2007; Smola & Sutton, 2002), while others found no proof the relationship existed (e.g., Cennamo & Gardner, 2008; Kowske et al., 2010; Twenge & Campbell, 2008; Twenge et al., 2010; Westerman & Yamamura, 2007).

Generation

The aging process systematically relates to the amount of biographic time passed and is a progression of both biological life cycles (biological aging) and neurological processes (psychological aging) (Aldwin, 2009; Rhodes, 1983). Biological aging results in anatomical and psychological changes as time passes (Rhodes, 1983). "Changes in sensorimotor performance, muscle strength, brittleness of skeletal structure, visual acuity, reaction time, and balance are…examples of biological aging that may influence work attitudes and behavior" (Rhodes, 1983, p. 330). Psychological aging results from

systematic changes in neurological processes of maturation and development of personality, behavior, and needs (Aldwin, 2009; Rhodes, 1983). Maturation, also a systematic process, happens when a person learns and exhibits culturally acceptable behaviors by moving through a sequence of socially constructed, experiential phases (Aldwin, 2009; Rhodes, 1983; Super, 1980).

While assigning universal qualities across a broad array of people with complete certainty is impossible, it is widely accepted that generations have unique characteristics (Howe et al., 2008; Kupperschmidt, 2000; Lancaster & Stillman, 2003; Manneheim, 1952; Ryder, 1965; Smola & Sutton, 2002; Zemke et al., 2000). *Generation,* within the scope of this investigation, refers to a *social cohort* of people defined by age and historical events (Mannheim, 1952, Rosow, 1978; Ryder, 1965). A social cohort:

> (1) consists of people who share a given life experience; (2) this experience is socially or historically structured; (3) it occurs in a common generational framework; (4) its effects distinguish one generation from another, and (5) these effects are relatively stable over the life course. (Rosow, 1978, p. 67)

Generation theories. Mannheim's (1952) theory of generations (also known as sociology of generations) was the first to attempt to explain that members of the same generation share the same biographical and historical experiences (Costanza et al., 2012). Mannheim (1952) raised concerns about the *identification problem* of using a single variable (e.g., a generation cohort) to describe social changes (Kowske et al., 2010). Theory of generations explained that the converging effects of biological age, historical experiences, and social processes all play important roles in generational behaviors and trends (Mannheim, 1952). Age, period, and cohort effects are inherently intertwined, and

isolating a single variable (e.g., generation) is difficult (Yang & Land, 2006, 2008). The shared, socially constructed experiences of individuals within the same generation manifest as cohort effects that influence an individual's experiences and perceptions (Alwin & McCammon, 2007; Rhodes, 1983).

Ryder (1965), building upon this construct, described cultural generations as the *demographic metabolism* that drives social change. His generation theory defined *generation* as an "aggregate of individuals who experienced the same event within the same time interval" (p. 845). "Each birth cohort acquires coherence and continuity from the distinctive development of its constituents and from its own persistent macroanalytic features. Successive cohorts are differentiated by the changing content of formal education, by peer-group socialization, and by idiosyncratic historical experience" (Ryder, 1965, p. 843). Social changes are interpreted differently across generations most simply because they occur at different biological and psychological developmental stages of the cohort (Baltes et al. 1980; Noble & Schewe, 2003; Ryder, 1965). Continuing in this fashion, Kupperschmidt (2000) revised the concept of the generational cohort by adding a developmental component and defining it as "an identifiable group that shares birth years, age, location, and significant life events at critical developmental stages" (p. 66).

Strauss and Howe's (1991) seminal generation theory explains generations by a cyclical model of four repeating *constellational eras.* They grouped generations by life phase *turnings.* Members of each 22-year turning share the same *age location in history*, common beliefs and behaviors, and encounter the same social events at approximately the same life phase. Because members of the same generation experience the same

cultural and historical experiences, they tend to exhibit a "unique type of peer personality" (Strauss & Howe, 1991, p. 73).

Another theory of generation combines Mannheim's (1952) generation theory with concepts of theories of social remembering (e.g., Halbwach's theory of collective memory) and explains how social groups of people form the same collective memories (Dencker et al., 2008; Misztal, 2003). A generational memory forms from significant historical events and cultural phenomena that "change the fabric" (e.g., the values, attitudes, and personality characteristics) of the group (Caspi et al., 2005; Dencker et al., 2008; J. Dorsey, personal communication, January 8, 2013; Noble & Schewe, 2003; Schuman & Corning, 2012; Twenge & Campbell, 2010). By measuring generational memories against key developmental critical periods (late childhood, adolescence, early adulthood), generation groups can be empirically-determined by birth year ranges (Dencker et al., 2008; Schuman & Corning, 2012).

Generation taxonomy. Generational researchers generally agree on the nomenclature and concepts related to the common American generations (e.g., Silent, Baby Boomer, GenX, and Millennial), but the cohort boundaries are inconsistently reported in the literature (Costanza et al., 2012; Giancola, 2008; Macky et al., 2008, Parry & Urwin, 2011; Smola & Sutton, 2002; Twenge & Campbell, 2010). Defining the parameters of a generation is not "as black/white as a single birth year but it's more a transition when a 'new normal' sets in across a few years" (Dorsey, personal communication, January 8, 2013). Table 6 and Figure 2 show some of the nomenclature and birth year ranges for the four generations currently in the U.S. workforce.

Table 6

Variations in the Name and Range of Generational Parameters from Prominent Generational Researchers.

American Generation Number[a]	Year Range
15th	
Silents (Strauss & Howe, 1991)	1925-1942
Silents (Timmerman, 2007)	1932-1945
Veterans or Matures (Szamosi, 2006)	1925-1942
Veterans (Zemke et al., 2000)	1922-1943
Swing (Mitchell, 2008)	1933-1945
16th	
Boom (Strauss & Howe, 1991)	1943-1960
Baby Boomers (Timmerman, 2007)	1946-1964
Baby Boomers (Szamosi, 2006)	1942-1964
Baby Boomers (Zemke et al., 2000)	1943-1960
Baby Boomers (Mitchell, 2008)	1946-1964
17th	
Generation X (Strauss & Howe, 1991)	1965-1976
Generation X (Timmerman, 2007)	1965-1980
Gen Xers (Szamosi, 2006)	1960-1980
Generation Xers (Zemke et al., 2000)	1965-1977
Generation X (Mitchell, 2008)	1965-1976

American Generation Number[a]	Year Range
18th	
Millennial (Strauss & Howe, 1991)	1982-2002
Generation Y (Timmerman, 2007)	1977-1984
Generation Y (Szamosi, 2006)	1981-**
Nexters (Zemke et al., 2000)	1980-**
Millennial (Mitchell, 2008)	1977-1984

Note. Adapted from *Grown Up Digital: Gen-Y Implications for Organizations* by F. D. na'Desh, 2008.
**end date not given.
[a]American Generation Numbers as defined in *Generations: The History of America's Future, 1584 to 2069* by W. Strauss and N. Howe, 1991.
[b]Range only applicable to the four generations currently in the workforce.

Boundary inconsistencies arise when researchers use different theoretical frameworks in their investigations (Costanza et al., 2012). For example, some researchers classify the generations demographically (e.g., shared birth year) while others classified them sociologically (e.g., period and cohort effects taken into consideration; Costanza et al., 2012).

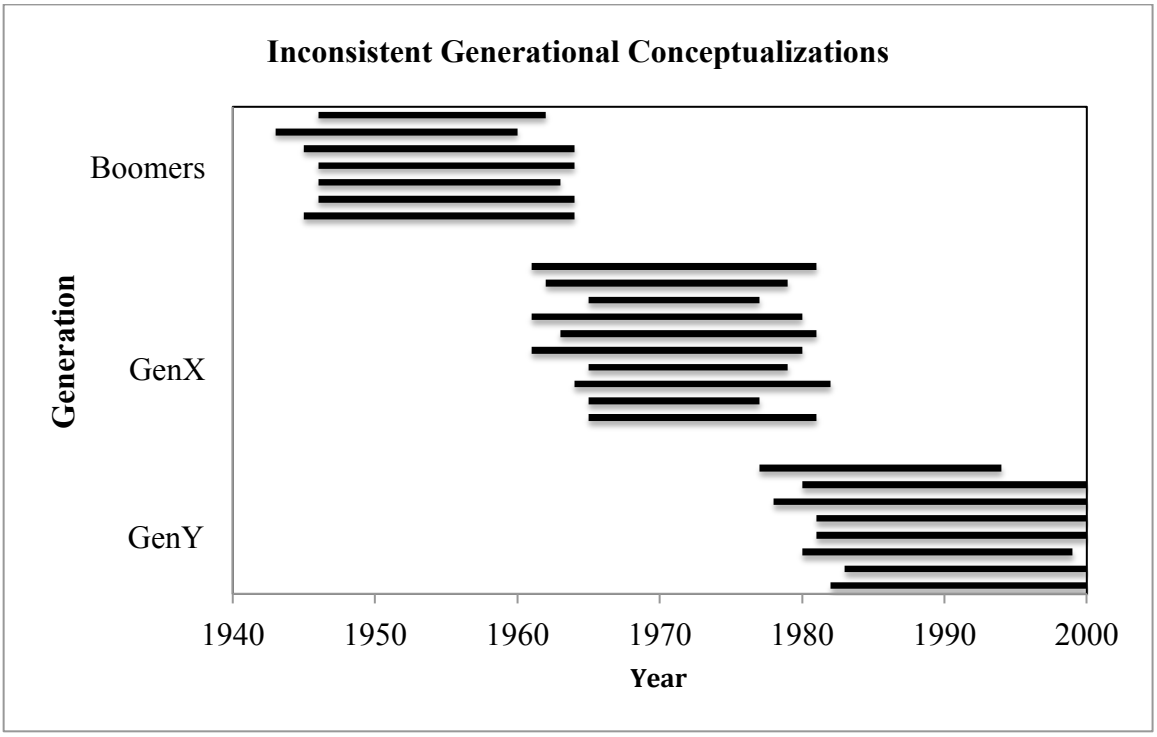

Figure 2. Variances in generational birth year boundaries defined by prominent generational researchers. Adapted from "Generational Differences in Work-Related Attitudes: A Meta-Analysis" by D. P. Costanza, J. M. Badger, R. L. Fraser, J. B. Severt, and P. A. Grade, 2012.

Silent Generation. Members of the Silent Generation (born between 1922-1933 and 1942-1945) came of age during the Great Depression and World War II and value hard work, sacrifice, loyalty, and commitment (Martin, 2004; Martin & Tulgan, 2006). More than 58 million Americans were born between 1925 and 1945, making it the smallest generation group of the twentieth century (Henger & Henger, 2012; Howe et al.,2008; Timmermann, 2007). *Time* magazine's November 5, 1951 cover story, "The Younger Generation" coined the name, "Silent Generation":

> Youth today is waiting for the hand of fate to fall on its shoulders, meanwhile working fairly hard and saying almost nothing. The most startling fact about the younger generation is its silence. With some rare exceptions, youth is nowhere near the rostrum. By comparison with the Flaming Youth of their fathers &

> mothers, today's younger generation is a still, small flame. It does not issue manifestos, make speeches or carry posters. It has been called the "Silent Generation" (p. 48).

The name began to stick after ~~the~~ historian William Manchester described the generation as “withdrawn, cautious, unimaginative, indifferent, unadventurous, and silent” (Henger & Henger, 2012, p. 1).

Timmermann (2007) suggests that the Silent Generation is sort of an in-between generation lacking in clear generation defining moments (GDM); they were too young to fight in World War II, but too old for the rebelling with the Baby Boomers (Strauss & Howe, 1991). For this reason, some generational experts (e.g., Zemke et al, 2000) consider “fighting in WWII” as the first GDM of the Silent Generation, rather than one of the generation-defining events (GDEs) of the Veteran generation. Members of the Silent generation grew up in some of the hardest times in 20th century with GDEs like the 1929 stock market crash, the Great Depression, and the Great War (Timmermann, 2007; Zemke et al., 2000). Since their parents were pained with rebuilding the nation, Silents lived in overprotective households and many developed into confirming adults unwilling to take risks (Timmermann, 2007).

Because Silent Generationers were raised in the aftermath of the Great Depression, many Silents became generally adaptive and artistic (Howe et al., 2008). They refined and humanized their world, and worked for simultaneous inclusion and fairness (Strauss & Howe, 1991). Their “vision and hard work created the United States as we know it today” (Zemke et al., 2000, p. 29). According to Henger and Henger

(2012), Fredrich Nietzche's quote, "that, which does not kill me, makes me stronger," effectively sums up the self-identity of the Silent Generation.

As workers, members of the Silent generation reportedly put in long and hard hours and accepted delayed gratification as they worked their way up the corporate ladder (Martin & Tulgan, 2006; Strauss & Howe, 1991; Zemke et al., 2000). Even though the employment was predominately male, Silent women maintained the same work ethic domestically (Timmermann, 2007). Workers often stayed with the same employer for their entire working career and chose to work past retirement age, likely driven by their learned habits of saving and sacrificing (Henger & Henger, 2012; Martin & Tulgan, 2006; Timmermann, 2007).

Baby Boomer Generation. Generally speaking, Boomers are known for rebellion and their rejection of their parents' values and practices; their motto "'you build it up, mother, we gonna tear it down' trigger[ed] America's most furious and violent youth upheaval of the twentieth century" (Cartwright, 2008; Strauss & Howe, 1991, p. 299). Many Boomers have had "a child-centered upbringing, a focus on individuality and youth, and a distrust for anyone in authority" (Martin & Tulgan, 2006, p. 21).

Boomers were born during a prosperous and booming economy, a stark contrast to the conditions of the GI and Silent generations (Howe et al., 2008; Martin & Tulgan, 2006; Timmermann, 2007; Zemke et al., 2000). It was an optimistic time: "salaries were up (increasing 20%), inflation was stable (1%-2%), and unemployment was low (5%-6%)" (Timmermann, 2007, p. 26).

Their GI and Silent parents took a child-focused approach, raising Boomers to express themselves, strive for independence, work for self-sufficiency, and telling them

that nothing was impossible with hard work (Cartwright, 2008; Timmermann, 2007). As they headed to college, these values instilled in them the confidence to act as trendsetters fighting for freedom, experimenting with drugs and sex, and practicing social activism (e.g., the Civil Rights movement and Women's movement; Gitlin, 2011; Howe et al., 2008; Strauss & Howe, 1991; Timmermann, 2007). "Boomers have always seen their mission not as constructing a society, but of justifying, purifying, even *sanctifying* it" (Howe & Strauss, 2000, p. 301) where "they have pursued their own personal gratification, uncompromisingly, and often at a high price to themselves and others" (Zemke et al., 2000, p. 67).

Boomers encountered sweeping GDEs such as: the assassinations of John F. Kennedy, Robert Kennedy, and Martin Luther King, the Vietnam War, the Kent State shooting, the Apollo moon landing, the sexual revolution, and Woodstock (Martin & Tulgan, 2006; Timmermann, 2007; Zemke et al., 2000). The widespread influence of these GDEs shifted intergenerational dynamics, leaving early and late Boomers with some notably different traits. As a group, though, Boomers developed into a generation of critical thinkers, skeptical of the world around them (Cartwright, 2008; Timmermann, 2007; Strauss & Howe, 1991).

Because so many Boomers were college educated, they entered the workforce with more promise and opportunity than previous generations (Gitlin, 2011; Smola & Sutton, 2002). Many chose service professions, were committed to producing new knowledge, and driven to make the world a better place (Martin, 2004). Their work became their identity (Zemke et al., 2000). With a strong work ethic instilled from the Silent Generation before them, they adopted similar workplace behaviors as Silents:

> They hitched their wagons to a start of an established organization and started paying their dues…The bosses…had a standard operating procedure for everything…, and while Boomers mistrusted anyone in authority, they kept their heads down and worked hard…They didn't make demands. They waited for their bosses to notice them. They believed in job security (Martin & Tulgan, 2006, pp. 24-25).

Unlike the generation before them, Boomers adopted the "worked like a dog" mentality for self-gratification and monetary reasons; they wanted the bigger house, the bigger car, and the bigger nest egg and were willing to put in long hours in order to obtain them (Cartwright, 2008; Gitlin, 2011; Timmermann, 2007).

Generation X. "Generation 'X' might well have been called Generation 'I' for 'invisible' or 'L' for 'lost.' It's a generation that no one ever really noticed, that didn't exactly register, until recently" (Zemke et al., 2000, p. 93). Generation X is a relatively small generation squeezed in between two larger groups (Boomer and Millennial; Timmermann, 2007). Theorists described their generational identity by what it lacks compared to Boomers and Millennials (Henseler, 2013; Howe et al., 2008; Smola & Sutton, 2002; Strauss & Howe, 1991; Zemke et al., 2000).

They are, in essence, an unsupervised generation (Martin & Tulgan, 2006). Many of them endured unique hardship in childhood, came from single parent homes, and were told they would not be as financially well off as their parents; it was a very anti-child time (Ehrenberg, 2008; Martin & Tulgan, 2006; Strauss & Howe, 1991). "They came of age in an era of fallen heroes, a struggling economy, soaring divorce rates, and the phenomenon of the latchkey child – the first generation of the living lifestyle accessories"

(Zemke et al., 2000, p. 98). Members of GenX are a more racially, socioeconomically, religiously, and ethnically heterogeneous group than previous generations (Henseler, 2013; Howe et al., 2008; Strauss & Howe, 2007; Tulgan, 2000). They are a pragmatic generation of multitaskers and survivors who learned self-reliance at a relatively young age (Dilworth & Kingsbury, 2005; Ehrenberg, 2008; Martin & Tulgan, 2006; Timmermann, 2007; Zemke et al., 2000). They resist labels and value diversity, balance, informality, and self-reliance (Kupperschmidt, 1998; Lancaster & Stillman, 2003; Zemke et al., 2000).

GDEs such as the fall of the Berlin Wall, the end of the Communist movement, globalization, the Roe versus Wade ruling, and the transition to more liberal economic policies left them adaptable of change (Henseler, 2013; Strauss & Howe, 1991; Timmermann, 2007; Zemke et al., 2000). They were the first generation to mature in the new Information Age, and they embraced its new technologies (Timmermann, 2007; Westerman & Yamamura, 2007). In early adulthood, they went global, and their world became "highly-connected, rapidly changing, fiercely competitive, [and] driven [by] global markets" (Henseler, 2013; Martin & Tulgan, 2006, p. 42).

Their "what's in it for me" workplace attitude and predisposition to favor self-taught skills over formal education separate them from Silent and Boomer workers (Ehrenberg, 2008; Howe et al., 2008; Martin & Tulgan, 2006; Parry & Urwin, 2011; Zemke et al., 2000). They are mild-mannered trailblazers that make decisions based on what the job can offer them (Timmermann, 2007). Because they value adaptability to change, they are less likely to conform to their job and are more comfortable moving into different positions or switching organizations if they think it will be a better environment

for self-improvement and new challenges rather than conforming to the job (Beutell & Wittig-Berman, 2008; Ehrenberg, 2008; Strauss & Howe, 1991; Zemke et al., 2000).

***Millennial Generation*.** Members of Millennial generation, who make up the largest American generation from the Twentieth Century, grew up in a child-focused world and are somewhat narcissistic and need to feel accepted (Howe et al., 2008; Robert, 2005; Sujansky & Ferri-Reed, 2009; Timmermann, 2007). They tend to exhibit a great deal of confidence and optimism because they are very close to their parents who strongly advocated for quality education, career, and overall happiness of their children (Harward, 2008; Robert, 2005). Even though Millennials share many values and traits with later GenXers, they live in different worlds. For example the 9/11 terrorist attack GDE fundamentally changed the way Millennials saw the world: they became acutely aware that the world is not as safe and secure as they once thought (Dorsey, personal communication, January 8, 2013; Timmermann, 2007).

This techno-savvy generation is accustomed to a functional technology infrastructure and embrace (and sometimes demand) technological resources in all areas of their lives (Harward, 2008; Helms, 2010; na'Desh, 2008; O'Brien, 2006; Sujansky & Ferri-Reed, 2009). "They are true techies, for whom high speed and instant response are the norm. It's no wonder that they look for constant feedback from friends, families and employers alike. They are redefining how we communicate and share information" (Timmermann, 2007, p. 27).

Generation gap. *Generation gap*, a concept popularized in the 1960s, refers to the differences across a group of people from different cohorts (Giancola, 2008). The academy is more generationally diverse than ever before with Silent, Boomer, GenX, and

Millennial faculty members working side by side (Hannay & Fretwell, 2011; Kelly, 2007; Lovely, 2010; Lancaster & Stillman, 2003; Strauss & Howe, 1991). Over the next decades, the generation gap for faculty is expected to widen as:

- More faculty members reach retirement age and leave the academy (BLS, 2013; Conley, 2007, 2008; Hannay & Fretwell, 2011; Harrison & Hargrove, 2006; Larson & Diaz, 2012; Morrison, 2003; Steinberg et al., 2008; USCB, 2011).
- Some mature faculty members choose to defer retirement and choose to stay active in their positions (Bensen & Trower, 2012; Conley, 2008; Dorfman, 2009; Larson & Diaz, 2012; Masterson, 2011; Trower, 2012).
- Younger faculty accept faculty positions in greater numbers (Finkelstein, 2008; Howe et al., 2008; Kelly, 2007; Trower, 2008).
- Ever-increasing student enrollment numbers continue to necessitate more teaching positions (BLS, 2013; Gappa et al., 2007; NCES, 2012).

As tenured faculty members retire, more universities are choosing to fill the vacancies with non-tenure or adjunct appointments (AAUP, 2010a; Austin, 2011; BLS, 2013; Finkelstein, 2008; Gappa & Austin, 2010; Gewin, 2012; Hudd et al., 2009; NCES, 2011). The number of full-time faculty positions grew from 524,426 positions in 1999 to 728,977 positions in 2009, a 23.4% increase (NCES, 2011). During the same time, part-time instructional staff grew 62.5%, from 299,794 to 710,167 positions (NCES, 2011). The change between 1975 and 2010 is even more staggering (Figure 3). In fact, institutions are becoming increasingly more dependent on part-time and non-tenure-track positions resulting in the majority of faculty members holding non-tenure-line appointments (Austin, 2011; Finkelstein, 2008; Gappa & Austin, 2010; NCES, 2011).

Part-time faculty members are considerably different from tenure-line faculty and are sometimes treated as second-rate citizens (Hudd et al., 2009). Adjuncts isolated from the campus community and less integrated within institutional culture, leaving some feeling unwelcomed (Hudd et al., 2009). As the generation gap continues to widen over the next decades, faculty members, regardless of their rank, will be working together, and the nature of their intergenerational relationships will likely influence institutional outcomes (BLS, 2013; Harrington & Hunt, 2007; Howe et al., 2008; Ponjuan et al., 2011; Schaufeli & Bekker, 2004).

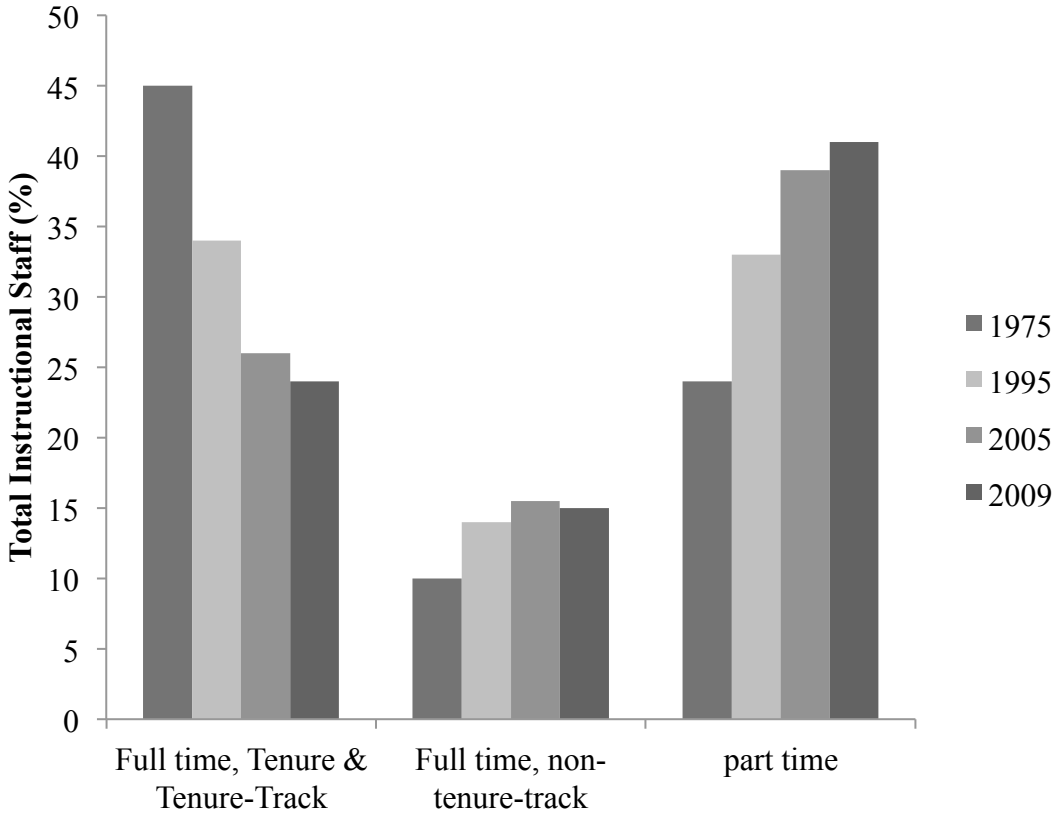

Figure 3. Employment status of U.S. university teaching staff: 1975-2009.
Note: Modified from *Retirement: Sticking around* by V. Gewin, 2012, p. 234.

Points of divergence. Generational differences (e.g., such as motivation, work ethic, respect, and interaction with others (see Table 7) are meaningful, substantive, and empirically linked to false perceptions, tensions, stereotyping, and misunderstandings across generations (Cennamo & Gardner, 2008; Collins et al., 2009; Costanza et al., 2012; Ehrenberg, 2008; Hochwarter et al., 2009; Howe et al., 2008; Kowske et al., 2010; Lester et al., 2012; Trzesniewski & Donnellan, 2010).

Table 7

Generational Conceptualizations, Nomenclature, and Influences

	American Generation Order			
	15th	16th	17th	18th
Boundary[a] Start	1922-1933	1943-1946	1960-1965	1977-1982
End	1942-1945	1960-1964	1976-1981	1982-2002
Common nomenclature	Matures Silents	Baby Boomers Boomers	Generation X GenX	Echo Boomers Generation Y Millennials, Nexters
Key descriptor	Loyal	Optimistic	Skeptical	Realistic
Cohort size	75 million	80 million	46 million	76 million
Generation Defining Events	The Great Depression (1930s), World War II (1941-1945), Korean War	The Vietnam War (1965-1973), Assassination of John F. Kennedy (1963)	Nixon resignation, end of Communism (1989-1991) Challenger disaster (1986)	Gulf War (1990-1991) 9/11 attack (2001)
Notion of command	Chain of command	Chain of command	Self-command	Don't command, collaborate

	15th	16th	17th	18th
Career goals	Legacy	Stellar career	Portable career	Parallel career
Motivation	A job well done	Money, status	Freedom	Make a difference
Job changing	Carries a stigma	Puts you behind	Is necessary	Part of the daily routine
Career paths	Slow and steady	Ladder	Lattice	Rubik's Cube
Training attitudes	I learned it the hard way, you can, too!	Train 'em too much and they'll leave.	The more they learn, the more they stay.	Continuous learning is a way of life.
Evaluations	No news is good news	Once a year, well-documented	Sorry to interrupt again, how am I doing?	Feedback whenever I want
Work-life balance	No balance, work 'till retirement	Want late-career balance	Want balance across career path	Want flexibility to balance all activities
Work & life priorities	Work comes first, wife at home	Work comes first, dual career or divorced	Work and personal life equal, dual career	Life and *meaningful* work equally important

Note. (Lancaster & Stillman, 2003; Rhodes, 1983; Strauss & Howe, 1991). Adapted from "Tips for Recruiting and Retaining Faculty: What Different Generations Want," by K. Quinn and C. Trower, 2009, Proceedings of the Twenty-Sixth Annual Academic Chairpersons Conference: *What is on the Horizon*, *59*, p. 3. Adapted from *Generations at Work. Managing the Clash of Veterans, Boomers, Xers, and Nexters in Your Workplace,* by R. Zemke, C. Raines, and B. Filipczak, 2000, New York: American Management Association, p. 24.
[a]Disputed birth year ranges explored further in Table 9.
[b]*age in years*

The link between generational differences and actual workplace attitudes, however, is not clear at this time (Busch et al., 2008; Carver et al., 2011; Gibson et al., 2011; Helms, 2010). The assumption of generational points of divergence is that "differences in values and views, and ways of working, talking, and thinking…set people

in opposition to one another and challenge organizational best interests" (Zemke et al., 2000, p. 11). Practitioners and consultants have assumed that generational differences definitively affect institutional outcomes (Costanza et al., 2012; Durkin, 2004; Parry & Urwin, 2011) and have extensively published their recommendations in the popular media (Behrens, 2009; Durkin, 2004; Ehrenberg, 2008; Eisner, 2005; Harward, 2008). The consensus in that institutions need to be generationally-mindful when making policy and practice decisions (e.g., Behrens, 2009; Berl, 2006; Hannay & Fretwell, 2011; Kelly, 2007; Masterson, 2011; O'Brien, 2006; Parry & Urwin, 2011; Sujansky & Ferri-Reed, 2009; Trower, 2012). Generational differences in attitudes and values have been linked to

- forming stereotypes (Busch et al., 2008; Gibson et al., 2011; Helms, 2010; Kowske et al., 2010; Lester et al., 2012; Trzesniewski & Donnellan, 2010);
- tension and clashes between employees (Cennamo & Gardner, 2008; Collins et al., 2009; Durkin, 2004; Heckler et al., 2008; Hochwarter et al., 2009; Lovely, 2010; Rhodes, 1983; Weston, 2006);
- employee dissatisfaction (Durkin, 2004; Hannay & Fretwell, 2011; Harrington & Hunt, 2007; Lancaster & Stillman, 2003; Martin & Tulgan, 2006; Weston, 2006; Zemke et al. 2000);
- recruitment and retention (Behrens, 2009; Bousquest, 2009; Finkelstein, 2008; Lovely, 2010; Hannay& Fretwell, 2011; Kelly, 2007; Ponjuan et al., 2011; Quinn & Trower, 2009; Xu, 2008) and;
- how incoming faculty view their colleagues (Kowske et al., 2010).

Contrary to the Boomers' respect for the chain of command, Millennials, and to some degree GenX, reject bureaucratic structure because their feelings of entitlement

leave them with an expectation for equality and the opportunity to openly discuss ideas without criticism (Leary et al., 2006; Morgan & Ribbens, 2006; Robert, 2005; Sujansky & Ferri-Reed, 2009; Tulgan, 2000; Zemke et al., 2000). They prosper in collaborative environments when given the opportunity for shared leadership opportunities and the chance to participate in service learning and learning communities (Eisner, 2005; Helms, 2010; Howe & Strauss, 2007; Kelly, 2007; Lancaster & Stillman, 2003; Leary et al., 2006; Tulgan, 2000; Zemke et al., 2000). Millennials have always lived in an instant-access world with information constantly at their fingertips; they are accustomed to a functional technology infrastructure and demand sophisticated portals and platforms (COACHE, 2010; Helms, 2010; Kelly, 2007; Morgan & Ribbens, 2006; Sujansky & Ferri-Reed, 2009). Further, the exposure to instant technology and social networking sites has caused them to seek out opportunities for collaboration (Howe & Strauss, 2007; Kelly, 2007; Sujansky & Ferri-Reed, 2009).

There are generational differences in motivation and work ethic reported in the literature. Boomers, motivated by the prospect of flashy recognition, tend to sacrifice personal commitments for their job (Gibson et al., 2011; Gitlin, 2011; Lancaster & Stillman, 2003). GenX members are motivated by an expectation for career advancement, the chance to use creative career development opportunities, and the opportunity to achieve increased authority, prestige, status, and rewards when working towards their goals (Martin & Tulgan, 2006; Morgan & Ribbens, 2006; Zemke et al., 2000). Millennials want equality (Howe et al., 2008). They need supervisory recognition, aspire to be invited into the decision-making inner circle, and value perks and employee benefits over high-paying salaries (Morgan & Ribbens, 2006; Wieck et al., 2010).

Generational Effects on Job Satisfaction Revisited

Emerging generation-work perceptions research. Generational researchers have systematically explored relationships between job satisfaction and generation groups through ANOVA and MR analysis methods using cross-sectional survey data (Lester, et al., 2012). A smaller number of empirical studies have attempted to disentangle age, period, and cohort effects by analyzing decades of repeated cross-sectional survey data by HLM and meta-analysis methods (e.g., Kowske et al., 2010). At this time, however, no consistent patterns of generational effects on work attitudes and job satisfaction have emerged.

Strongly supports the relationship. A 2008 study by D'Amato and Herzfeldt explored job satisfaction differences between the unique generation subcategories "older employees" (i.e., Late Boomers) and "younger employees" (i.e., Early GenXers and Late GenXers). They tested five hypotheses: (1) the older generation would show higher intent to stay with their organization compared to the younger employee group; (2) younger employees would demonstrate higher overall learning orientation than the older employees; (3) older employees would exhibit higher organizational commitment and talent retention; (4) regardless of generation, employees with higher levels of intent to stay would also exhibit higher learning orientation, leadership development intentions, and organization commitment; and (5) organizational commitment will mediate the learning goal orientation-intent to stay and leadership development intentions-intent to stay relationships. The sample consisted of 1,666 European employees associated with the Emerging Leaders Research Project, and analyzed each hypothesis by ANOVA. "Many generational differences" (p. 945) emerged, such as: older employees had higher

organizational commitment and intent to stay than younger employees, while the younger workers exhibited higher learning orientation. The question of generalizability of their findings comes into question because of the combined generation subgroup taxonomies they created, which are not mainstream in generational research.

Hu, Herrick, and Hodgin (2004) investigated whether two paired groups of nurses (Silents and Boomers and GenXers and Millennials) differed in communication styles and significance of task. The purpose of their study was to use in-depth information obtained on the generations, preferred communication styles to propose ways for maximizing employee effectiveness. Using generational theory as the theoretical framework, they convenience sampled 62 registered nurses from four hospitals within a large healthcare system in a non-disclosed Southeastern city. The results collected by the 22-question survey showed measurable differences in technology skills, views of authority, types and timing of feedback, job commitment, and leadership trait by generation.

In 2008, Wilson, Squires, Widger, Cranley, and Tourangeau surveyed more than 6,500 Canadian nurses and measured job satisfaction using the McCloskey Mueller Satisfaction Scale (MMSS). The MMSS is a multidimensional scale that measures eight indices of satisfaction which, when summed, produces one global job satisfaction variable. They categorized nurses by birth year into generation groups prior to MANOVA and post-hoc Tukey tests. Statistically significant differences in job satisfaction overall and in five of the eight satisfaction indices by generation emerged.

Wieck, Dols, and Landrum's 2009 study, "Retention priorities for the intergenerational nurse workforce," explored nurse satisfaction, work environment, and

management priorities by generation. The purpose of the study was informative, and sought to provide valuable information about the nature of the relationship between generation and nursing staff retention. Their quantitative dataset contained measures of job satisfaction and perceptions of safety, components of the *Nurse Manager Desired Traits Survey*, and the *Nursing Work Index-Revised* from nurses across 22 southern hospitals. Results from their analysis showed that, overall, all generations of nurses were relatively satisfied in their positions. When the data was analyzed and compared by generation, researchers found that nurses under the age of 40 were less satisfied than those over 40. Furthermore, high turnover intentions emerged, with one-third of Millennials reporting plans to leave their position within five years and 61% within 10 years.

Minimally supports the relationship. Cennamo and Gardner (2008) explored whether work values, job satisfaction, and affective organizational commitment differed for Boomer, GenX, and Millennial employees across a variety of industries (e.g., law firms, construction, corporations, information technology, pharmaceutical). They hypothesized that:

- Differences in values and satisfaction would emerge across generation groups.
- Boomers would have higher extrinsic, altruistic, and social values than GenXers and Millennials
- GenX and Millennial groups would report higher levels of intrinsic and freedom values over Boomers.
- Millennials would specifically have higher levels of intrinsic and freedom values over GenXers.

They administered surveys to 1,422 New Zealand employees. Participants returned 504 usable surveys, yielding a 35% response rate. Using ANOVA and MANOVA analyses, they found statistically significant differences in individual work values (status and freedom) across the generations, but no generational differences in extrinsic, intrinsic, social and altruism-related values by generation trends emerged. The results that showed statistically-significant differences in individual work values aligned with the generational cohort descriptions in the literature.

Smola and Sutton (2002) explored generational differences by comparing cross-sectional survey results from the years 1974 and 1999. They found that Boomers and GenXers showed both similarities and differences with respect to their work values. Their results supported the hypothesis that GenX values of early advancement opportunities, more autonomy, and less institutional loyalty were consistent with information contained in generational literature. However, when compared to Boomers, GenXers showed stronger desires for promotion, valued hard work, and associated it with increased institutional worth, which all contradict common generational stereotypes.

Davis, Pawlowski, and Houston (2006) grounded their research in generational theory and explored differences in work commitments (i.e., work involvement, job involvement, work group attachment, organizational commitment, and professional commitment). These researchers collected surveys from 414 information technology professionals (out of a potential pool of 835, a 49.5% response rate). Pooled variances two-tailed *t*-tests ($p < 0.05$) tested the data for generational differences in nine factors of work commitments. They failed to reject four of their five null hypotheses, but found Boomers had statistically-significant higher commitment to the profession when

compared to GenXers. GenXers displayed higher levels of job involvement and organizational commitment, which contradicts accepted generational characteristics from the literature.

Kowske, Rasch, and Wiley (2010) used a hierarchical APC regression model on repeated cross-sectional data to exploring generational effects on work attitudes, controlling for age and period effects. They used HLM methods on 18 years of data from approximately 115,000 U.S. employees across a variety of occupations. Results showed smaller than expected generational differences in work attitudes across five generations (GI, Silent, Boomer, GenX, and Millennial).

Disputes the relationship. In 2007, Westerman and Yamamura examined the relationship between an employee's work-environment fit (goal orientation, relationship orientation, and system maintenance) and work-related outcomes (intent to remain with the organization and job satisfaction) across Boomers and Generation XY (a GenX/GenY hybrid). They also hypothesized that if statistically significantly differences in intent to stay and job satisfaction existed, Boomers would report lower levels of satisfaction and feelings of work-environment fit. They invited 1222 certified public accounts (CPA) of the same CPA membership society to participate in the investigation. Of those sampled, 234 returned usable responses (19.1% response rate). Using multivariate regression analysis, they found no significant differences in satisfaction between the two groups.

Emerging generation-faculty satisfaction research. In 2009, Quinn and Antony investigated faculty satisfaction by discipline in order to see if satisfaction differed across generational lines, and if generation predicted faculty satisfaction. They used preexisting data from the *National Survey of Postsecondary Faculty Instrument* (NSOPF:04) to

sample Veteran, Boomer, Xer, and Millennial junior faculty members who met the following criteria: (a) full-time, instructional teaching appointment, (b) have assistant, associate, or full professor positions, (c) at public doctoral institutions with tenure systems. Their dataset contained information on more than one million faculty members from 3,380 institutions. From this, the team generated a nationally-representative sample of full-time faculty members in assistant professor, associate professor, and professor ranks (weighted N = 88,904) by removing non-teaching and non-full-time faculty responses and excluding cases of missing data. Boomers made up the majority of the sample (60%); the remaining faculty members were from the Silent generation (25%) and GenX (16%). Participants had, on average, worked in faculty positions for 18 years. Millennials accounted for less than 0.1% of the NSOPF:04 data and were excluded from the data analysis. Using HLM, they found that generational differences in satisfaction of workload and salary existed for Veterans, Boomers, and Xers. Workload satisfaction directly correlated to pay: employees who made more money reported higher levels of overall satisfaction with their position. Boomers, who accounted for 57% of the sample, were less satisfied overall than Xers and Veterans; Xers (21% of the sample) were least satisfied with their pay. Results also showed that those who spent more time teaching experienced higher levels of job satisfaction across all generations, but especially ~~for~~ Xers. Even though causality was not determined, they concluded that generation was likely an effective predictor of faculty satisfaction with workload and pay.

Within the same year, Quinn and Trower (2009) conducted secondary analysis on preexisting COACHE *Tenure-Track Faculty Job Satisfaction Survey* data. Their purpose was: (a) to determine if tenure-track faculty members reported different satisfaction

generation, (b) to inform university administrators of generationally-specific policies and best practices, and (c) to suggest techniques for maximizing satisfaction for all faculty. The dataset originated from 8,513 full-time, tenure-track faculty; their sample (N = 5,173) contained only assistant professors with doctoral degrees that worked at a 'university' (Carnegie Classification: DU/VH, RU/H, RU, MU/M, MU/S) and began their appointment between 2001 and 2006. They used independent t-tests ($\alpha < 0.5$) to test if Boomer (26% of sample) and GenX (74% of sample) tenure-track faculty members from 80 universities answered items on the COACHE instrument differently. The t-tests also revealed any differences in satisfaction by gender within generation, by generation within gender, and in overall satisfaction by generation. Results showed that:

- Boomers were more satisfied with overall institutional policies and practices than Silents and GenXers;
- Xers were more satisfied than Boomers with tenure clarity, the nature of their research, work-life policies, and climate, culture, and collegiality.

No statistically significant generational differences in satisfaction with teaching workload emerged. Their results were clearly presented as binary groupings tables displaying mean satisfaction values for Boomer and GenX faculty members. The majority of the results, described as long narratives, included specific suggestions for department chairs to try as they work to increase satisfaction within their intergenerational departments.

Carver, Candela, and Gutierrez (2011) explored the relationship between generation and organizational commitment, job satisfaction, perceived employee-organization fit, developmental experiences, and perceived organizational support. Their sample (N = 1,030), which was overwhelmingly female (95%), contained information on

nursing faculty of all ranks (i.e., lecturer [11%], instructor [2%], assistant professor [26%], associate professor [34%], and professor [22%]) from all types of programs (i.e., associate [29%], Bachelor's [32%], Master's [20%], Doctoral [14%]). The participants held their faculty positions for a wide range of years: 0-10 years (38%), 11-20 years (28%), 21-30 years (21%), >30 years (13%). They used a customized 75-item questionnaire that contained items from six scientific instruments. Using a three-stage process, they explored the relationship between generation and nurse educator satisfaction. First, a stepwise multiple regression determined which variables significantly predicted the outcomes. Then discriminant function analysis (DFA) verified if outcome measures were significant discriminators of generational membership. Finally, a MANOVA clarified if generation had a significant influence on outcomes. Statistical analysis results showed that practical, significant differences in organizational commitment existed across Silent, Boomer, and GenX nurses. As with the Quinn and Antony's (2009) and Quinn and Trower's (2009) research, Carver's team excluded responses from Millennial faculty because of their low subgroup size. They also concluded that generation might be a good predictor of organizational commitment, since each group had its own unique profile for the variable.

Critique of emerging generation–faculty satisfaction research. The Quinn and Antony (2009), Quinn and Trower (2009), and Carver et al. (2011) studies used robust, scientifically-valid, multidimensional job satisfaction scales on nationwide samples. Quinn and Antony's (2009) correlational investigation was "the first study to analyze a nationally representative sample of faculty to explore generational differences in faculty satisfaction" (p. 23). They undergirded their study with a generation cohort model (i.e.,

generational personalities influence attitudes and behaviors), which is a common framework in generational research in other fields, and a logical choice for this investigation. Their weighted sample is more than adequate (N = 88, 904) and is a relatively strong representation of the national faculty population. Their instrument limited their ability to capture younger faculty satisfaction. At the same time, the NSOPF:04 data allowed them to control for confounding effects (Creswell, 2008). The selected data analysis techniques (bivariate correlations and HLM) appropriately aligned with the purpose of the study, as well as with the kind of data obtained from the NSOPF:04. The findings clearly answered the research questions; they consistently reported correlation coefficients and clearly summarized findings in tabular form.

Quinn and Trower (2009) presented their findings at the Twenty-Sixth Annual Academic Chairpersons Conference and provided detailed recommendations to department heads on ways to effectively manage intergenerational departments and promote faculty job satisfaction. Their explanatory investigation sought to identify and describe any generational differences on the COACHE *Tenure-Track Faculty Job Satisfaction Survey*. They grounded their study in generational theory, which is appropriate for answering their type of research questions. *Survey* results were categorized by gender and generation and were analyzed using *t*-tests (α = .05) for differences in gender within generation, generation within gender, and generation overall. They clearly reported mean ratings of the groups in tabular form embedded in a thorough description, and their results sufficiently answered all their research questions. As one of the main purposes of this investigation was to inform department chairs of the key areas of generational differences and provide actionable suggestions for maintaining a happy

workforce, the researchers spent a significant amount of time discussing how their results were relevant to the academy and how to integrate their recommendations into practice.

Carver et al. (2011) were the first to explore generational effects on organizational commitment for nursing faculty. They grounded the investigation in generation and organizational commitment theories, which are both appropriate for this type of study. They distributed a custom instrument to roughly 5,000 nursing faculty members (ranks unspecified) who represented 20% of the nursing schools in the 2006 National League of Nursing's *Guide to State Approved Schools of Nursing*, and stratified their sample by geographical region to ensure it was representable. The custom questionnaire contained variables from six instruments, each proven valid and reliable, which shows evidence of content validity (Creswell, 2008). However, the low 30% response rate (from a sample representing one-fifth of U.S. nursing schools) increased the likeliness of sampling error (Creswell, 2008). The data met assumptions of normality, homogeneity of variance, homogeneity of variance-covariance matrices, multicollinearity, and homoscedasticity. Unequal subgroup sizes caused violations of homogeneity of variance and of variance-covariance matrices, but they did not excessively influence normality. They displayed correlation coefficients, results from stepwise MRs, post-hoc Tukey tests, and MANOVAs concisely in tables and text, and their findings answered each of their research questions sufficiently.

A common limitation with the findings of Quinn and Antony (2009), Quinn and Trower (2009), and Carver et al. (2011), as with most generational research, is that since age, period, and cohort effects are intertwined, it is difficult to discern if an observed effect occurred because of cohort experiences without controlling for possible age and

period effects (Costanza et al., 2012; Pew Research Center, 2010; Yang & Land, 2008). There is some question whether members of the same generation experienced the same cultural and historical events (Giancola, 2006). The generation boundaries were defined differently, particularly in the Carver et al. (2011) study, also limit the results, but to a lesser extent.

Rationale for the Current Study

Emerging generational job satisfaction research on faculty members (e.g., Carver et al., 2011; Quinn & Antony, 2009; Quinn & Trower, 2009) has produced valuable information on a relationship that is not currently well understood and has shown an evident need for more research on this topic. One goal of this investigation is to provide new knowledge on how faculty job satisfaction and generation are related. This study also seeks to capture information about Millennial faculty members, who have been excluded in all previous generation-faculty satisfaction research, and to show the rate at which Millennial faculty are entering tenure-track positions. Not only does this study address the apparent gap in the literature, but will provide a much-needed comprehensive description of higher education's changing generational landscape.

Theoretical Framework

This study is grounded in cognitive job satisfaction models and generational cohort theory. It is widely accepted that unique combinations of complex cognitive processes, attitudinal variables, demographics, and environmental circumstances strongly influence people's job satisfaction perceptions (Aamodt, 2013; Bilimoria et al., 2006; Dawis, 2004; Hagedorn, 2000; Judge et al., 2008; Judge et al., 2012; Storbeck & Clore, 2007; Xu, 2008). Industrial-organizational psychology has started recognizing the

importance of employee state-of-mind in determining work attitudes, and dispositional models have begun to surface. Affect can be quantified when Likert scales are used to measure satisfaction constructs within well-developed questionnaires, which already have been shown to effectively quantify the cognitive component of job satisfaction (Dawis, 2004).

Generation cohort theories operate from the hypothesis that members of the same generation exhibit a generational personality, which distinguishes them from other generations (Alwin & McCammon, 2007; Baltes et al., 1980; Noble & Schewe, 2003; Ryder, 1965; Strauss & Howe, 1991). Some generation theorists have raised concerns that a single variable may not be able to fully explain differences in behavior (Costanza et al., 2012; Pew Research Center, 2010; Yang & Land, 2008). While an APC framework may be able to address some of these concerns, APC methods require considerable amounts of high-quality, longitudinal data, which currently do not exist for tenure-track faculty members. For these reasons, generational cohort theory remains the best framework for this investigation for several reasons:

- Research shows evidence of the validity of generational cohort theory (Beutell & Wittig-Berman, 2008; Busch et al., 2008; Cennamo & Gardner, 2008; Collins et al., 2009; D'Amato & Hertzfeldt, 2008; Dilworth & Kingsbury, 2005; Hansen & Leuty, 2012; Moody, 2008; Noble & Schewe, 2003; Sessa et al, 2007; Smith, 2010; Smola & Sutton, 2002; Twenge et al., 2010; Wieck et al., 2009; Wilson et al., 2008; Wong et al., 2008).
- Notable research groups and organizations (e.g., COACHE and Pew Research Center) are currently favoring generational cohort theory conceptual frameworks.

- Various social theories, such as life course theory (Elder, 1998), theoretically support the use of generational cohort theory (Costanza et al., 2012; Gade, 2009).

CHAPTER THREE: METHODOLOGY

Study Purpose

The purpose of this study is to explore tenure-track faculty job satisfaction relationships and trends. It seeks to extend generational research in academe and explore the effects of demographic variables, namely generation, on tenure-track faculty job satisfaction. By doing so, it uses preexisting aggregated data collected between 2005 and 2010 by the COACHE *Tenure-Track Faculty Job Satisfaction Survey* to

- provide a current snapshot and describe changes in the tenure-track faculty members who participated in the survey;
- explore job satisfaction relationships across generational cohorts;
- compare how current job satisfaction trends relate to what has been offered in the literature

Research Questions

This study examines the relationship between generation and tenure-track faculty job satisfaction and seeks to answer the following research questions:

1. How do tenure-track faculty members categorize into generation, gender, and race groups from 2005-2010?
2. How predictive is generation from faculty demographic variables?
3. How predictive are faculty demographic variables of tenure-track faculty job satisfaction?
4. How predictive is generation of tenure-track faculty job satisfaction controlling for faculty demographic variables?

Research Hypotheses

One of the main goals of this study is to identify possible correlations between large numbers of variables. Appendix A contains a list of all the statistical hypotheses for research questions two, three, and four.

Research Design

This study used descriptive and multiple regression analyses on a preexisting, cross-sectional, aggregated dataset to examine the extent to which demographic variables, namely generation, predicted tenure-track faculty job satisfaction. "The ease of availability of these data…for use and increasingly sophisticated technology that permits powerful analysis of large datasets has led many to rightfully view such data as an exciting research opportunity" (Thomas & Heck, 2001, p. 518). Survey-based cross-sectional methods aim to systematically examine people's current attitudes, preferences, and practices, and they are used for describing relationships and comparing factors of interest across a population at a particular time (Bryman, 2012; Creswell, 2008; Sapsford, 2007; Thomas & Heck, 2001). Surveys also provide researchers the opportunity to obtain a large amount of high-quality data on important aspects of nationally-representative samples of a population (Aamodt, 2013; T. Smith, 2008; Thomas & Heck, 2001). When cross-sectional studies are rigorously developed and administered to a large representative sample of the population of interest, generalizations of the findings are externally valid (Bryman, 2012). COACHE has generated the largest, nationally-representative, high-quality dataset on tenure-track faculty job satisfaction and provided the opportunity to describe and test job satisfaction trends across the population of

interest. Therefore, the COACHE *Tenure-Track Faculty Job Satisfaction Survey* dataset was selected for this study.

Data Source

Prior to requesting access to the COACHE dataset, Western Carolina University's Institutional Review Board (IRB) approved this study. A copy of the IRB request is included in Appendix X. Because COACHE obtained informed consent at the time of data collection, and the preexisting dataset only contained aggregated anonymous responses, direct informed consent for each participant was not needed. A COACHE dataset application and restricted data use agreement (Appendix B) was submitted on January 11, 2012 to R. Todd Benson at the Harvard Graduate School of Education, and access to the data was granted on January 31, 2012. A file containing 2005-2010 rollup data was obtained through a direct secure transfer via *YouSendIt* file delivery service on February 11, 2012.

The aggregated dataset contained anonymous information from all public and private COACHE-member universities across all regions in the United States (New England, Mideast, Southeast, Great Lakes, Plains, Rocky Mountains, Southwest, and Far West) and from all urbanicities (rural district, rural fringe, town remote, town distant, town fringe, small suburb, midsize suburb, large suburb, small city, midsize city, and large city). Institutions from a variety of Carnegie classifications were included in the sample (arts and sciences baccalaureate colleges, baccalaureate/associate's colleges, diverse baccalaureate colleges, small master's colleges and universities, medium master's colleges and universities, large master's colleges and universities, doctoral research universities, high research activity doctoral research universities, and very high research

activity doctoral research universities). Table 8 summarizes the institutional characteristics of the sample.

Table 8

Institutional Information Summaries

Institutional Characteristics	*n*	%
Public	12,771	77.7
Private	3,673	22.3
Urbanicity		
City: Small	4,200	25.5
City: Large	3,882	23.6
City: Midsize	3,073	18.7
Suburb: Large	1,291	7.9
Town distant	1,063	6.5
Town fringe	775	4.7
Town remote	755	4.6
Suburb: Small	513	3.1
Rural distant	291	1.8
Rural fringe	145	0.9
Suburb: Midsize	132	0.8
Region		
Southeast	5,734	34.9
Great Lakes	2,235	13.6

Institutional Characteristics	*n*	%
Mideast	2,012	12.2
Plains	1,814	11
New England	1,752	10.7
Far West	1,439	8.8
Southwest	823	5
Rocky Mountains	311	1.9
Repeat from a previous year		
No	11,493	69.9
Yes	4,951	30.1
Carnegie Classification[a]		
RU/VH	7,558	46
RU/H	3,132	19
Master's L	2,306	14
Bac/A&S	1,528	9.3
DRU	947	5.8
Master's M	244	1.5
Master's S	190	1.2
Bac/Diverse	158	1
Bac/assoc	57	0.3

Note. Public/Private NCES code, IPEDS Urbanicity Coding NCES code, Region NCES code.
[a]RU/VH = very high research activity doctoral research universities, RU/H = high research activity doctoral research universities, Master's L = large master's colleges and universities, Bac/A&S = arts and sciences baccalaureate colleges, DRU = doctoral research universities, Master's M = medium master's colleges and universities, Master's S = small master's colleges and universities, Bac/Diverse = diverse baccalaureate colleges, and Bac/assoc = baccalaureate/associate's colleges.

COACHE instrument description. The COACHE *Tenure-Track Faculty Job Satisfaction Survey* was developed specifically for measuring tenure-track faculty job satisfaction and was designed through extensive research on junior faculty under the auspices of Harvard University's *Study of New Scholars* (Trower, 2012). A COACHE research team, led by Trower and Bleak (2006), conducted focus group interviews with junior faculty members and used the participants' responses to construct a survey instrument specific to measuring job attractiveness, level of satisfaction, and degree of fulfillment for full-time junior faculty (Trower, 2012). This instrument was then piloted at 12 highly selective colleges and universities (Trower, 2012). Researchers conducted policy audits for each participating pilot institution and collected all relevant information on tenure and promotion policies and information on other policies important to junior faculty. Results from each institution were compared and the inter-institution audit comparisons were used to identify policies that most impacted junior faculty job satisfaction (Trower & Bleak, 2006).

The COACHE *Tenure-Track Faculty Job Satisfaction Survey* contained items of different formats: questions asking the participant to select one or two multiple-choice options, dichotomous items asking for *Yes* and *No* responses, self-assessment items measured on five-point Likert-type scales, and open-ended questions asking the participant to enter textual responses. Fifty-one questions were organized into six sections:

- demographic background;
- tenure and promotion;
- the nature of your work;

- policies and practices;
- climate, culture, and collegiality; and
- global satisfaction.

The first section of the survey collected demographic and background information about the participants. It included the question, "In what year were you born?", in which participants selected their birth years from a pull down menu. It also included multiple choice questions related to education, previous work, current rank and department, race, citizenship, gender, sexual orientation, salary, and family.

The second section contained items specifically about various aspects of tenure at their institutions. Faculty members were asked to assess their satisfaction with the tenure process generally, criteria, standards, body of evidence, and personal sense of their tenure achievement on five-point Likert-type scales ranging from 1 (*very unclear*) to 5 (*very clear*). *Clarity* and *reasonableness* were measured on similar five-point scales ranging from 1 (*very unclear*) to 5 (*very clear*) and 1 (*very unreasonable*) to 5 (*very reasonable*) respectively. Participants were also asked to answer questions about their roles as scholars, as teachers, as advisors to students, as colleagues in their departments, as campus citizens, and as members of the broader academic community. Questions related to the participants' perceptions of how their institution makes tenure decisions were measured on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Finally, they were asked to write about their perceptions of how institutional tenure decisions are made.

The third section measured satisfaction with day-to-day activities of faculty members. Participants ranked their level of satisfaction or dissatisfaction with various

aspects of their work (e.g., the way they spend their time, the number of hours they work, the level and number of courses they teach, the discretion they have over course content, the quality of students they teach, the amount of time available to conduct research, the amount of external funding they are expected to find, the quality of facilities, and the quality of support services). Self-assessment responses were recorded on five-point Likert-type scales ranging from 1 (*very dissatisfied*) to 5 (*very satisfied*).

Section four included questions related to common faculty policies and practices. Faculty members rated how important or unimportant specific policies and practices were (or would be) to their success, regardless of whether or not they were currently applicable to their institutions. Participants then rated how effective or ineffective each had been or could be. Scales ranging from 1 (*very unimportant*) to 5 (*very important*) and 1 (*very ineffective*) to 5 (*very effective*) measured the importance and effectiveness of formal mentoring opportunities at their institutions respectively. Questions dealt with: (a) informal mentoring, (b) formal performance reviews, (c) written summaries of periodic performance reviews, (d) professional assistance in obtaining externally funded grants, (e) professional assistance for improving teaching (f) travel funds to present papers or conduct research, (g) paid or unpaid research leave, (h) paid or unpaid personal leave, (i) upper limits on committee assignments for tenure-track faculty, (j) upper limits on teaching obligations, (k) peer reviews of teaching or research/creative work, (l) childcare, (m) financial assistance with housing, (n) stop-the-clock for parental or other family reasons, (o) spousal or partner hiring program, (p) elder care, (q) tuition waivers (e.g., for child, spouse or partner), (r) modified duties for parental or other family reasons (e.g., course release), and (s) part-time tenure-track positions. Participants were then asked to

indicate their level of agreement or disagreement with several statements about how compatible their institutional tenure-track requirements were with having and raising children on scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) and their satisfaction or dissatisfaction with their salary, as well as with their work-personal life balances on scales ranging from 1 (*very dissatisfied*) to 5 (*very satisfied*).

The fifth section sought information on the climates, cultures, and collegiality of their workplace. Participants were asked to indicate their level of satisfaction or dissatisfaction with how they are evaluated by their immediate supervisors, collegial interest in their professional development, opportunities for collaboration, how they feel their work is being valued, the amount of personal and professional interaction they have with colleagues, their sense of belonging, and their opportunities for participating in governance, on scales ranging from 1 (*very dissatisfied*) to 5 (*very satisfied*). The final question in this section measured their level of agreement or disagreement with the statement "on the whole, my institution is collegial" on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Section six asked participants to make overall assessments about their department and institution as places to work. They were asked to select the two best and two worst aspects about working at their institutions. Twenty-eight common answers were provided in a multiple choice list or participants could write one or two of their own personal reasons. They were then asked to rate their level of satisfaction or dissatisfaction with their department and institution on scales ranging from 1 (*very dissatisfied*) to 5 (*very satisfied*). The next question asked them to identify the chief academic officer at their institutions from one of five multiple-choice options (viz., *President, Chancellor, Vice*

President for Academic Affairs, Academic Dean, and *Provost*) and rate their perceptions of the extent to which that person cares about the quality of the lives of their pre-tenure faculty on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*). They were then given the opportunity to select one multiple-choice response from five timeframes to answer the question, "Assuming you achieve tenure, how long do you plan to remain at your institution?" They indicated their levels of agreement or disagreement to the question, "If I could do it over, I would again choose to work at this institution" on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*). Participants also selected responses from three multiple-choice options on how they would or would not recommend their departments as places to work to others; likewise, they selected overall ratings from five multiple-choice options of their institutions as places to work. Finally, they were asked to write responses to the question, "The number one thing that you, personally, feel your institution could do to improve the workplace."

Administrators at the hosting institution identified faculty members who met the survey criteria and supplied a data file containing a compilation of names and email addresses to COACHE researchers. The survey participants were contacted directly by COACHE via an email that provided information related to intentions and risks of the study, invited them to participate, and contained an access link to the COACHE *Tenure-Track Faculty Job Satisfaction Survey* via a secure, external URL. Participants entered individual login credentials (provided by COACHE), which allowed COACHE to match responses to names and email addresses and allowed faculty members the flexibility to complete the *Survey* in more than one sitting.

COACHE assured the confidentiality and anonymity of participant information and responses (COACHE, 2011a). Participant information was used only for administering the questionnaire, sending reminder emails, and for communicating about IRB-approved follow-up studies (COACHE, 2011a). Participant information was linked with its associated responses, although this information was never directly made available to any persons in a position to make or influence personnel decisions (COACHE, 2011a). The institutions received data only in aggregate form in an extensive compilation of results. All COACHE data were retained on external secure servers beyond the conclusion of each institutional survey to allow comparison with results from future administrations and cross-institutional perspective data analysis between schools (COACHE, 2011a).

Response rates. COACHE researchers provided specific information about the number of individual surveys by year within the dataset, which were used to calculate response rates for each year (Table 9). During the five years, COACHE administered 27,570 surveys across 205 universities and colleges, yielding a total response rate of 59.6%. The number of institutions sampled, number of surveys administered, and response rates across all institutions varied between the years. Response rates in this period ranged between 56.2% in 2009 and 65.0% in 2007. Because the usable responses were collected from more than half of the survey population, it increases the likelihood that responses will be consistent within the sample.

Table 9

COACHE Tenure Track-Faculty Job Satisfaction Survey Administrations and Response Rates by Year

Year (no. institutions)	No. surveys administered	No. surveys completed	Response rate
2005 (N = 51)	8,310	4,866	58.6%
2006 (N = 29)	3,478	2,150	61.8%
2007 (N = 20)	2,460	1,600	65.0%
2008 (N = 58)	7,800	4,454	57.1%
2009 (N = 28)	3,615	2,030	56.2%
2010 (N = 19)	1,907	1,156	60.6%
Totals (N = 205)	27,570	16,444	59.6%

Instrument reliability and validity. The reliability of an instrument implies that if results are consistently obtained, the validity will compare the measured results with the concept being researched (Creswell, 2008). Because this study used a pre-existing dataset, the reliability and validity of the COACHE *Tenure-Track Faculty Job Satisfaction Survey* could not be directly measured (Creswell, 2008). However, the COACHE *Survey* is "a validated survey instrument developed, tested, and continually improved with assistance from the Ford Foundation, the Atlantic Philanthropies, and participating institutions" (COACHE, 2010b, p. 3). Therefore, the reliability and validity of the instrument was assumed based on the reputations of COACHE and its affiliates. Before analyzing data, Cronbach's index of internal consistency (α) was calculated for

the COACHE *Tenure-Track Faculty Job Satisfaction Survey*, and its satisfaction scales and subscales.

Sample

The COACHE dataset included responses from full-time, tenure-track faculty members who completed the COACHE Tenure-Track Faculty Job Satisfaction Survey between 2005 and 2010 (N = 16,444). Participants had to have

- been identified by their institution as a full-time tenure-track faculty member who had been employed with the institution for at least one year,
- answered "yes" to the question "are you employed full-time in a tenure-track position,"
- provided at least one meaningful responses to questionnaire items in sections two through six, and
- submitted the survey electronically to indicate they were finished answering the questions and did not wish to continue the survey at a later date.

The dataset included responses from faculty members of different ranks, but the vast majority of participants were assistant professors (n = 15,044, 91.6%) in their first tenure-track position (n = 13,333, 81.6%). In terms of gender diversity, the sample contained responses from more men (n = 8,832, 53.9%) than women (n = 7,566, 46.1%). It was not a particularly racially diverse group, in which roughly three-quarters of participants identified themselves as White, non-Hispanic (n = 11,882, 73.3%), Asian, Asian American, and Pacific Islanders represented the next largest group (n = 2,226, 13.7%), and the majority of all participants were U.S. citizens (n = 12,334, 77.0%). A complete description of the sample by demographic variable is provided in Table 10.

Table 10

Sample Demographic Summaries Calculated from Participants' Responses

Sample Characteristic	*n*	%[a]
Highest degree earned		
Doctorate	15,331	93.5
Masters	1,007	6.1
Bachelor's	32	0.2
First tenure-track appointment		
Yes	13,333	81.6
No	3,016	18.4
Rank		
Assistant professor	15,044	91.6
Associate professor[b]	1,229	7.5
Professor	78	0.5
Other	44	0.3
Instructor/lecturer	22	0.1
Gender		
Male	8,843	53.9
Female	7,566	46.1
Race		
White (non-Hispanic)	11,882	73.3
Asian, Asian American, or Pacific Islander	2,226	13.7
	888	5.5

Sample Characteristic	*n*	%[a]
Black or African-American		
Hispanic or Latino	779	4.8
Other	139	0.9
Multiracial	138	0.9
American Indian or Native Alaskan	111	0.7
Visible minority	40	0.2
Citizenship Status		
U.S. citizen	12,334	77.0
Non-U.S. citizen	3,522	22.0
Canadian citizen	86	0.5
Non-Canadian citizen	77	0.5
Academic Area		
Social sciences	2,851	17.3
Humanities	2,411	14.7
Engineering, computer science, mathematics, and statistics	2,033	12.4
Medical schools and health professions	1,345	8.2
Education	1,204	7.3
Other professions	1,129	6.9
Business	1.083	6.6
Physical sciences	1,074	6.5
Visual & performing arts	1,060	6.4

Sample Characteristic	*n*	%[a]
Biological sciences	860	5.2
Agriculture, natural resources, and environmental sciences	700	4.3
Health & human ecology	694	4.2

Note. Public/Private NCES code, IPEDS Urbanicity Coding NCES code, Region NCES code.
[a]Valid percent.
[b]Associate professor or associate professor (conditional).

Measures

Operational definitions. The definitions used in this are study are provided in Table 11.

Table 11

Operational Definitions.

Term	Definition
Adjunct Faculty	A faculty member in a part-time or temporary teaching position usually with a load below that which is required to earn benefits (AAUP, 2010a; IPEDS, n.d.).
Assistant professor	A faculty member employed in a probationary period who is guaranteed, at some point in his career, a consideration for tenure (AAUP, 2010b; IPEDS, n.d.).
Associate professor	A faculty member who has successfully received tenure who has demonstrated a record of scholarly accomplishment (AAUP, 2010b; IPEDS, n.d.).
Degree-granting institution	An higher education institution that grants associate's degrees or higher and participates in Title IV federal financial aid programs (NCES, 2012).
Full-time faculty	A faculty member classified by his institution as "full-time" who teaches at least one-for credit course (COACHE, 2010b).

Term	Definition
Generational cohort	A cultural group of individuals who were born during a specific date range and have experienced the same significant biographical and historical events during key developmental periods in their lives contemporaneously (Kupperschmidt, 2000; Mannheim, 1952; Rhodes, 1983; Strauss & Howe, 1991).
Generational trait	The general similarities between members of the same generation and differences between members of differing generations.
GenXer	A member of Generation X, 1965-1979.
Job satisfaction	The multidimensional psychological responses to one's job. These responses have "cognitive (evaluative) and affective (emotional) components" (Judge et al., 2012, p. 5).
Millennial	Millennial generation, 1980-2000.
Point of Divergence	Differences in generational attitudes and values that cause "tension...as the different generational perspectives result in misinterpretation and misunderstanding" (Weston, 2006, p.1).
Professor	A faculty member who has a distinguished track record of scholarly achievement within his university and discipline (AAUP, 2010b; IPEDS, n.d.).
Secondary data	Information that has been collected from other sources or researchers (Bryman, 2012).
Silent	A member of the Silent generation, 1925-1945.
Tenure	A contractual status earned after the successful completion of a probationary period guaranteeing procedural due process (AAUP, 2010b; IPEDS, n.d.).
Tenured faculty	A faculty member who has selectively received tenure at his institution (AAUP, 2010b; IPEDS, n.d.).

Dependent variables. Job satisfaction is a complex multivariable construct influenced by discrete contributor variables (Dalal, 2013; Dawis, 2004; Rafferty & Griffin, 2009). The nine dependent satisfaction variables (DV1-9) used in this study were informed by the results and recommendations of the *Study of New Scholars* (Trower, 2012; Trower & Bleak, 2004).

- tenure practices (DV1);
- clarity of institutional expectations for tenure (DV2);
- reasonableness of institutional expectations for tenure (DV3);
- overall nature of the work (DV4);
- teaching aspect of the work (DV5);
- research aspect of the work (DV6);
- balance between work and home (DV7);
- university and departmental climate, culture, and collegiality (DV8); and
- compensation and benefits (DV9).

Each of the dependent variables contained multiple questionnaire items, which were identified a priori, to include only items deemed most relevant to tenure-track faculty success and are summarized in Table 12 (COACHE, 2010b; Trower & Bleak, 2004). The items were identified based on their location in the instrument and COACHE *theme* category. Standardized dependent variable subscales were calculated by averaging the scores for their respective survey items.

The first dependent variable, *satisfaction with tenure practice,* was calculated by averaging clarity scores, which ranged from 1 (*very unclear*) to 5 (*very clear*), to

responses to the following items in the section stating, "this set of items addresses various aspects surrounding tenure in your department":

- Q19, "I find the tenure process in my department to be…"
- Q20, "I find the tenure *criteria* (what things are evaluated) in my department to be…"
- Q21, "I find the tenure *standards* (the performance threshold in my department to be…"
- Q22, "I find the *body of evidence* that will be considered in making my tenure decision to be…"

Dependent variable two, *satisfaction with the clarity of institutional expectations for tenure*, contained average clarity responses, which ranged from 1 (*very unclear*) to 5 (*very clear*), to six sub-questions of item 24, "is what's expected in order to earn tenure clear to you regarding your performance as:"

- 24a, "a scholar (e.g., research and creative work)"
- 24b, "a teacher"
- 24c, "an advisor to students"
- 24d, "a colleague in your department"
- 24e, "a campus citizen (e.g., service committees)"
- 24f, "a member of the broader community (e.g., service, outreach)"

Satisfaction with the reasonableness of institutional expectations for tenure, contained average reasonableness responses ranged from 1 (*very unreasonable*) to 5 (*very reasonable*), in six sub-questions of item 25, "is what's expected in order to earn tenure reasonable to you regarding your performance as:"

- 25a, “a scholar (e.g., research and creative work)”
- 25b, “a teacher”
- 25c, “an advisor to students”
- 25d, “a colleague in your department”
- 25e, “a campus citizen (e.g., service committees)”
- 24f, “a member of the broader community (e.g., service, outreach)”

Dependent variables four, five, and six were calculated from items in the third section of the instrument, “the nature of your work.” *Satisfaction with the nature of the work (overall)* was calculated from satisfaction averages, which ranged from 1 (*very unsatisfied*) to 5 (*very satisfied*), to item number 28, “please indicate your level of satisfaction with…the way you spend your time as a faculty member” and item 28b, “please indicate your level of satisfaction with…the number of hours you work as a faculty member in an average week.” *Satisfaction with the nature of the work (teaching)* was calculated from the satisfaction averages, which ranged from 1 (*very unsatisfied*) to 5 (*very satisfied*), for question 29, “please indicate your level of satisfaction with the following:”

- 29a, “the level of the courses you teach”
- 29b, “the number of courses you teach”
- 29c, “the degree of influence you have over which courses you teach”
- 29d, “the discretion you have over the content of the courses you teach”
- 29e, “the number of students you teach”
- 29f, “the quality of undergraduate students with whom you interact”
- 29g, “the quality of graduate students with whom you interact”

The seventh dependent variable, *satisfaction with work and home*, was calculated from items in section four, “policies and practices,” of the instrument. Importance ratings, which ranged from 1 (*very unimportant*) to 5 (*very important*), were averaged from responses to question 34, “regardless of whether the following policies and practices currently apply to your institution, please rate how important you think each would be to your success,” subitems related to childcare and parenting:

- Q34a, “childcare”
- Q34a, “stop the clock for parental or other family reasons”
- Q34a, “spousal/partner hiring program”

The *satisfaction with climate, culture, and collegiality dependent variable* was measured from averaging satisfaction ratings, which ranged from 1 (*very unsatisfied*) to 5 (*very satisfied)*, on 12 questions from the "climate, culture, and collegiality” section of the instrument. Participants were asked to “indicate your level of satisfaction with the following”:

- Q38a, “Your immediate supervisor is evaluating your work fairly”
- Q38b, “The interest senior faculty take in your professional development”
- Q38c, “Your opportunities to collaborate with senior faculty”
- Q38d, “The value faculty in your department place on your work”
- Q39a, “the amount of professional interaction you have with senior colleagues in your department”
- Q39b, “the amount of personal interaction you have with senior colleagues in your department”

- Q39c, “the amount of professional interaction you have with junior colleagues in your department”
- Q39d, “the amount of personal interaction you have with junior colleagues in your department”
- Q40, “how well you ‘fit’ (e.g., your sense of belonging, your comfort level) in your department”
- Q41a, “The intellectual vitality of the pre-tenure faculty in your department/at your institution”
- Q41b, “Opportunities for participation, appropriate to your rank, in the governance of your institution”
- Q41c, “Opportunities for participation, appropriate to your rank, in the governance of your department”

The final dependent variable, “*satisfaction with compensation and benefits,*” was calculated from satisfaction ratings, which ranged from 1 (*very unsatisfied*) to 5 (*very satisfied),* averages from a single item, Q36, “How satisfied or dissatisfied are you with your compensation (that is, your salary and benefits).”

Table 12

Nine Indices of Faculty Job Satisfaction and Corresponding Tenure-Track Faculty Job Satisfaction Survey Item Numbers

Subscale	Dependent Variable	Survey Items
DV1	Tenure practices	Q19, Q20, Q21, Q22
DV2	Clarity of institutional expectations for tenure	Q24a, Q24b, Q24c, Q24d, Q24e, Q24f
DV3	Reasonableness of institutional expectations for tenure	Q25a, Q25b, Q25c, Q25d, Q25e, Q25f
DV4	Nature of the work (overall)	Q28, Q28b
DV5	Nature of the work (teaching)	Q29a, Q29b, Q29c, Q29d, Q29e, Q29f, Q29g
DV6	Nature of the work (research)	Q30b, Q30c, Q30d
DV7	Work and home	Q34a, Q34b, Q35a, Q35b, Q35c, Q35d, Q35e
DV8	Climate, culture, and collegiality;	Q38a, Q38b, Q38c, Q38d, Q39a, Q39b, Q39c, Q39d, Q40, Q41a, Q41b, Q41c
DV9	Compensation and benefits	Q36

Prior to data analysis, scales and subscales were evaluated for potential negative impacts related to missing data. All but one dependent variable were computed from multiple questionnaire items, and satisfaction scores were interpreted as follows: 1.00-1.49 = “very dissatisfied,” 1.50-2.49 = “dissatisfied,” 2.50-3.49 = “neither satisfied nor dissatisfied,” 3.50-4.49 = “satisfied,” and 4.50-5.00 = “very satisfied.”

Independent variables. The job satisfaction dependent variables were measured against five independent variables: gender, generation, prior tenure-track appointments,

race, and salary. The independent variables were recoded to dichotomous variables (i.e., dummy variables) prior to multiple regression analyses. Ten dummy variables were generated. Responses to survey question 13, "what is your gender," provided the information for the researcher to code the *male* and *female gender* variables. The researcher populated the *generation* dummy variables based on participant responses to question 14, "In what year were you born," into the following age-range generation groups:

- *Silent* (1925-1945),
- *Boomer* (1946-1964),
- *GenX* (1965-1976 and 1965-1979) – control variable,
- *GenY* (1977-1995),
- *Millennial* (1980-2000).

Generational taxonomies and boundaries reported in the literature are blurred (Costanza et al., 2012; Macky et al., 2008; Parry & Urwin, 2011). As a way to explore this variance, two pairs of generation conceptualizations for the younger faculty members were included in this study. The first taxonomy pair included GenX (1965-1976) and GenY (1977-1995) generation groups, while the second pair included the GenX (1965-1979) and Millennial (1980-1995) groups. Nine *race* variables were dummy coded by the researcher based on responses to question 11 "what is your race," into

- *Asian, Asian American, or Pacific Islander*;
- *White [non-Hispanic]* – control variable;
- *Black or African-American;*
- *Hispanic or Latino*;

The *salary* variables were dummy coded based on responses from question 15, "what is your annual salary," into the variables

- *$30,000 < $44,999* – control variable;
- *$45,000 < $59,999;*
- *$60,000 < $74,999;*
- *$75,000 < $89,999;* and
- *$90,000 and above*.

Question 15 had inconsistent response options across the 2005 to 2010 surveys. For the survey years 2005 and 2006, *$90,000 or above* was the final response option. But for years 2007 to 2010, the response options had been opened up to *$90,000 to $104,999*, *$105,000 to $119,000*, and *$120,000 or above*. In order to maintain internal consistency throughout the data collection period, values for these four response options were merged into the new salary range variable, *$90,000 or above.* Finally, the *prior tenure track experience* variables (*first tenure-track appointment* and *prior tenure-track experience*) corresponded to the dichotomous responses to question 6a, "is this your first tenure-track appointment."

Analysis Methods

Before beginning data analysis, the satisfaction contributor variables (satisfaction with tenure practices, clarity of institutional expectations for tenure, reasonableness of institutional expectations for tenure, satisfaction with the nature of the work [overall], satisfaction with the nature of the work [teaching], satisfaction with the nature of the work [research], and satisfaction with compensation and benefits) were examined through various SPSS methods to check for accuracy of dataset entry, missing values,

distributions, and assumptions of multiple regression. Descriptive analysis results were considered part of preliminary analysis.

Preliminary analysis. COACHE researchers checked the dataset for accuracy and removed responses if participants did not answer questions past the demographic section, left the survey incomplete, or responded "N/A" or "decline to respond" for all items. The researcher calculated and evaluated the subgroup sizes, percent frequencies, means, and standard deviations for relevant variables.

Power analyses. The researcher conducted a power analysis to determine the minimum subgroup size required to maintain a Type I error below $\alpha = 0.05$ and a Type II margin of error below $\beta = 3.5\%$ for a sample of $N = 16{,}444$. The calculated subgroup size was $n = 748$, and the subgroups that failed to meet this quota were excluded from data analysis.

Response rates. The independent variables (gender, generation, number of prior tenure track appointments, race, and salary) were checked for missing values. Each of the questionnaire items used in subscale computations had to meet the missing rate limit in order to be used in calculations. To handle non-response error and threats to external validity, dependent variable items (Appendix D) and independent variable items (Table 13) were compared for each year. For the dependent variables, items Q28B, Q38D, Q41A, Q41B, Q41C, and Q42 had missing data from one or more survey years and were excluded from the investigation. One of the independent variable items, Q16A, had missing data from the 2008 and 2009 survey years, and the independent variable "family" was consequently excluded from the investigation.

Table 13

Response Rates for all Independent Variable Items by Year

Item	Year	Valid		Missing	
		N	%	*N*	%
Q6a. Is this your first tenure-track appointment?	2005	4846	99.60%	20	0.40%
	2006	2134	99.30%	16	0.70%
	2007	1590	99.40%	10	0.60%
	2008	4428	99.40%	26	0.60%
	2009	2017	99.40%	13	0.60%
	2010	1334	99.30%	10	0.70%
Totals		16349	99.42%	95	0.58%
Q11. What is your race?	2005	4856	99.80%	10	0.20%
	2006	2150	100.00%	0	0.00%
	2007	1600	100.00%	0	0.00%
	2008	4454	100.00%	0	0.00%
	2009	2030	100.00%	0	0.00%
	2010	1113	82.80%	231	17.20%
Totals		16203	98.53%	241	1.47%
Q13. What is your gender?	2005	4866	100.00%	0	0.00%
	2006	2150	100.00%	0	0.00%
	2007	1600	100.00%	0	0.00%
	2008	4454	100.00%	0	0.00%
	2009	2030	100.00%	0	0.00%
	2010	1309	97.40%	35	2.60%
Totals		16409	99.79%	35	0.21%
Q14. In what year were you born?	2005	4687	96.30%	179	3.70%
	2006	2081	96.80%	69	3.20%
	2007	1550	96.90%	50	3.10%
	2008	4254	95.50%	200	4.50%
	2009	1911	94.10%	119	5.90%
	2010	1254	93.30%	90	6.70%
Totals		15737	95.70%	707	4.30%

Item	Year	Valid		Missing	
		N	%	*N*	%
Q15. What is your annual salary?	2005	4716	96.90%	150	3.10%
	2006	2075	96.50%	75	3.50%
	2007	1528	96.10%	62	3.90%
	2008	4280	96.1%	174	3.90%
	2009	1932	95.2%	98	4.80%
	2010	1303	96.9%	41	4.80%
Totals		15834	96.29%	600	3.70%
Q16. How many children under the age of 18 live with you at home?	2005	4799	98.60%	67	1.40%
	2006	2116	98.40%	34	1.60%
	2007	1573	98.30%	27	1.70%
	2010	738	54.90%	606	45.10%

The aggregated responses were also examined for unacceptable response rates according to the following criteria: < 1% missing is trivial, 1%-5% missing is manageable, 5%-15% missing requires sophisticated methods for correction, and 15% < missing severely impacts results (Bryman, 2012). Correlations for items that had between 1% and 5% missing data were corrected for by replacing the missing data points with the item's series mean. The subscale computations did not include items with greater than 5% missing data. Items that had less than 1% missing data remained unaltered. Response frequencies for dependent variable subscales and independent variable items are provided in Appendix D and Table 14 respectively.

Each of the demographic variable survey items had very good response frequencies. Question 14, "In which year were you born," had the lowest response rate (95.7%) of all independent variables. The missing data were removed during the process of calculating dummy variables. Almost all participants answered question 13 (99.8%),

"what is your gender" and question 6a (99.4%), "is this your first tenure-track appointment."

Table 14

Response Rates for Independent Variables Items

	Valid		Missing	
Variable	*N*	%	*N*	%
Gender	16409	99.8%	35	0.2%
Generation	15737	95.7%	707	4.3%
Race	16203	98.5%	241	1.5%
Salary	15844	96.4%	600	3.6%
Prior tenure-track experience	16349	99.4%	95	0.6%

Note. Item number for variables are as follows: gender (Q13. "What is your gender?"), generation (Q14. "In what year were you born?"), race (Q11. "What is your race?"), salary (Q15. "What is your annual salary?"), and prior tenure track experience (Q6a. "Is this your first tenure track appointment?").

Internal consistency. Cronbach's *alpha* values were calculated for each of the satisfaction contributor scales and subscales and evaluated against the following guidelines: $0.8 \leq \alpha < 1.0$ exemplary, $0.7 \leq \alpha < 0.8$ extensive, $0.6 \leq \alpha < 0.7$ moderate, $\alpha < 0.6$ minimal (Robinson, Shaver, & Wrightsman, 1991). The alpha coefficient of .969 indicates excellent internal consistency. *Alpha* coefficients were also calculated for each subscale to ensure good homogeneity of the items used in calculating the dependent variable. Without an acceptable range of reliability coefficients, typically higher than .70 to .80 in social science research, the results could be adversely affected by the error

variance associated with inadequate reliability and, thus, not equivalent to those reported in previous research studies (Heppner & Heppner, 2004, p. 242).

Transformations. All dependent variables had negatively skewed, non-normal distributions. It was necessary for the subscale values to be reflected because multiple regression calculations cannot be conducted on data that has a negative skew (Kelley & Maxwell, 2008). Multiple regression methods are robust with respect to normality and skewness (Norman, 2010), which allow for Likert-type data to be used in calculations. Nevertheless, all dependent variables were transformed for good measure by taking the log of reflected scores prior to data analysis, as shown in Equation 1:

$$y^* = \log(6 - y) \qquad \text{Equation 1}$$

where y = satisfaction subscale value and y* = transformation satisfaction subscale value. "Where it is the mean divided by the variance that is roughly constant, a square root transformation is often appropriate" (Sapsford, 2007, p. 205) to make the data distribution more normal. After data analysis, the transformed satisfaction values were reverse-calculated using Equation 2.

$$y = -(10^{y^*} - 6) \qquad \text{Equation 2}$$

where y = satisfaction subscale value and y* = transformation satisfaction subscale value, so results could be interpreted more easily by scales ranging from 1 (*very dissatisfied*) to 5 (*very satisfied*).

Descriptive statistics. Descriptive statistics are an important part of data screening, provide an overview of the data offering an understanding of "…how the participants responded as a group to the inventories in a study" (Heppner & Heppner, 2004, p. 245). The researcher generated descriptive statistics for central tendency,

variability, and distribution for the dependent and transformed outcome variables, as well as for the predictor dummy variables.

Checking of assumptions. The assumptions of multicollinearity, homoscedasticity, normality, and skewness were checked for all dependent subscales prior to linear regression analyses. Multiple linear regression assumes data are normally distributed with little skew (Mertler & Vannatta, 2005). Dependent variable normality plots showed the distribution and skewness. Regression analysis methods inherently are based on variation between means, not their normality (Kelley & Maxwell, 2008) and are robust enough ~~to~~ for "Likert data….with unequal variances, and non-normal distributions with no fear of coming to the wrong conclusion" (Norman, 2010, p. 631). The researcher analyzed the dataset for intercorrelations among the variables in attempt to detect unusual correlations and other potential errors. Plots of standardized residuals against the standardized predicted values for all dependent variables showed the degree of heteroscedasticity.

Research Question One

The first research question, "How do tenure-track faculty members categorize into generation, gender, and race groups from 2005-2010," was answered using descriptive analysis methods. Subgroup frequencies and percentage frequencies, which allow one to make comparisons between groups of differing sizes (Thorne & Giesen, 2003), were generated for the independent variables:

- gender (Male and Female),
- generation (Silent, Boomer, GenX, and Millennial),

- race (American Indian or Native Alaskan, Asian, Asian American, or Pacific Islander, White [non-Hispanic], Black or African-American, Hispanic or Latino, Other, Multiracial, and Visible minority),
- salary (Under $30,000, $30,000 < $44,999, $45,000 < $59,999, $60,000 < $74,999, $75,000 < $89,999, and $90,000 and above), and
- prior tenure-track appointments (first tenure-track appointment, not first tenure-track appointment).

Calculations also produced measures of central tendency (mean, median, and mode) and variability (range and standard deviation) results. Relative frequency tables and pie charts were used to report group sizes and trends over time, and demographic results were also recorded as a narrative.

Research Question Two

Research question two, "How predictive is generation from faculty demographic variables," is answered by multiple regression analysis to determine how generation is predicted by gender, race, salary, and prior tenure-track experience. Descriptive statistics for measures of central tendency, variability distribution were calculated and reported prior to analysis. The Boomer generation dummy dependent variable was regressed against gender, race, salary, and prior tenure-track demographic dummy independent variables in order to determine if demographic trends existed by generation and whether demographic variables were significant predictors of generation. Results were described and reported in multiple regression tables and scatterplots.

Research Question Three

Research question three considers how predictive faculty demographic variables are of tenure-track faculty job satisfaction. Measures of central tendency, variability, and distribution were calculated and reported before doing a standard multiple linear regressions analysis. Multiple regressions produce information on relationships between a dependent variable and several independent variables. Seven multiple regression analyses were conducted for seven job satisfaction contributor dependent variables on the set of nine indices of job satisfaction where the gender, generation, race, salary, and prior tenure-track experience dummy variables were entered simultaneously. Values for Cohen's effect sizes, f^2, were evaluated for statistically significant explanatory variables using the following guidelines: 0.02 = small effect size, 0.15 = moderate effect size, and 0.35 = large effect size (Cohen, 1988). Results were described and reported in multiple regression tables and scatterplots.

Research Question Four

Research question four, similar to question three, seeks to extend generational research in academe and describe how predictive generation is of tenure-track faculty job satisfaction when controlling for faculty demographic variables. Measures of central tendency, variability, and distribution were calculated and reported. Seven multiple linear regressions were conducted; each of the nine indices of job satisfaction were regressed against the generation dummy predictor variable controlling for the gender, race, salary, and prior tenure-track experience dummy variables. Stepwise multiple regressions consider the degree to which variables explain variance in the dependent variable (Sapsford, 2007). For all multiple regressions, the dummy covariates were ordered:

gender, race, salary, and prior tenure-track experience in step one and the generation dummy variable as the predictor variable in step two. Regression results were described in narrative, recorded in multiple regression tables, error box plots, and regression scatterplots. Cohen's effect size measurements of the multiple regressions were evaluated using the guidelines: 0.02 = small effect size, 0.15 = moderate effect size, and 0.35 = large effect size (Cohen, 1988).

CHAPTER FOUR: RESULTS

This study used secondary data analysis methods on an aggregated COACHE *Tenure-Track Faculty Job Satisfaction Survey* dataset to expand generation research in higher education. It described current tenure-track faculty demographic characteristics and explored how predictive demographics were generally (but particularly generation) of tenure-track faculty satisfaction. This chapter reports the descriptive statistical results of central tendency results (means, medians, and modes), variances (ranges and standard deviations), distributions (skewness and kurtosis), and correlations as well as regression coefficients from inferential analyses. The results appear with little interpretation. Chapter Five offers a synthesis, interpretation, and discussion of the findings.

Descriptive Statistical Analyses

Research question one. Research question one used descriptive statistical analysis methods to categorize tenure-track faculty members into demographic groups. Comprehensive data were available for all independent variables. Frequency and percentage frequency comparisons explained the breakdown within each independent variable (i.e., gender, generation, race, salary, and prior tenure-track experience).

Gender. Participants who answered question 13 ("What is your gender?"; N = 16,409) were categorized into *male* and *female* gender groups. A little more than half of the respondents were male (n = 8,762; 53.3%). Figure 4 shows how the aggregated data sample distributed into gender categories.

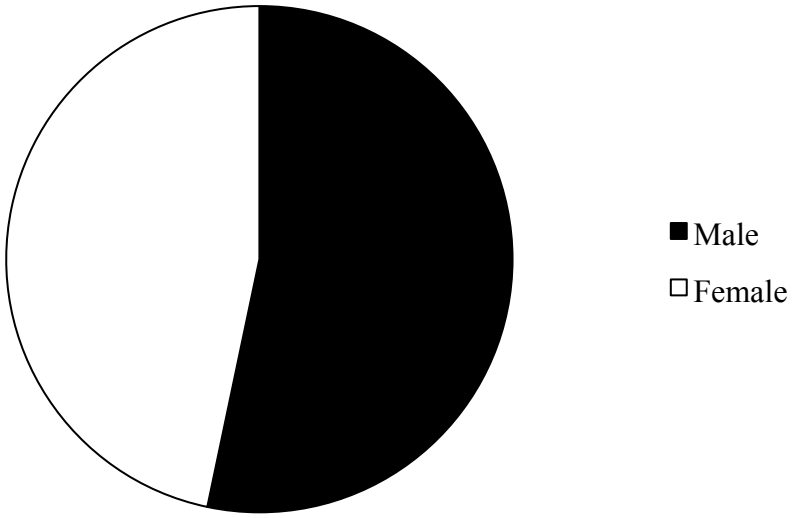

Figure 4. Breakdown of 2005-2010 COACHE *Tenure-Track Faculty Job Satisfaction Survey* participants (*N* = 16,409) into the gender groups *male* (*n* = 8,762; 53.3%) and *female* (*n* = 7,682; 46.7%).

Generation. Faculty members who responded to question 14 ("In what year were you born"; *N* = 15,737) were categorized into *Silent* (1925-1945), *Boomer* (1946-1964), *GenX* (1965-1979), and *Millennial* (1980-2000) generation groups. The majority of participants belonged to GenX (*n* = 11,202; 68.13%). The remaining faculty members were categorized into Boomer (*n* = 4,281; 27.20%), Silent (*n* = 129, 0.82%), and Millennial (*n* = 125, 0.76%) generations. A pie chart (Figure 5) shows the generation distribution percentage frequencies for the aggregated 2005-2010 tenure-track faculty dataset.

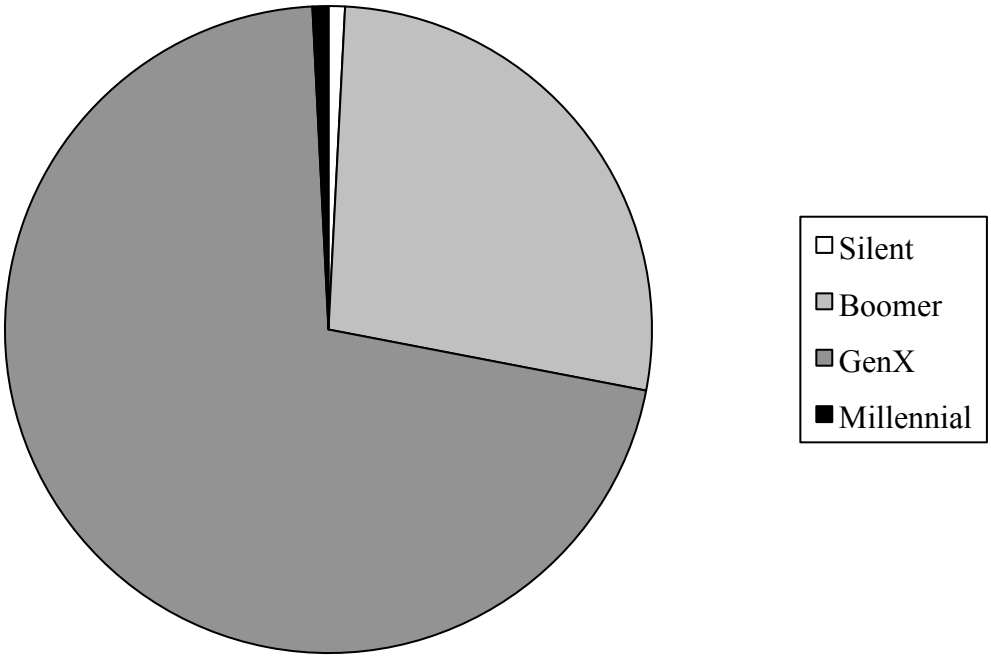

Figure 5. Breakdown of 2005-2010 COACHE *Tenure-Track Faculty Job Satisfaction Survey* participants (*N* = 15,737) into the generational groups *Silent* (*n* = 129; 0.82%), *Boomer* (*n* = 4,281; 27.20%), *GenX* (*n* = 11,202; 68.51%), and *Millennial* (*n* = 125, 0.76%) based on the birth year ranges Silent (1925-1945), Boomer (1946-1964), GenX (1965-1979), and Millennial (1980-2000).

The researcher disaggregated the dataset by year in order to explore relative distribution trends. Frequencies and percentages frequencies described how participants categorized into generation groups by individual survey years and explained distribution changes over time (Table 15). For each survey year, the majority of the participants belonged to GenX. In 2010 they accounted for the largest portion of the overall sample (*n* = 1,001; 74.48%). Boomer tenure-track faculty members made up roughly one-third of the total participants in 2005 (*n* = 1,615; 34.46%), but their relative contribution decreased by half in 2010 (*n* = 193, 15.39%).

Table 15

Annual Generation Categorization of Participants Between 2005-2010

Generation[a]	2005	2006	2007	2008	2009	2010
Silent	56 (1.19%)	23 (1.11%)	7 (0.45%)	23 (0.54%)	13 (0.68%)	7 (0.56%)
Boomer	1,615 (34.46%)	636 (30.56%)	391 (25.23%)	1,066 (25.06%)	380 (19.88%)	193 (15.39%)
GenX	3,013 (61.93%)	1,421 (66.09%)	1,151 (71.94%)	3,129 (70.25%)	1,487 (73.25%)	1,001 (74.48%)
Millennial	3 (0.06%)	1 (0.05%)	1 (0.06%)	36 (0.808%)	31 (1.53%)	53 (3.94%)

Note. Pairwise $N = 15{,}737$.
[a]Based on the birth year ranges Silent (1925-1945), Boomer (1946-1964), GenX (1965-1979), and Millennial (1980-2000).

Only a few Millennials completed the survey during the first three years. In 2008, the Millennial group accounted for 0.8% ($n = 36$) of the sample. Their contribution increased to 1.5% ($n = 31$) in 2009 and to 4% ($n = 53$) in 2010. Figure 6 shows the changes in distribution frequencies between 2005 and 2010.

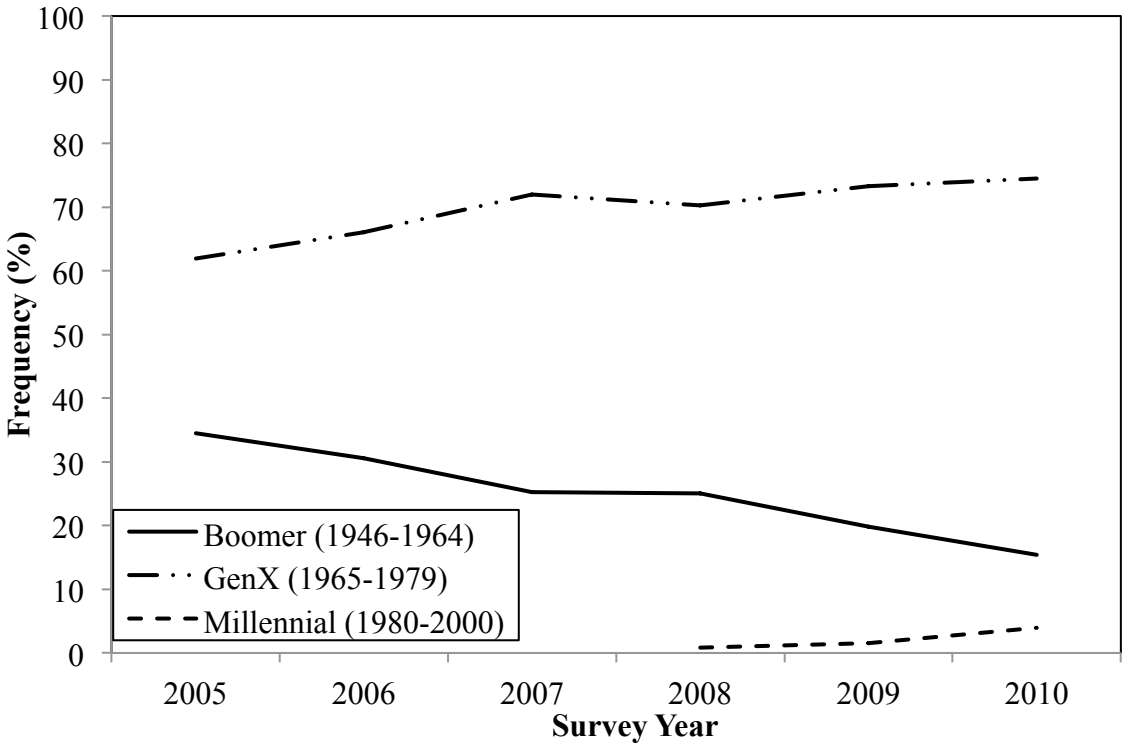

Figure 6. Annual generational distribution trends for Boomer, GenX, and Millennial COACHE *Tenure-Track Faculty Job Satisfaction Survey* participants (Pairwise N = 15,737) between 2005-2010 based on the birth year ranges Silent (1925-1945), Boomer (1946-1964), GenX (1965-1979), and Millennial (1980-2000).

Race. The participants who answered survey item 11 ("What is your race and/or ethnicity?"; N = 16,203) were categorized into race groups[1] based on the results of the frequency and percentage frequency calculations. Figure 7 contains a pie chart of how the aggregated participants fell into race categories (the *multiracial*, *other*, *American Indian or Native Alaskan*, and *visible minority* race groups, are combined in one category). The majority of participants identified themselves as *White (non-Hispanic*; n = 11,882;

[1]While the COACHE race groups separate out race and ethnicity, their groups do not match the U.S. federal standards for the classification of federal data on race and ethnicity by U.S. Census Bureau. Therefore the race groups that are reported by the researcher are based on how participants self-identified with the COACHE race categories. See the U.S. Office of Management and Budget (1997) for more information on federal classifications.

73.3%). The next largest racial group was *Asian, Asian-American, or Pacific Islander* (*n* = 2,226; 13.7%). The *Black or African-American* (*n* = 888, 5.5%) and *Hispanic or Latino* (*n* = 779, 4.8%) groups made up the next two largest groups, followed by the *American Indian or Native Alaskan* (*n* = 111, 0.7%) group. The remaining 2% of faculty members identified with the *other* (*n* = 139, 0.9%), *multiracial* (*n* = 138, 0.9%), or *visible minority* (*n* = 40, 0.2%) groups.

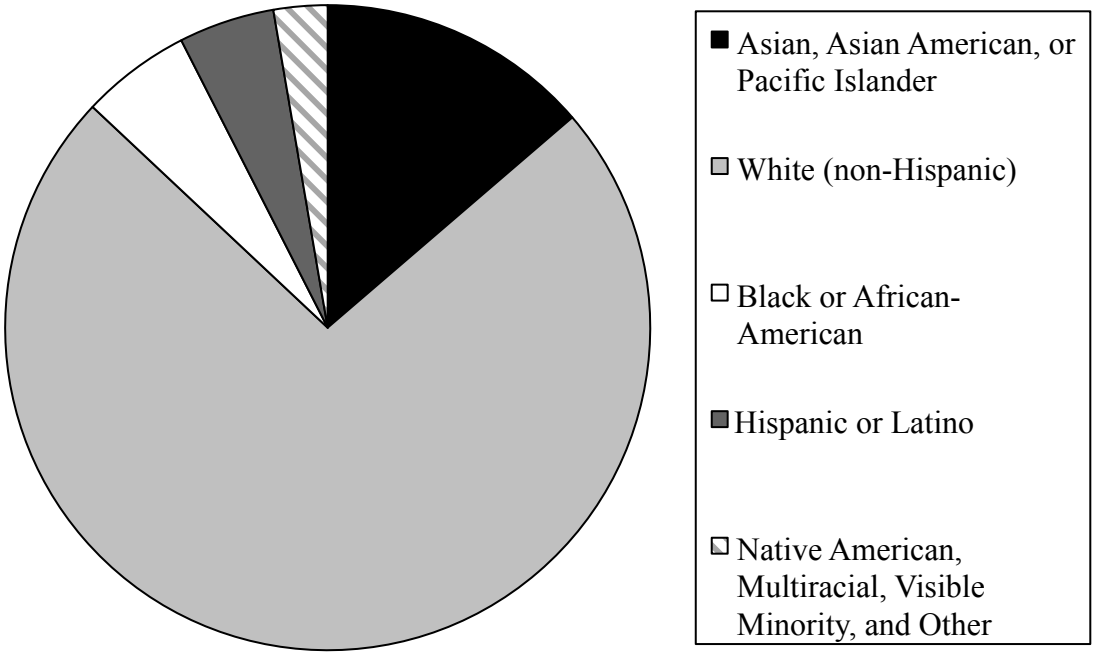

Figure 7. Breakdown of 2005-2010 COACHE *Tenure-Track Faculty Job Satisfaction Survey* participants (*N* = 16,203) into the race groups: *Asian, Asian-American, or Pacific Islander* (*n* = 2,226; 13.7%); *White [non-Hispanic]* (*n* = 11,882; 73.3%); *Black or African-American* (*n* = 888, 5.5%); and *Hispanic or Latino* (*n* = 779, 4.8%). The *other* (*n* = 139, 0.9%), *multiracial* (*n* = 138, 0.9%), *visible minority* (*n* = 40, 0.2%), and *American Indian or Native Alaskan* (*n* = 111, 0.7%) groups were combined to simplify the chart.

Salary. The researcher categorized participants into salary groups based on how they responded to question 15 ("What is your annual salary?"; *N* = 15,844). Figure 8 shows how most participants reported earning a salary of between $45,000 and $59,999

(*n* = 5,676; 34.5%) or $60,000 and $74,999 (*n* = 5,180; 31.5%). A third of the faculty members earned either between $75,000 and $89,000 (*n* = 2,294; 14.0%) or at least $90,000 (*n* = 2,327; 14.2%) while only 2.2% made less than $45,000 (*n* = 367).

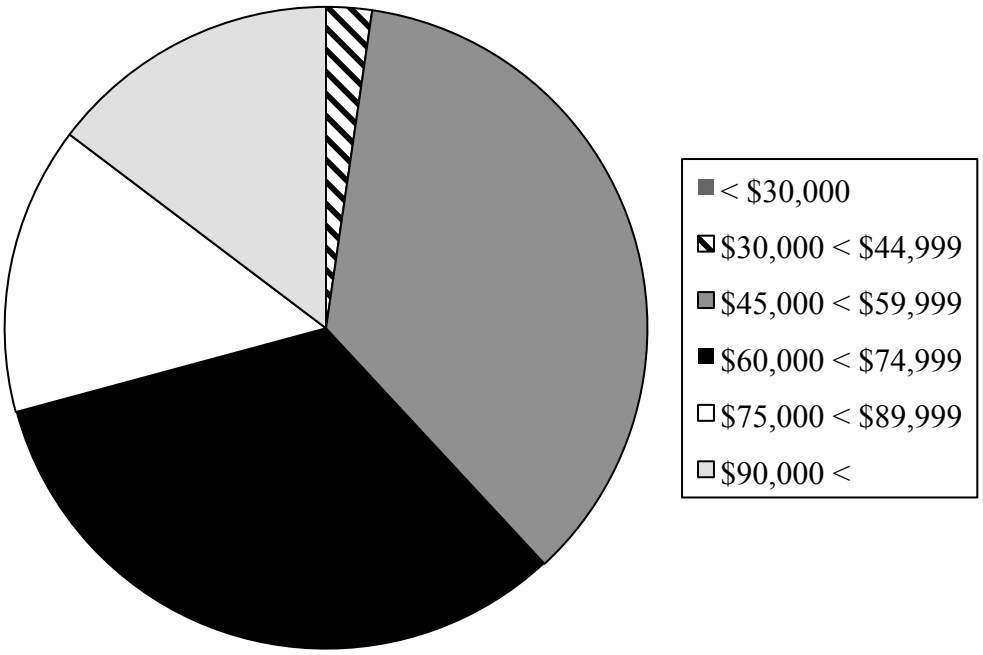

Figure 8. Breakdown of 2005-2010 COACHE *Tenure-Track Faculty Job Satisfactio Survey* participants (*N* = 15,844) into the salary groups: < *$30,00*0 (*n* = 2, 0%), $30,000 < $44,999 (*n* = 365, 2.2%), $45,000 < $59,999 (*n* = 5,676; 34.5%), $60,000 < $74,999 (*n* = 5,180; 31.5%), $75,000 < $89,999 (*n* = 2,294; 14%), and $90,000 < (*n* = 2,327; 14.2%).

Prior tenure-track experience. Participants who responded to survey item 6a ("Is this your first tenure-track appointment?"; *N* = 16,349) were grouped into two categories: those who were in their first tenure-track appointment at the time of the survey and those who had held prior tenure-track appointments. Figure 9 shows how more than three-quarters of the respondents were in their first tenure track appointment (*n* = 13,333; 81.6%).

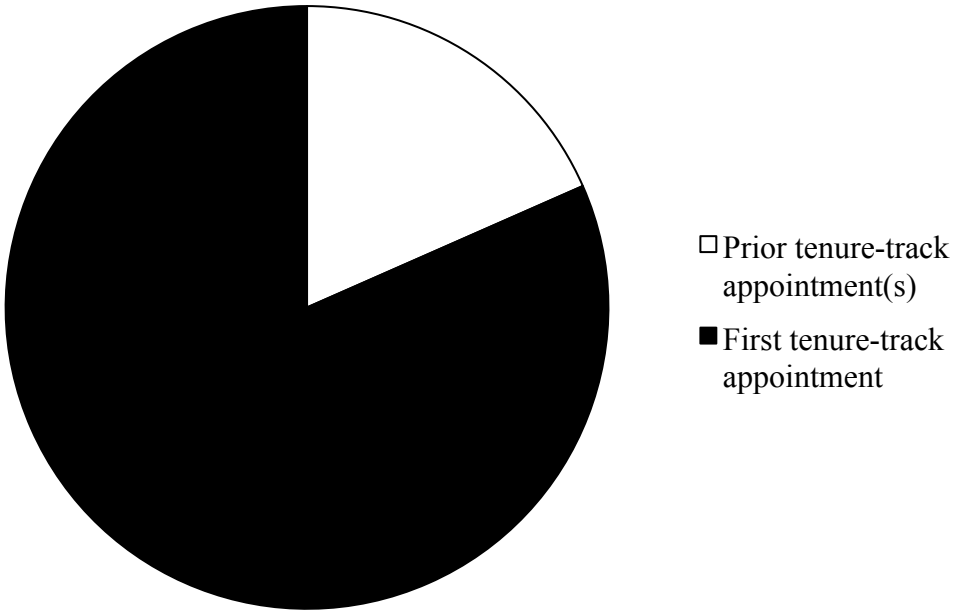

Figure 9. Breakdown of 2005-2010 COACHE *Tenure-Track Faculty Job Satisfaction Survey* participants (*N* = 16,349) into the prior tenure-track experience groups: *first tenure-track appointment* (*n* = 13,333; 81.6%) and prior tenure-track appointments (*n* = 3,016; 18.4%).

Inferential Statistical Analyses

Descriptive results. The descriptive analysis results are intended for background informational purposes only. This section provides information on the internal consistency of the instrument and calculated satisfaction subscales, descriptive statistics on the outcome variables, transformed dependent variables, independent variables, and results related to the checking of multiple regression analysis assumptions.

Dependent variables. Measures of internal consistency (Cronbach's *alpha*) were calculated for each of the satisfaction contributor scales and subscales (Table 16) and evaluated against the following guidelines: $.8 \leq \alpha < 1.0$ exemplary, $.7 \leq \alpha < .8$ extensive, $.6 \leq \alpha < .7$ moderate, $\alpha < .6$ minimal (Wrightsman, 1991). The complete instrument had exemplary reliability ($\alpha = .97$). The subscales tenure and promotion, clarity of

institutional expectations for tenure, reasonableness of institutional expectations for tenure, importance of policy, effectiveness of policy, family, and climate, culture, and collegiality also returned exemplary measures of reliability. The overall and teaching nature of the work subscales had extensive reliability while the research nature of the work subscale was moderately reliability.

Table 16

Cronbach's alpha values for the COACHE Tenure-Track Faculty Job Satisfaction Scale and Subscales

Scale/Subscale	Number of Items	α
Tenure-Track Faculty Job Satisfaction Survey	87	.97
Climate, Culture, and Collegiality	3	.93
Effectiveness of Policy	20	.92
Tenure and Promotion	5	.90
Family	5	.90
Clarity	6	.86
Importance of Policy	20	.85
Reasonableness	6	.85
Nature of the Work (Teaching)	7	.78
Nature of the Work (Overall)	2	.74
Nature of the Work (Research)	3	.61

Table 17 presents the descriptive statistics for central tendency, variability, and distribution for the outcome variables. Tenure-track faculty members were on average

satisfied with the teaching aspect of their job (*M* = 4.10, *SD* = .73), tenure practice (*M* = 3.54, *SD* = .10), reasonableness of institutional expectations for tenure (*M* = 3.74, *SD* = .78), and the overall nature of the profession (*M* = 3.75, *SD* = .78), but were ambivalent to the remaining satisfaction variables, although satisfaction with research aspect of the profession (*M* = 2.81, *SD* = 1.27) was approaching dissatisfaction.

Table 17

Descriptive Statistics for the Job Satisfaction Outcome Variables

Variable	*M* (*SD)*	*Mdn*	*Mo*	Var	Skew	Kurtosis
Tenure	3.54 (0.96)	3.75	4.00	.92	-.74	.08
Clarity	3.41 (0.83)	3.50	4.00	.69	-.46	.05
Reasonableness	3.74 (0.78)	3.67	4.00	.60	-.46	.39
Overall	3.75 (1.03)	4.20	4.00	1.07	-.83	.01
Teaching	4.10 (0.73)	4.20	5.00	.53	-.95	.85
Research	2.81 (1.27)	2.81	2.00	1.62	.18	-1.18
Pay	3.17 (1.20)	3.17	4.00	1.45	-.28	-1.01

Note. Pairwise *N* = 16,444. The range for all variables was 5.00 with a minimum statistic of 1.00 and a maximum statistic of 5.00. *M* = mean, *Mdn* = median, *Mo* = mode, *SD* = standard deviation, Var = variance, *SD* = standard deviation, Skew = skewness. For items in the COACHE survey and for the total scale (scale interpretation ranges included in parentheses): 1.00 – 1.49 (*very dissatisfied*), 1.50 – 2.49 (*dissatisfied)*, 2.50 – 3.49 (*neither dissatisfied nor satisfied),* 3.50 – 4.49 (*satisfied*), and 4.50 – 5.00 (*very satisfied*). Tenure = satisfaction with tenure process; clarity = satisfaction with the clarity of institutional expectations for tenure; reasonableness = satisfaction with the reasonableness of institutional expectations for tenure; overall = satisfaction with the nature of the work (overall); teaching = satisfaction with the nature of the work (teaching); research = satisfaction with the nature of the work (research); pay = satisfaction with compensation and benefits.

Transformed variables. All dependent variables had negatively skewed, non-normal distributions. Multiple regression calculations do not produce meaningful results

on data that has a negative skew (Kelley & Maxwell, 2008). The researcher transformed the subscale values using the equation $y^* = \log(6 - y)$. Reflecting the data corrected for negative skew, and base-10 logarithms on the reflected values reduced skewness and gave a more normal distribution. Table 18 displays the measures of central tendency, variability, and distribution statistics for the transformed outcome variables. The transformed satisfaction scales ranged from 0 (*very satisfied*) to 0.70 (*very dissatisfied*).

Table 18

Descriptive Statistics of the Transformed Indices of Satisfaction for Tenure-Track Faculty

Satisfaction variable[a]	*M* (*SD*)	*Mdn*	*Mo*	Var	Skew	Kurtosis
Tenure practice	.36 (.17)	.35	.30	.03	-.20	-.23
Clarity	.39 (.15)	.39	.30	.02	-.50	.28
Reasonableness	.33 (.16)	.37	.30	.03	-.48	-.22
Overall	.31 (.20)	.30	.30	.04	-.08	-.67
Teaching	.25 (.16)	.26	.26	.03	.14	-.70
Research	.46 (.21)	.50	.50	.04	-.83	-.24
Pay	.41 (.21)	.45	.45	.04	-.47	-.52

Note. Pairwise N = 16,444. The range for all variables was 0.70, with a minimum statistic of 0.00 (*very satisfied)* and a maximum statistic of .70 (*very dissatisfied*). *M* = mean; *SD* = standard deviation; *Mdn* = median; *Mo* = mode; Var = variance; Skew = skewness. Tenure = tenure process; clarity = clarity of institutional expectations for tenure; reasonableness = reasonableness of institutional expectations for tenure; overall = nature of the work (overall); teaching = nature of the work (teaching); research = nature of the work (research); pay = compensation and benefits.
[a]Indicates standardized variable was transformed by taking the log of the reflected values.

Independent variables. Prior to regression analyses, the researcher transformed categorical independent variables into dummy variables. Multiple regression methods on categorical variables are possible when dichotomous dummy variables are created

(Stevens, 2012). A categorical variable with k levels transforms to $k - 1$ dummy variables (Stevens, 2012). For example, the race variable had four usable levels and produced three dummy variables (i.e., Asian, Black, and Hispanic). The fourth level (i.e., white) acted as the control dummy variable. The one-level variables (e.g., Boomer generation) are dummy coded (i.e., 0 = No, 1 = Yes), and the multi-level variables are broken down similarly by subgroups. The demographic variables include gender (using male as the reference category), generation (using GenX as the reference), race (using White as the reference), salary (using $30,000 < $44,999 as the reference), and prior tenure-track experience (using first tenure-track appointment as the reference). Table 19 shows the basic descriptive results of central tendency and variability for each dummy variable (N = 15,737). The means represent the proportion of the subgroup of the sample.

Table 19

Basic Descriptive Statistics of Central Tendency and Variability for Independent Dummy Variables

			Range				
Dummy Variable	*M*	*SD*	Min	Max	Var	Skew	Kurtosis
Gender, Female	.46	.50	0	1	.25	.16	- .20
Generation, Boomer	.26	.44	0	1	.19	1.09	- .81
Race, Asian	.14	.34	0	1	.12	2.13	2.55
Race, Black	.05	.23	0	1	.05	3.95	13.58
Race, Hispanic	.05	.21	0	1	.05	4.26	.02
Salary, $45,000 < $59,999	.35	.48	0	1	.23	.65	- 1.58
Salary, $60,000 < $74,000	.32	.46	0	1	.22	.80	- 1.37
Salary, $75,000 < $89,999	.14	.35	0	1	.12	2.08	.14
Salary, %90,000 <	.14	.35	0	1	.12	2.06	2.23
Tenure Experience, Yes	.18	.39	0	1	.15	1.64	.68

Note. Listwise $N = 15{,}737$. Descriptive statistics are not provided for reference categories: gender (*male*), race (*white*), salary *($30,000 < $44,999*), and tenure-track experience (*first tenure-track appointment*).

Checking of assumptions. Multiple linear regression assumes normally-distributed data with little skew (Mertler & Vannatta, 2005). The transformed variables offered more normal distributions than the unaltered values (Figure 10 and Appendix E).

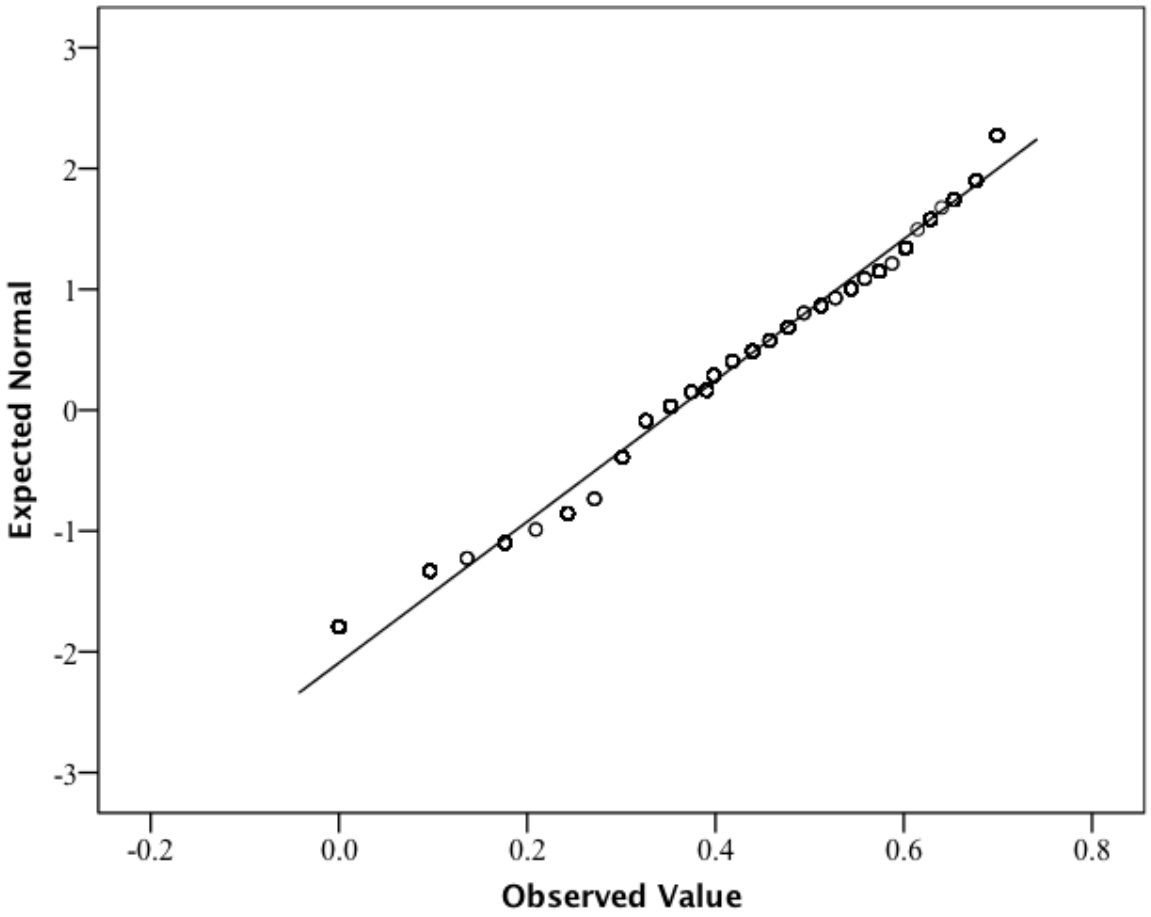

Figure 10. Normality Q-Q plot for transformed satisfaction with tenure process variable.

The researcher analyzed the dataset for intercorrelations among the variables in attempt to detect unusual correlations and other potential errors according to Cohen's (1988) effect size conventions:

- $r < .10$, not practically significant.
- $.10 < r < .29$, weak practical significance
- $.30 < r < .49$, moderate practical significance
- $.50 < r$, strong practical significance

The results of successive bivariate correlations indicated some degree of statistically-significant positive correlations between all satisfaction indices (Table 20). Satisfaction

with compensation and benefits had the relatively smallest correlation coefficients of all satisfaction variables. Satisfaction with compensation and benefits had weak practical associations to satisfaction with tenure process (r = .18), clarity of institutional expectations for tenure (r = .18), overall nature of the work (r = .22), reasonableness of institutional expectations for tenure (r = .23), research nature of the work (r = .25), and teaching nature of the work (r = .28). Satisfaction with the nature of the work also had weak practical associations with the clarity of institutional expectations for tenure (r = .26) and satisfaction with the tenure process (r = .27). A weak practical association was also detected between satisfaction with the tenure process and satisfaction with the teaching nature of the work (r = .29). A number of moderate practical associations were also detected. The overall nature of the work had moderate practical associations with the following satisfaction variables: tenure process (r = .30), clarity of institutional expectations for tenure (r = .32), reasonableness of institutional expectations for tenure (r = .39), and the teaching nature of the work (r = .43). Satisfaction with the teaching nature of the work was also moderately statistically associated with clarity of institutional expectations for tenure (r = .31), reasonableness of institutional expectations for tenure (r = .38), and the research nature of the work (r = .38). A moderate practical association was also detected between satisfaction with the research aspect of the work and the reasonableness of institutional expectations for tenure (r = .33). Four strong positive associations emerged from the correlations of the dependent variables: satisfaction with the research nature of the work and overall nature of the work (r = .53), satisfaction with the tenure process and satisfaction with the reasonableness of institutional expectations for tenure (r = .59), satisfaction with the tenure process and satisfaction with the clarity of

institutional expectations for tenure (r = .69), and satisfaction with the clarity of institutional expectations for tenure and satisfaction with the reasonableness of institutional expectations for tenure (r = .71). In other words, if tenure-track faculty members were satisfied with the clarity of institutional expectations for tenure, they tended to be satisfied with the reasonableness of their expectations for tenure as well as with the tenure process. Additionally, faculty who felt less satisfied with the overall nature of their work tended to also report lower satisfaction with their research. All other satisfaction variables had small or medium correlations between each other.

Table 20

Intercorrelations Between Satisfaction Outcome Variables

	1	2	3	4	5	6	7
1. Tenure process	--						
2. Clarity of institutional expectations for tenure	.69**	--					
3. Reasonableness of institutional expectations for tenure	.59**	.71**	--				
4. Nature of the work (overall)	.30**	.32**	.39**	--			
5. Nature of the work (teaching)	.29**	.31**	.38**	.43**	--		
6. Nature of the work (research	.27**	.26**	.33**	.53**	.38**	--	
7. Compensation and benefits	.18**	.18**	.23**	.22**	.28**	.25**	--

Note. Listwise N = 16,444.
**p < .01.

Table 21 shows a correlation matrix for all demographic dummy variables (gender, generation, race, salary, and prior tenure-track experience). The majority of variables had no practical significant associations according to Cohen's (1988) conventions. Weak practical associations were found for the female dummy variable and the $45,000 < $59,999 salary group ($r$ = .11) and the $90,000 < salary group ($r$ = .11). The Boomer generation dummy variable had a weak practical association to the prior tenure-track appointment dummy variable (r = .18). The Asian or Asian-American dummy variable also exhibited a weak practical association to the Black or African-American dummy variable (r = .10). All of the salary dummy variables showed either weak practical negative associations or moderate practical negative associations:

- $75,000 < $89,999 and $90,000 < ($r$ = -.16)
- $60,000 < $74,999 and $75,000 < $89,999 ($r$ = -.27)
- $60,000 < $74,999 and $90,000 < ($r$ = -.28)
- $45,000 < $59,999 and $75,000 < $89,999 ($r$ = -.29)
- $45,000 < $59,999 and $90,000 < ($r$ = -.30)
- $45,000 < $59,999 and $60,000 < $74,999 ($r$ = -.49)

Table 21

Intercorrelations Between Independent Dummy Variables

	1	2	3	4	5	6	7	8	9	10
1. Female	--									
2. Boomer	.02**	--								
3. Asian or Asian American	-.06**	-.07**	--							
4. Black or African American	.05**	.05**	-.10**	--						
5. Hispanic	-.01**	.01**	-.09**	-.05**	--					
6. $45,000 < $59,999	.11**	.03**	-.09**	.00**	.02**	--				
7. $60,000 < $74,999	.03**	-.01**	-.01**	.02**	.01**	-.49**	--			
8. $75,000 < $89,999	-.08**	-.02**	.09**	-.03**	-.01**	-.29**	-.27**	--		
9. $90,000 <	-.10**	.01**	.05**	-.01**	-.03**	-.30**	-.28**	-.16**	--	
10. Prior tenure-track appointments	.02**	.18**	-.05**	.05**	.01**	-.01**	.01**	-.02**	.02**	--

Note. Listwise $N = 16,444$.
**p < .01.

The satisfaction data met the homoscedasticity assumption. For all dependent variables, plots of standardized residuals against the standardized predicted values, showed values spread out similarly across groups. The residuals plot for the first dependent variable, satisfaction with tenure process (Figure 11), showed that residuals fell in bands (because satisfaction results were not scalar) that filled the chart space vertically with some degree of scatter among the bands.

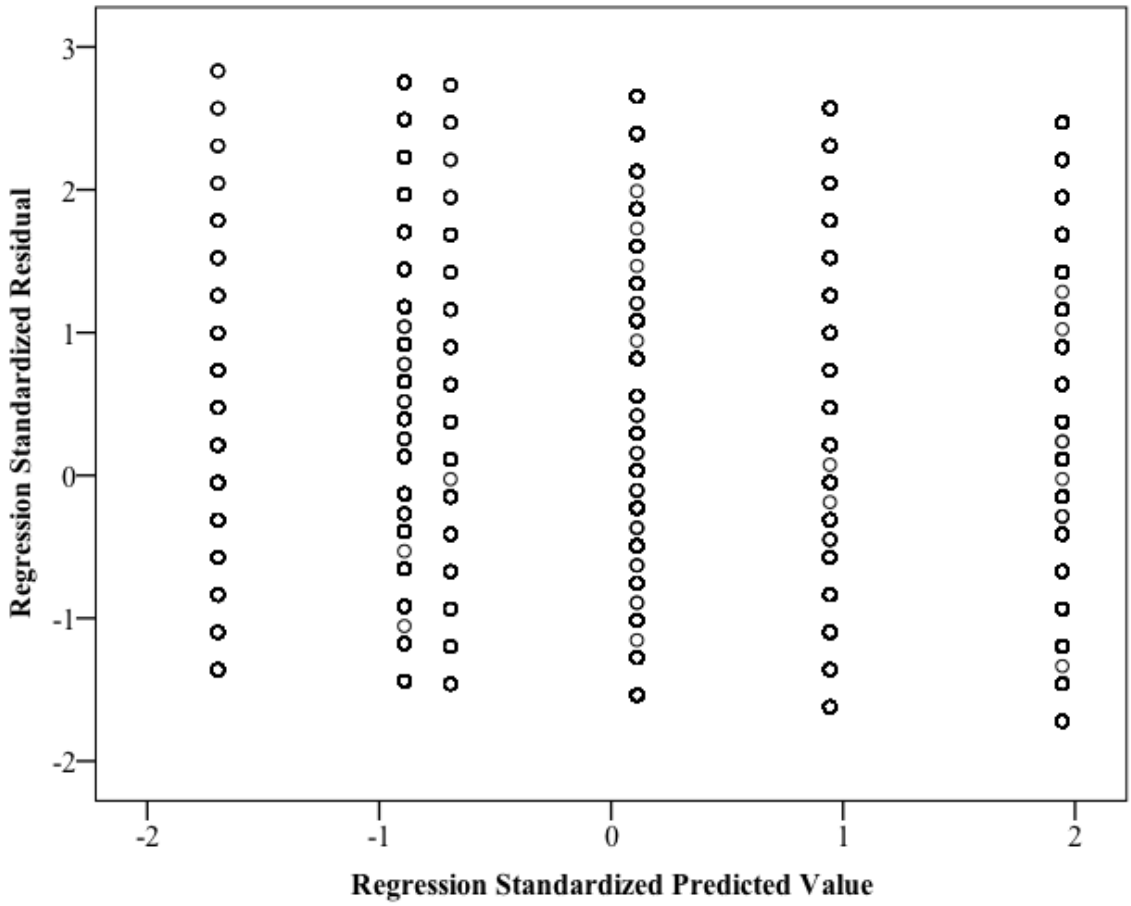

Figure 11. Scatterplot of the predicted standardized regression value against the standardized residual regression value showing consistent scatter across groups and illustrating that the homoscedasticity assumption was met.

Research question two. Research question two examined the relationship between generation and other faculty demographic variables (i.e., gender, race, salary, and prior tenure-track experience). Bivariate correlations (Table 22) revealed that generational membership had weak practical associations with the prior tenure-track experience variable (r = -.18 for both Boomers and GenX variables) according to Cohen's (1988) conventions. Generation was not practically associated with any other demographic variable.

Table 22

Correlations Between Variables and Generation Membership

	Boomer	GenX
Gender, Female	-.027**	-.030**
Race, Asian	.069**	.072**
Race, Black	-.057**	-.062**
Race, Hispanic	-.011	-.006
Salary, $45,000 < $59,999	-.022**	-.021**
Salary, $60,000 < $74,000	.021**	.020*
Salary, $75,000 < $89,999	.023**	.021**
Salary, %90,000 <	-.009	-.006
Tenure Experience, Yes	-.182**	-.180**

Note. Listwise N = 15,737.
*p < .05 level (2-tailed). **p < .01 level (2-tailed).

A standard multiple linear regression generated information regarding the predictability of tenure-track faculty members' generations from their other demographic information). For this analysis, the Boomer generation dummy variable was regressed against all other demographic dummy variables in a single step. Table 23 presents the unstandardized (*B*) and standardized (*β*) Beta weights, standard error, and confidence interval boundaries. The researcher calculated overall effect size using Equation 3

$$f^2 = \frac{R^2}{(1-R^2)} \qquad \text{Equation 3}$$

and evaluated according to Cohen's (1988) conventions:

- $.02 < f^2 < .14$, *small* effect size,
- $0.15 < f^2 < .34$, *moderate* effect size, and
- $0.35 < f^2$ *large* effect size (Cohen, 1988).

The multiple regression of generation against all demographic variables yielded a small R^2 (.04) and effect size ($f^2 = .04$), but some of the demographic variables emerged as significant predictors of generation.

Of all the demographic variables, only the Asian and Asian-American, Black and African-American, $45,000 < $59,999 salary, $90,000 and above salary, and prior tenure-track experience variables were significant predictors of generation. The gender, Hispanic, $60,000 < $74,999 salary, and $75,000 < $89,999 salary variables were not significant predictors of generation. Squared, semipartial correlation coefficients (*part* r^2) can be directly interpreted directly as effect size (Warner, 2013) because they represent the unique variance a predictor variable shares with the outcome variable and were used to fully deconstruct the regression variances into individual predictor components (Fairchild, MacKinnon, Taborga, & Taylor, 2009; Nathans, Oswald, & Nimon, 2012).

The *part* r^2 generated from the multiple regression analysis were interpreted according to Cohen's (1988) conventions:

- $.01 < r^2 < .05$, *small* effect size
- $.06 < r^2 < .14$, *medium* effect size
- $.15 < r^2$ *large* effect size

Of all the statistically significant predictors, the prior tenure track appointment variable had the largest beta weight ($\beta = .20$, $p = .000$), indicating it made the largest contribution to the multiple regression equation when all other variables were held constant. However, the effect of prior tenure-track experience variable with the generation variable was small (*part* $r^2 = .03$). The other predictor variables – Black and African-American ($\beta = .08$, $p = .000$, *part* $r^2 = .00$), Asian and Asian-American ($\beta = -.07$, $p = .000$, *part* $r^2 = .00$), \$45,000 < \$59,999 ($\beta = .04$, $p = .007$, *part* $r^2 = .00$), and \$90,000 < ($\beta = .04$, $p = .008$, *part* $r^2 = .00$) – had much smaller beta weights, indicating smaller contributions to the regression equation, and had no effect on the prediction of generation.

Table 23

Predictors of Generation from Demographic Dummy Variables

Variable	*B*	*SE*	*β*	95% CI
Constant	.20**	.01		[.17, .22]
Gender				
Female (x_1)	.01	.01	.02	[.00, .03]
Race				
Asian (x_3)	-.07**	.01	-.06	[-.09, -.05]
Black (x_4)	.08**	.02	.04	[.05, .11]
Hispanic (x_5)	.02	.02	.01	[-.01, .05]
Salary[a]				
45,000-59,999 (x_6)	.04**	.02	.04	[.01, .07]
60,000-74,999 (x_7)	.02	.02	.02	[-.01, .05]
75,000-89,999 (x_8)	.02	.02	.02	[-.01, .05]
90,000 + (x_9)	.04**	.02	.04	[.01, .08]
Tenure				
Prior (x_{10})	.20**	.01	.17	[.18, .21]
R^2	.04			
F	72.62**			

Note. Pairwise $N = 16{,}444$. $df = 9$; *B* = unstandardized regression coefficient; *SE* = standard error; *β* = standardized regression coefficient; CI = confidence interval. Regression results are not provided for the control variables gender (male), race (white), salary ($30,000 < $44,999), and tenure-track experience (no prior tenure-track experience).
**$p < .01$.
[a]Salary in $.

Research question three. Multiple linear regressions produced information on relationships between an outcome and several predictor variables. Seven standard multiple regressions informed how demographics predict satisfaction. Each satisfaction variable was regressed against all predictor dummy variables in a single step. Table 24 presents the unstandardized Beta weights (*B*), confidence interval (CI) boundaries,

regression coefficients (R^2), Fisher's F ratio (F), and Cohen's effect size (f^2) for each satisfaction measure. Each of the satisfaction indices was significantly predicted from at least four of the 10 demographic dummy predictors ($p < .05$). Gender significantly predicted all satisfaction outcomes ($p < .01$), and the Asian dummy variable predicted six of the seven indices of satisfaction ($p < .05$). The greatest number of demographic variables predicted satisfaction with compensation and benefits, where nine of the 10 predictor variables were statistically significant at $p < .05$. Eight of those variables were statistically significant at $p < .01$. Satisfaction with the clarity of institutional expectations for tenure and satisfaction with the overall nature of the work was predicted by the fewest number of variables. Gender, one race variable, and two satisfaction variables predicted the variance in tenure-track faculty satisfaction with the overall nature of the work ($p < .01$). Gender, two race categories, and prior tenure-track experience variables predicted satisfaction with the clarity of institutional expectations for tenure ($p < .05$). Even though the demographic variables produced significant effects on satisfaction in each case, all regressions had very small effect sizes. Chapter Five offers interpretation and suggests possible explanations for the low coefficient of determination and effect size results.

Satisfaction with the tenure process. The multiple regression results showed satisfaction with the tenure process could statistically be predicted by the gender ($\beta = 4.97$, $p = .000$), Asian and Asian-American race ($\beta = 5.03$, $p = .002$), Black and African-American race ($\beta = 4.97$, $p = .020$), \$45,000 < \$59,999 salary ($\beta = 5.05$, $p = .000$), \$60,000 < \$74,999 salary ($\beta = 5.06$, $p = .000$), \$75,000 < \$89,999 salary ($\beta = 5.04$, $p = .004$), \$90,000 + salary ($\beta = 5.03$, $p = .018$), and generation ($\beta = 4.94$, $p = .000$) dummy predictor variables. However, the calculated effect sizes for each significant contributor

were *part* r^2 = .00 in all cases, indicating that the demographic variables had no statistically significant effect on the observed satisfaction with tenure process variance. The overall regression equation also showed no sign of the combined predictor variables having a statistically significant effect on predicting satisfaction with the tenure process (R^2 = .01, f^2 = .01).

Satisfaction with the clarity of institutional expectations for tenure. Satisfaction with the clarity of institutional expectations for tenure had the smallest R^2 (.005) for all satisfaction outcomes and the demographic variables had no statistically significant effect on the satisfaction variance (f^2 = .01). Even though the multiple regression results showed that four variables were significant predictors of satisfaction with the clarity of institutional expectations for tenure – the gender (β = 5.00, p = .030), Asian and Asian-American race (β = 5.06, p = .000), Hispanic race (β = 5.03, p = .027), and prior tenure-track experience (β = 5.00, p = .046) variables – the variables had no individual effect on variance (*part* r^2 = .00 for all demographic variables).

Satisfaction with the reasonableness of institutional expectations for tenure. Five demographic variables significantly predicted satisfaction with the reasonableness of institutional expectations for tenure. The gender (β = 4.94, p = .000), Black and African-American race (β = 4.94, p = .000), $45,000 < $59,000 salary (β = 5.03, p = .022), $75,000 < $89,999 salary (β = 5.03, p = .047), and generation (β = 3.92, p = .000) variables all significantly predicted the outcome. The gender predictor had a statistically small effect on the satisfaction with the reasonableness of institutional expectations for tenure variance (*part* r^2 = .01). The other four demographic variables all had *part* r^2 = .00, indicating that they had no effect on variance. Additionally, the overall regression

equation also showed no sign of the combined predictor variables having a statistically significant effect on predicting tenure-track faculty satisfaction with the reasonableness of institutional expectations for tenure ($R^2 = .01, f^2 = .01$).

Satisfaction with the nature of the work (overall). The multiple regression results showed that demographic variables statistically predicted satisfaction with the overall nature of the work, but the combined variables had no statistically significant effect on the variance ($R^2 = .01, f^2 = .01$). The gender ($\beta = 4.92$, $p = .000$), Asian and Asian-American race ($\beta = 5.03$, $p = .001$), \$90,000 < salary ($\beta = 5.07$, $p = .000$), and prior tenure-track experience ($\beta = 5.03$, $p = .002$) dummy variables all significantly predicted satisfaction with the overall nature of the work. Gender was found to have a small effect on satisfaction variance (*part* $r^2 = .01$), but all other predictors had calculated *part* $r^2 = .00$, indicating they had no significant effect on satisfaction with the nature of the work (overall).

Satisfaction with the nature of the work (teaching). Five demographic variables significantly predicted satisfaction with teaching: gender ($\beta = 4.98$, $p = .003$), Asian and Asian-American race ($\beta = 4.91$, $p = .000$), \$60, 000 < \$74,999 salary ($\beta = 5.05$, $p = .000$), \$75,000 < \$89,000 salary ($\beta = 5.05$, $p = .000$), and \$90,000 < salary ($\beta = 5.07$, $p = .000$). Combined, the demographic variables explained 0.9% of the satisfaction variable ($R^2 = .01$) but had no statistically significant effect on the variance ($f^2 = .01$). Individually, the Asian and Asian-American dummy variable had a small effect on satisfaction with teaching (*part* $r^2 = .01$). The other demographic variables produced *part* $r^2 = .00$ values, indicating race was the only demographic predictor that effected satisfaction with teaching.

Satisfaction with the nature of the work (research). A multiple regression showed that satisfaction with research could be predicted by the demographic variables gender (β = 4.87, p = .000), Asian and Asian-American race (β = 5.12, p = .000), $45,000 < $59,999 salary (β = 4.96, p = .011), $60,000 < $74,999 salary (β = 5.04, p = .017), $75,000 < $89,999 salary (β = 5.12, p = .000), $90,000 < salary (β = 5.17, p = .000), prior tenure-track experience (β = 5.02, p = .034), and generation (β = 4.95, p = .000). The combination of predictors produced a coefficient of determination of R^2 = .07. The researcher used the R^2 to calculate an overall effect size f^2 = .07, indicating that the significant demographic variables had a small effect on the variance in for satisfaction with research. Three of the individual demographic predictors were also shown to have had small effects on satisfaction: gender (*part* r^2 = .02), Asian and Asian-American race (*part* r^2 = .01), and $90,000 < salary (*part* r^2 = .01). All other calculated *part* r^2 were .00, signifying that they had no significant effect on tenure-track satisfaction with research.

Satisfaction with compensation and benefits. Satisfaction with compensation and benefits had the largest coefficient of determination (R^2 = .097). All but one independent demographic variable significantly predicted tenure-track faculty satisfaction with compensation and benefits. Of the nine significant predictors – gender (β = 5.03, p = .000), Asian and Asian- American race (β = 4.89, p = .000), Black and African-American race (β = 4.93, p = .000), Hispanic race (β = 4.95, p = .002), $45,000 < $59,999 salary (β = 4.97, p = .032), $60,000 < $74,999 salary (β = 5.14, p = .000), $75,000 < $89,999 salary (β = 5.22, p = .000), $90,000 < salary (β = 5.31, p = .000), and generation (β = 4.93, p = .000) – four had statistically significant effect sizes *part* r^2 values. The variables Asian and Asian-American (*part* r^2 = .01), $60,000 < $74,999 salary (*part* r^2 =

.01), $75,000 < $89,999 salary (*part* r^2 = .01), and $90,000 < salary (*part* r^2 = .03) had individual small effect sizes, but when combined produced the largest relative effect size of all the satisfaction variables. Cohen's f^2 = .11, calculated from the regression coefficient of determination (R^2), signifies that the set of predictors had a small effect on satisfaction with compensation and benefits.

Table 24

Predictors of Satisfaction from Demographic Variables

	Satisfaction					
	With tenure process		With clarity		With reasonableness	
Variable	*B*	95% CI	*B*	95% CI	*B*	95% CI
Constant	3.68**	[3.62, 3.74]	3.52**	[3.47, 3.57]	3.92**	[3.87, 3.97]
Gender						
Female	4.97**	[5.01, 5.05]	5.00*	[4.98, 5.00]	4.94**	[4.93, 4.96]
Race						
Asian	5.03**	[5.01, 5.05]	5.06**	[5.05, 5.08]	4.99	[4.98, 5.01]
Black	4.97*	[4.94, 5.00]	5.02	[4.99, 5.04]	4.94**	[4.97, 4.97]
Hispanic	5.00	[4.97, 5.03]	5.03*	[5.00, 5.05]	4.98	[4.95, 5.01]
Salary[a]						
45,000 < 59,999	5.05**	[5.03, 5.08]	5.01	[4.99, 5.04]	5.03*	[5.01, 5.05]
60,000 < 74,999	5.06**	[5.04, 5.09]	5.01	[4.99, 5.03]	5.02	[4.99, 5.04]
75,000 < 89,999	5.04**	[5.01, 5.07]	5.01	[4.98, 5.03]	5.03*	[5.00. 5.05]
90,000 <	5.03*	[5.01, 5.06]	4.98	[4.96, 5.01]	3.92	[4.99, 5.05]
Tenure						
Prior experience	5.00	[4.97, 5.00]	5.00*	[4.07, 5.00]	3.92	[4.97, 5.01]
Generation						
Boomer	4.94*	[4.93, 4.96]	5.01	[4.99, 5.02]	3.92**	[4.95, 4.97]
R^2	0.01		0.01		0.01	
F	15.47**		8.93**		17.41**	
f^2	.01		.01		.01	

Note. Pairwise *N* = 16,444. *df* = 10; *B* = unstandardized regression coefficient; CI = confidence interval; f^2 = Cohen's effect size.
*$p < .05$. **$p < .01$.
[a]Salary in $.

	Satisfaction with							
	Overall nature of work		Teaching		Research		Compensation	
Variable	*B*	95% CI	*B*	95% CI	*B*	95% CI	*B*	95% CI
Constant	4.01**	[3.95, 4.07]	4.20**	[4.15, 4.24]	3.14**	[3.22, 3.04]	3.19**	[3.10, 3.27]
Gender								
Female	4.92**	[4.90, 4.94]	4.98**	[4.97, 4.99]	4.87**	[4.85, 4.88]	5.03**	[5.02, 5.04]
Race								
Asian	5.03**	[5.01, 5.05]	4.91**	[4.89, 4.93]	5.12**	[5.10, 5.14]	4.89**	[4.87, 4.91]
Black	5.02	[4.99, 4.95]	4.98	[4.96, 5.00]	4.99	[4.96, 5.03]	4.93**	[4.90, 4.96]
Hispanic	5.02	[4.99, 5.05]	4.99	[4.96, 5.01]	5.03	[4.99, 5.06]	4.95**	[4.91, 4.98]
Salary[a]								
45,000 < 59,999	4.98	[4.95, 5.01]	5.02	[5.00, 5.05]	4.96*	[4.92, 4.99]	4.97*	[4.93, 5.00]
60,000 < 74,999	5.00	[4.97, 5.03]	5.05**	[5.02, 5.07]	5.04**	[5.01, 5.07]	5.14**	[5.11, 5.16]
75,000 < 89,999	5.00**	[4.97, 5.03]	5.05**	[5.02, 5.08]	5.12**	[5.09, 5.15]	5.22**	[5.19, 5.23]
90,000 <	5.07**	[5.03, 5.10]	5.07**	[5.04, 5.09]	5.17**	[5.14, 5.20]	5.31**	[5.29, 5.33]
Tenure								
Prior experience	5.03	[5.01, 5.05]	4.99	[4.98, 5.00]	5.02*	[5.00, 5.04]	4.98	[4.96, 5.00]
Generation								
Boomer	5.01	[4.99, 5.03]	5.00	[4.99, 5.01]	4.95**	[4.93, 4.97]	4.93**	[4.91, 4.95]
R^2	0.01		0.01		0.07		0.10	
F	22.99**		14.98**		118.09**		177.18**	
f^2	.01		.01		.07		.11	

Note. Pairwise $N = 16{,}444$. *B* = unstandardized regression coefficient; CI = confidence interval; f^2 = Cohen's effect size.
*$p < .05$. **$p < .01$.
[a]Salary in $.

The regression coefficients explained the amount of variance attributed to each predictor variable and were used to generate linear regression prediction equations, which take the form:

$$\hat{y} = B_o + B_1\, x_1 + B_2\, x_2 + \cdots B_n\, x_n \qquad \text{Equation 4}$$

Where

- $\hat{y}$ is the predicted satisfaction outcome variable,
- B_o is the constant's unstandardized regression coefficient and intercept of the regression line,
- $B_1, B_2, \ldots B_n$ are the predictor variables' unstandardized regression coefficients, and
- $x_1, x_2, \ldots x_n$ represent the predictor variables.

Regression equations for all satisfaction indices follow.

Satisfaction with the tenure process:

$$\hat{y} = 3.68 + 4.97\ (\text{female}) + 4.94\ (\text{Boomer}) + 5.03\ (\textit{A}\text{sian or Asian American}) +$$
$$4.97\ (\textit{B}\text{lack or African American}) + 5.51\ (\$45{,}000 < \$59{,}999) +$$
$$5.06\ (\$60{,}000 < \$74{,}999 + 5.04\ (\$75{,}000 < \$89{,}999) +$$
$$5.03\ (\$90{,}000 <) \qquad \text{Equation 5}$$

Satisfaction with the clarity of institutional expectations for tenure:

$$\hat{y} = 3.52 + 4.99\ (\text{female})_1 + 5.06(\text{Asian or Asian American}) + 5.03\ (\text{Hispanic}) +$$
$$4.99\ (\text{prior tenure} - \text{track appointment}) \qquad \text{Equation 6}$$

Satisfaction with the reasonableness of institutional expectations for tenure:

$$\hat{y} = 3.92 + 4.94(\text{female}) + 3.92(\text{Boomer}) + 4.94\ (\text{Black or African American}) +$$
$$5.03\ (\$45{,}000 < \$59{,}999) + 5.03\ (\$75{,}000 < \$89{,}999) \qquad \text{Equation 7}$$

Satisfaction with the nature of the work (overall):

$$\hat{y} = 4.01 + 4.92(\text{Boomer}) + 5.03(\text{Asian or Asian American}) +$$
$$5.00\ (\$75{,}000\ <\ \$89{,}999) + 5.07\ (\$90{,}000\ <) \qquad \text{Equation 8}$$

Satisfaction with the nature of the work (teaching):

$$\hat{y} = 4.20 + 4.98(\text{female}) + 4.91(\text{Asian or Asian American}) +$$
$$5.05\ (\$60{,}000\ <\ \$74{,}999) + 5.05(\$75{,}000\ <\ \$89{,}999) +$$
$$5.07\ (\$90{,}000\ <) \qquad \text{Equation 9}$$

Satisfaction with the nature of the work (research):

$$\hat{y} = 3.14 + 4.87\ (\text{female}) + 5.12\ (\text{Boomer}) + 4.96\ (\$45{,}000\ <\ \$59{,}999) +$$
$$5.04\ (\$60{,}000\ <\ \$74{,}999) + 5.12\ (\$75{,}000\ <\ \$89{,}999) +$$
$$5.17\ (\$90{,}000\ <) + 5.02\ (\text{prior tenure} - \text{track appointment}) \qquad \text{Equation 10}$$

Satisfaction with compensation and benefits:

$$\hat{y} = 3.19 + 5.03\ (\text{female})_1 + 4.93(\text{Boomer}) + 4.89\ (\text{Asian or Asian American}) +$$
$$4.93\ (\text{Black or African American}) + 4.95\ (\text{Hispanic}) +$$
$$4.97\ (\$45{,}000\ <\ \$59{,}999) + 5.14\ (\$60{,}000\ <\ \$74{,}999) +$$
$$5.22\ (\$75{,}000\ <\ \$89{,}999) + 5.31\ (\$90{,}000\ <) \qquad \text{Equation 11}$$

Research question four. Research question four is similar to question three except for the intention to use stepwise multiple regression analyses to isolate generational effects on tenure-track faculty satisfaction by controlling for the other demographic predictors. Generation significantly predicted with four of the seven tested job satisfaction facets ($p < .01$). Boomer and GenX faculty members did not report significant differences in their satisfaction with the satisfaction with the clarity of institutional expectations for tenure ($p = .57$), satisfaction with the overall nature of the

work (p = .33), or satisfaction with the teaching nature of the work (p = .33). Table 25 compares how satisfied Boomer and GenX participants were with tenure process [$t(10)$ = 7.73, p = .000], reasonableness of institutional expectations for tenure [$t(10)$ = 6.01, p = .000], the research nature of the work [$t(10)$ = 5.90, p < .01], and compensation and benefits [$t(10)$ = 8.56, p = .000].

Table 25

Means of Tenure-Track Faculty Satisfaction by Generation

Satisfaction variable	All faculty	Boomer	GenX
Tenure process	3.54 (.96)	3.41** (1.05)	3.61** (.91)
Reasonableness	3.74 (.76)	3.65** (.83)	3.79** (.74)
Research	2.81 (1.27)	2.67** (1.28)	2.87** (1.26)
Compensation	3.17 (1.20)	3.03** (1.23)	3.25** (1.19)

Note. Boomer N = 4,247; GenX N = 11,128.
**p < .01.

Stepwise, multiple linear regressions, which consider the degree to which each predictor explains variance in an outcome, produced information on the relationship between generation and satisfaction. Step one entered the gender, race, salary, and prior tenure-track dummy variables simultaneously to remove possible significant contributions to the satisfaction outcome. Step two entered the Boomer generation dummy variable to measure its impact on satisfaction. Tables 26-32 concurrently present the unstandardized *Beta* weights (B), CI boundaries, R^2 coefficients, F ratios, and f^2 effect sizes by step for each satisfaction variable. The generation effect sizes were calculated from the coefficients of determination from each step (Equation 12).

$$f^2 = \frac{R^2_{AB} - R^2_A}{1 - R^2_{AB}}$$ Equation 12

where f^2 = effect size, R^2_A = coefficient of determination for step one, and R^2_{AB} = coefficient of determination after step two. In four satisfaction variables, the generation variable was found to statistically contribute to the variance. In these cases, generation explained:

- roughly 0.4% of satisfaction with the tenure process variance [R^2 = .009, ΔR^2 =.00, F(10, 16443) = 15.47, p = .000, Δf^2 = .00] and had essentially no individual statistically-significant practical effect on the measure (f^2 = .00);
- 0.2% of satisfaction with the reasonableness of institutional expectations for tenure [R^2 = .01, ΔR^2 =.00, F(10, 16443) = 17.41, p = .000, Δf^2 = .00] but had no individual statistically-significant practical effect (f^2 = .00);
- 0.2% of satisfaction with the research nature of the work [R^2 = .067, ΔR^2 =.00, F(10, 16443) = 118.09, p = .000, Δf^2 = .00] with no individual statistically-significant practical effect (f^2 = .000); and
- 0.4% of satisfaction with compensation and benefits [R^2 = .10, ΔR^2 =.00, F(10, 16443) = 177.18, p = .000, Δf^2 = .01] and no individual statistically-significant practical effect (f^2 = .00).

Table 26

Predictors of Satisfaction with the Tenure Process

	Satisfaction with tenure process		
		Model 2	
Variable	Model 1 *B*	*B*	95% CI
Constant	3.65	3.68	[3.62, 3.74]
Gender			
Female	4.96**	4.97**	[4.95, 4.98]
Race			
Asian	5.03**	5.023**	[4.989, 5.05]
Black	4.96**	4.97*	
Hispanic	5.00	5.00	[4.97, 5.03]
Salary[a]			
45,000-59,999	5.05**	5.05**	[4.97, 5.08]
60,000-74,999	5.06**	5.06**	[4.96, 5.09]
75,000-89,999	5.04**	5.04**	[4.99, 5.07]
90,000+	5.03*	5.03*	[4.99, 5.06]
Tenure			
Prior	4.97**	4.99	[4.970, 5.00]
Generation			
Boomer		4.94**	[4.928, 4.96]
R^2	0.01	0.01	
F	10.51**	15.47**	
ΔR^2	0.01	0.00	
ΔF	10.51**	59.81**	
f^2	.01	.00	

Note. Pairwise N = 16,444. B = unstandardized regression coefficient; CI = confidence interval. f^2 for step one was calculated using the formula $f^2 = [R^2/(1\text{-}R^2)]$ and using the formula $f^2 = [(R^2_{AB} - R^2_A)/(1 - R^2_{AB})]$ for step two.
*$p < .05$. **$p < .01$.
[a]Salary in $.

Table 27

Predictors of Satisfaction with the Clarity of Institutional Expectations for Tenure

	Satisfaction with clarity of institutional expectations for tenure		
		Model 2	
Variable	Model 1 *B*	*B*	95% CI
Constant	3.52**	3.52**	[3.47, 3.57]
Gender			
Female	4.99*	4.99*	[4.98, 5.00]
Race			
Asian	5.06**	5.06**	[4.95, 5.08]
Black	5.02	5.02	
Hispanic	5.03*	5.03*	[5.00, 5.05]
Salary[a]			
45,000-59,999	5.01	4.99	[4.99, 5.04]
60,000-74,999	5.01	4.99	[4.99, 5.03]
75,000-89,999	5.01	4.99	[4.98, 5.03]
90,000+	4.98	4.99	[4.96, 5.01]
Tenure			
Prior	4.99	4.99*	[4.97, 5.00]
Generation			
Boomer		4.99	[4.99, 5.02]
R^2	0.01	0.01	
F	9.88**	8.93**	
ΔR^2	0.01	0.00	
ΔF	9.88**	0.33**	
f^2	.01	.00	

Note. Pairwise N = 16,444. B = unstandardized regression coefficient; CI = confidence interval. f^2 for step one was calculated using the formula $f^2 = [R^2/(1-R^2)]$ and using the formula $f^2 = [(R^2_{AB} - R^2_A)/(1 - R^2_{AB})]$ for step two.
*$p < .05$. **$p < .01$.
[a]Salary in $.

Table 28

Predictors of Satisfaction with Reasonableness of Institutional Expectations for Tenure

	Satisfaction with the reasonableness of institutional expectations for tenure		
		Model 2	
Variable	Model 1 *B*	*B*	95% CI
Constant	3.90**	3.92**	[3.87, 3.97]
Gender			
Female	4.94**	4.94**	[4.93, 4.96]
Race			
Asian	5.00	4.99	[4.98, 5.01]
Black	4.94**	4.94**	[4.90, 4.96]
Hispanic	4.98	4.98	[4.95, 5.01]
Salary[a]			
45,000-59,999	5.03*	5.03*	[5.01, 5.05]
60,000-74,999	5.02	5.02	[4.99, 5.04]
75,000-89,999	5.03	5.03*	[5.00, 5.05]
90,000+	5.02	5.02	[4.99, 5.06]
Tenure			
Prior experience	4.98*	4.99	[4.97, 5.01]
Generation			
Boomer		4.96**	[4.95, 4.97]
R^2	0.01	0.01	
F	15.29**	17.41**	
ΔR^2	0.01	0.00	
ΔF	15.29**	36.17**	
f^2	.01	.00	

Note. Pairwise N = 16,444. B = unstandardized regression coefficient; CI = confidence interval. f^2 for step one was calculated using the formula $f^2 = [R^2/(1-R^2)]$ and using the formula $f^2 = [(R^2_{AB} - R^2_A)/(1 - R^2_{AB})]$ for step two.
*$p < .05$. **$p < .01$.
[a]Salary in $.

Table 29

Predictors of Satisfaction with the Nature of the Work (Overall)

	Satisfaction with the nature of the work (overall)		
		Model 2	
Variable	Model 1 *B*	*B*	95% CI
Constant	4.01**	4.01**	[3.95, 4.07]
Gender			
Female	4.92**	4.92**	[4.90, 4.94]
Race			
Asian	5.03**	5.03**	[5.01, 5.05]
Black	5.02	5.02	
Hispanic	5.02	5.02	[4.99, 5.05]
Salary[a]			
45,000-59,999	4.98	4.98	[4.95, 5.01]
60,000-74,999	5.00	5.00	[4.97, 5.03]
75,000-89,999	5.00	5.00	[4.97, 5.03]
90,000+	5.50**	5.07**	[5.03, 5.10]
Tenure			
Prior	5.03**	5.03**	[5.01, 5.05]
Generation			
Boomer		5.01	[4.99, 5.03]
R^2	0.01	0.01	
F	25.44**	22.99**	
ΔR^2	0.01	0.00	
ΔF	25.44**	0.95**	
f^2	.01	.00	

Note. Pairwise N = 16,444. B = unstandardized regression coefficient; CI = confidence interval. f^2 for step one was calculated using the formula $f^2 = [R^2/(1\text{-}R^2)]$ and using the formula $f^2 = [(R^2_{AB} - R^2_A)/(1 - R^2_{AB})]$ for step two.
*$p < .05$. **$p < .01$.
[a]Salary in $.

Table 30

Predictors of Satisfaction with the Nature of the Work (Teaching)

	Satisfaction with the nature of the work (teaching)		
		Model 2	
Variable	Model 1 *B*	*B*	95% CI
Constant	4.20**	4.24**	[4.15, 4.238]
Gender			
Female	4.98**	4.98**	[4.97, 4.993]
Race			
Asian	4.91**	4.91**	[4.89, 4.926]
Black	4.98	4.98	
Hispanic	4.99	4.99	[4.96, 5.014]
Salary[a]			
45,000-59,999	5.02	5.02	[5.00, 5.05]
60,000-74,999	5.05**	5.05**	[5.02, 5.07]
75,000-89,999	5.05**	5.05**	[5.02, 5.08]
90,000+	5.07**	5.07**	[5.04, 5.09]
Tenure			
Prior	4.99	4.99	[4.97, 5.00]
Generation			
Boomer		5.00	[4.99, 5.01]
R^2	0.01	0.01	
F	16.64	14.98	
ΔR^2	0.01	0.00	
ΔF	16.64	0.01	
f^2	.01	.00	

Note. Pairwise N = 16,444. B = unstandardized regression coefficient; CI = confidence interval. f^2 for step one was calculated using the formula $f^2 = [R^2/(1\text{-}R^2)]$ and using the formula $f^2 = [(R^2_{AB} - R^2_A)/(1 - R^2_{AB})]$ for step two.
*$p < .05$. **$p < .01$.
[a]Salary in $.

Table 31

Predictors of Satisfaction with the Nature of the Work (Research)

	Satisfaction with the nature of the work (research)		
		Model 2	
Variable	Model 1 *B*	*B*	95% CI
Constant	3.10**	3.14**	[3.04, 3.22]
Gender			
Female	4.87**	4.87**	[4.85, 4.88]
Race			
Asian	5.13**	5.12**	[5.10, 5.14]
Black	4.99	4.99	
Hispanic	5.02	5.03	[4.99, 5.06]
Salary[a]			
45,000-59,999	4.96**	4.96*	[4.92, 4.99]
60,000-74,999	5.04*	5.04*	[5.01, 5.07]
75,000-89,999	5.12**	5.12**	[5.09, 5.15]
90,000+	5.17**	5.17**	[5.14, 5.20]
Tenure			
Prior	5.01	5.02*	[5.00, 5.04]
Generation			
Boomer		4.95**	[4.93, 4.97]
R^2	0.07	0.07	
F	127.09	118.09	
ΔR^2	0.07	0.00	
ΔF	127.09	34.82	
f^2	.07	.00	

Note. Pairwise N = 16,444. B = unstandardized regression coefficient; CI = confidence interval. f^2 for step one was calculated using the formula $f^2 = [R^2/(1\text{-}R^2)]$ and using the formula $f^2 = [(R^2_{AB} - R^2_A)/(1 - R^2_{AB})]$ for step two.
*$p < .05$. **$p < .01$.
[a]Salary in $.

Table 32

Predictors of Satisfaction with Compensation and Benefits

	Satisfaction with compensation and benefits		
		Model 2	
Variable	Model 1 *B*	*B*	95% CI
Constant	3.15**	3.19**	[3.10, 3.27]
Gender			
Female	5.03**	5.03**	[5.02, 5.04]
Race			
Asian	4.90**	4.89**	[4.88, 4.91]
Black	4.92**	4.93**	
Hispanic	4.95**	4.95**	[4.91, 4.98]
Salary[a]			
45,000-59,999	4.96**	4.97*	[4.93, 5.00]
60,000-74,999	5.14**	5.14**	[5.11, 5.16]
75,000-89,999	5.22**	5.22**	[5.19, 5.25]
90,000+	5.31**	5.31**	[5.29, 5.33]
Tenure		5.00**	
Prior	4.97**	4.98	[4.96, 5.00]
Generation			
Boomer		4.93**	[4.91, 4.95]
R^2	0.093	0.097	
F	187.90**	177.18**	
ΔR^2	0.093	0.004	
ΔF	187.90**	73.31**	
f^2	.1025	.1074	

Note. Pairwise N = 16,444. B = unstandardized regression coefficient; CI = confidence interval. f^2 for step one was calculated using the formula $f^2 = [R^2/(1\text{-}R^2)]$ and using the formula $f^2 = [(R^2_{AB} - R^2_A)/(1 - R^2_{AB})]$ for step two.
*$p < .05$. **$p < .01$.
[a]Salary in $.

Summary of the Results

The statistical analysis results from this study described how 2005-2010 COACHE *Tenure-Track Faculty Job Satisfaction Survey* participants categorized by demographic groups and showed the annual generational distribution trends between 2005 and 2010. The majority of tenure-track faculty members were white males, born between 1965 and 1979, with no previous tenure-track experience, and earned a salary between $45,000 and $60,000 annually. Currently, there are three generations (i.e., Boomer, GenX, and Millennial) of tenure-track faculty members working side-by-side at COACHE member institutions, but GenX members account for the majority of tenure-track positions. The generation proportions changed during that time. Boomer tenure-track faculty members went from making up roughly one-third of the total participants in 2005 to half that in 2010. Results also showed that Millennial faculty members entered tenure-track appointments with growing frequency between 2008 and 2010.

In terms of using demographic variables as predictors, results showed that gender, generation, race, salary, and prior tenure-track experience were not strong predictors of satisfaction for the tenure-track faculty members who participated in the COACHE *Tenure-Track Faculty Job Satisfaction Survey* between 2005 and 2010. However, statistically significant predictors emerged when answering research questions two, three, and four. The generation outcome (research question two) correlated with the Asian; Black; $45,000 < $59,999 salary; $90,000 and above salary; and prior tenure-track experience groups predictors, but not with the Hispanic, $60,000 < $74,999 salary; $75,000 < $89,999 salary dummy variables. For research question three, demographic data marginally explained the variances in seven testable measures of satisfaction.

Gender emerged as a statistically significant predictor variable in every measure of satisfaction but, again, had very small coefficients of determination. When gender, race, salary, and prior tenure-track experience variables were controlled for, multiple regression results showed that generation had statistically significant effects on four indices of job satisfaction (i.e., satisfaction with the tenure process, reasonableness of institutional expectations for tenure, nature of the work (research), and with compensation and benefits), where Boomer faculty members reported lower satisfaction than their GenX colleagues. Even though generation significantly correlated with four satisfaction facets ($p < .01$), all regressions yielded very small R^2 values with negligible effect size estimations. Chapter Five contains an extensive explanation of these findings, implications of the results, and recommendations for future study.

CHAPTER FIVE: DISCUSSION AND SYNTHESIS

This is the first study to investigate how predictive demographic variables, namely generation, are of tenure-track faculty job satisfaction using multiple linear regression analysis methods on a large, nationally-representative sample. The results from the descriptive and inferential analyses in this study provided useful information on the current generational breakdown of tenure-track faculty members, described how the generational proportions of tenure-track faculty have changed between 2005 and 2010, and explored whether generation and other demographic variables could predict tenure-track faculty job satisfaction. Chapter Five provides a discussion and synthesis of the results of this investigation and proposes answers to each research question in Chapter One. It also identifies implications for practice in higher education, offers suggestions for future research, discusses the limitations that arose, and gives an overall conclusion regarding this investigation.

Discussion of Major Study Findings

Research question one: important findings on tenure-track faculty members by demographic variables. *How do tenure-track faculty members categorize into generation, gender, and race groups from 2005-2010?* Tenure-track faculty positions at COACHE member institutions are currently occupied by three generations of employees: Boomer, GenX, and Millennial. GenX faculty members accounted for roughly 70% of the 2005-2010 aggregated COACHE *Tenure-Track Faculty Job Satisfaction Survey* dataset but, when the dataset was disaggregated by survey year, results showed a generational proportion shift. Boomers went from about 35% of the survey participants in 2005 to only 15% in 2010. At the same time, Millennial tenure-track faculty members

were virtually nonexistent in 2005 (n = 3), 2006 (n = 1), and 2007 (n = 1). Logistically, faculty in this group were too young for tenure-track faculty positions (Carver et al., 2011; Quinn & Antony, 2009; Quinn & Trower, 2009). The oldest Millennials were 25 years old in 2005 and, according to the *Survey of Earned Doctorates* (Hoffer et al., 2006), the median age of doctorate recipients in 2005 was 33.0 years. In 2008, the oldest Millennials were 28, and even though they made up less than 1% of the sample, it is possible these data mark the emergence of Millennials into tenure-track appointments. Their relative contribution doubled between 2008 and 2009, and more than doubled between 2009 and 2010. The data trends observed seem to support the logical premise that as Boomers leave their tenure-track positions (e.g., promotion to associate professor or retirement), younger GenX and Millennial faculty fill those positions.

While this study obtained demographic information from results for the COACHE aggregated tenure-track faculty member dataset, some similarities to national data published National Center for Education Statistics (NCES) 2011 *Digest of Education Statistics* emerged. Almost three-quarters (73.3%) of participants in this study were White (non-Hispanic), which is slightly lower than the national percentage (75.6%; NCES, 2012). A little more than five percent (5.5%) of COACHE participants were Black or African-American, which matches the national distribution (5.4%) (NCES, 2012). The COACHE Asian, Asian-American, or Pacific Islander (13.7%) and Hispanic or Latino (4.8%) race groups were both larger than NCES' published Asian Native Indian, or Pacific Islander (8.2%) and Hispanic (4%) categories (NCES, 2012). Though a little more than half of the COACHE tenure-track faculty members were male (53.3%), which is lower than NCES' 57.0%, it is possible that gender disparity is smaller in

tenure-track faculty members than the gap in full-time faculty ranks (NCES, 2012). However, it is also possible that the smaller COACHE sample, which contained demographic information only for tenure-track faculty members who were employed at COACHE-member institutions and completed the COACHE *Tenure-Track Faculty Job Satisfaction Survey* between 2005 and 2010, was inherently different than the larger NCES national sample full-time instructional staff employed in 9- or 12- month contracts whose primary responsibility is instruction, research, or public service.

Research question two: important findings on the predictive power of faculty demographic variables on generation. *How predictive is generation from faculty demographic variables?* The multiple regression results and small demographic predictor variable effect sizes suggest the extent to which generation could be predicted from other demographic variables (i.e., gender, race, salary, and prior tenure-track experience) was minor. A small statistical effect size was calculated for the prior tenure-track experience predictor, which had the largest effect size value compared to all other demographic variables. This means that prior experience contributed most to the observed variance in generation. Given the relatively young age of Millennial assistant professors, fresh out of graduate school and postdoctoral appointments, it is logical to assume that they have had no prior tenure-track experience. Although significant correlations were found to exist between generation and race, salary, and prior tenure-track experience, the R^2 value was .038, meaning gender, race, salary, and tenure-track experience variables explained only 3.8% of generation variance. Clearly, this indicates that even though some predictor variables had a statistically significant effect on generation, tenure-track faculty members

should probably not be systematically placed into generation groups based on their gender, race, salary, and prior tenure-track experience alone.

Research question three: important findings on the predictive power of faculty demographic variables on tenure-track faculty job satisfaction. *How predictive are faculty demographic variables of tenure-track faculty job satisfaction?* The standard multiple regression results seem to provide little evidence supporting the hypothesis that there are substantive differences in COACHE tenure-track faculty member satisfaction attributable to demographic variables alone. Data suggest that demographic variables, which have frequently been used to explain differences between groups, are not predictive of the five tenure-track faculty satisfaction variables. This was surprising because it contradicts claims of demographic differences (especially gender, race, and generation) in work attitudes (e.g., Behrens, 2009; Eisner, 2005; Hannay & Fretwell, 2011; Harward, 2008; Kelly, 2007; Masterson, 2011). A likely explanation for this unforeseen finding is related to perception (Costanza et al., 2012). Perceived differences based on anecdotal assumptions can propagate the formation of gender, generation, and race stereotypes, assumptions, and presumptions (Costanza et al., 2012). Therefore, it is possible that in practice the perceived demographically-diverse tenure-track faculty members are more similar than different (Costanza et al., 2012; Dendecker et al., 2008; Giancola, 2006; Kowske et al., 2010; Parry & Urwin, 2010). Tenure-track faculty members could be a homogeneous group, entering their positions with a common belief of what it means to be a part of a well-established academic profession (Austin, 2011). Therefore faculty identity may play a larger role in controlling job satisfaction than generation. Along the same line, faculty members need strong communication,

collaboration, and conflict-resolution skills in order to be successful in their positions (Austin, 2011). These culturally-embedded tenure-track values and behaviors may overshadow demographic differences. Another possible over-arching explanation could be related to the economy. It may be possible that given the current difficult economic times, faculty members were satisfied to simply have gainful employment (D'Amato & Herzfeldt, 2008; K. Quinn, personal communication, 17 April, 2013)!

Results revealed a few weak, but visible, patterns across satisfaction variables. First, women were slightly less satisfied than men in each of the satisfaction measures. These results may suggest the gender gap (i.e., differences in the *number* of male and female employees) was still present in higher education, and the inequality leads women to report lower levels of satisfaction (AAUP, 2010a). Another possible explanation could be that women felt dissatisfied or stressed with their work-life balance (or lack thereof) as they attempted to balance personal and family obligations while simultaneously working towards tenure (Cennamo & Gardner, 2008; Twenge & Campbell, 2008; Ward & Wolk-Wendel, 2004). The surprisingly small difference in how the male and female participants reported satisfaction may be a good sign of gender equality in the workplace (in terms of employee expectations, pay, and treatment) and at home (domestic and parental responsibilities), despite commonly-referenced disparities. Academic fathers also feel the stress from responsibly managing tenure and family (Reddick, Rochlen, Grasso, Reilly, & Spikes, 2011). It is possible that the male and female participants were members of the same homogeneous group: *academic parents*. Initially, this study intended to explore the role of *family* on satisfaction, but the independent variable was excluded from analysis (two years of participant family data were missing from the COACHE dataset).

Second, race played a statistically significant role in satisfaction variables where at least one race group had significant differences in six of the seven tested satisfaction facets. This could indicate that at least for the Asian group, their satisfaction was influenced by slightly different factors than their White counterparts (Sabharwal & Corley, 2009). All five race groups reported minor differences in satisfaction with compensation and benefits. Finally, satisfaction with compensation and benefits had the most variance in demographic satisfaction because the greatest number of demographic variables influenced it. Although *statistically* significant, the satisfaction differences by race results were not *practically* significant. Cheeseman and Downey (2012) reported that racial satisfaction differences varied across regions of the United States, which could also explain the unexpected race effects on satisfaction results. It is possible that within cohort differences (e.g., recent immigrants, ethnicity) limit the number of shared influences that help form shared values, which, in turn, influence work attitude homogeneity (Cheesman & Downey, 2012; Parry & Urwin, 2011).

The data also demonstrated a direct relationship between participant salary and satisfaction with compensation and benefits. Participant satisfaction with compensation and benefits increased incrementally as participant salary increased. This could also be explained by the economic strain on employees (D'Amato & Herzfeldt, 2008; Parry & Urwin, 2011). This logic might also explain the differences for each satisfaction variable. Given the competitive nature of tenure-track appointments, especially now that institutions are favoring the use of part-time faculty, participants were just happy to have a job (D'Amato & Herzfeldt, 2008; Finkelstein, 2008; Gappa & Austin, 2010; NCES, 2011; Parry & Urwin, 2011). Doctoral education often prepares prospective faculty for

research-focused tenure-track positions (Austin, 2011). Participants could have weighed their appointment against any part-time alternative. This may expound why, overall, participants were "satisfied" in each of the satisfaction variables used in this study (M = 2.81 – 4.20). Emerging anecdotal evidence from experts suggests the competitiveness of tenure-track appointments and tough economic times may cloud true measures of satisfaction if tenure-track faculty members feel contented to have a job and "don't want to rock the boat" (K. Quinn, personal communication, April 17, 2013). An alternative to this explanation would be that participants were satisfied, regardless of demographic group, because they chose to work in academe and it was what they liked to do (Kowske et al., 2010; O'Meara & Bloomgarden, 2011).

Research question four: important findings on the predictive power of generation and tenure-track faculty job satisfaction. *How predictive is generation of tenure-track faculty job satisfaction controlling for faculty demographic variables?* Informed by research question three, it was not surprising therefore that findings related to research question four revealed that generational influence on tenure-track faculty satisfaction, controlling for other demographic variables, was very small and suggested it would not be a reliable predictor. This study tentatively acknowledges that generational differences in tenure-track faculty satisfaction existed and that GenX faculty were more satisfied than Boomers in four of the seven job satisfaction variables in this study. In terms of satisfaction with the tenure process, it is possible that GenX faculty members felt more satisfied if they perceived the tenure and promotion process at their institution to be more transparent than did Boomers (Trower, 2008). Another potential explanation could be that GenXers had a more realistic understanding of the rigors of what life on the

tenure-track would be like prior to entering the academy if they had been exposed to it more in graduate school or postdoctoral appointments (Quinn & Trower, 2009). Additionally, GenX participants, who clearly as a generation favor feedback more than Boomers, might have been more satisfied if they felt they were receiving more from their institution as they worked towards achieving tenure (Lancaster & Stillman, 2003; Trower, 2008*)*.

GenXer participants were slightly more satisfied with the reasonableness of institutional expectations for tenure, which might be explained by Boomers being more critical of their institution's tenure-track expectations (Quinn & Trower, 2009). Boomers might be frustrated with the quality or quantity of tenure and promotion information mandated by administrators (Howe et al., 2008). GenXers have been described as self-advocates, which could have made them more adaptable to change and better able to cope with the additional demands of the tenure process (Ehrenberg, 2008; Quinn & Trower, 2009). Another possibility is if GenX participants accepted tenure requirements more pragmatically than Boomers; they took requirements at face value and with ~~far~~ less questioning than did Boomers (Howe et al., 2008).

Both GenX and Boomer participants were borderline dissatisfied with the research aspect of their jobs (i.e., amount of time for conducting research, amount of external funding expected, control over research agenda) compared to all other satisfaction variables in this study. However, GenXers averaged slightly higher satisfaction values than Boomers, which could possibly be explained if GenX faculty's motivation for research freedom played a larger role in their satisfaction than Boomers' motivation for status (Ehrenberg, 2008; Howe et al., 2008).

Boomers were also slightly less satisfied with their compensation and benefits than GenXers. The explanation could be that Boomers were more acutely aware of the financial requirements for retirement and consequently reported lower satisfaction with their compensation than GenXers (Conley, 2008). Boomers in tenure-track appointments (a) would likely have had less income growth than their colleagues in tenured positions, (b) as a generation had likely saved less than Silents, and (c) were likely aware their Social Security benefits would likely cover less of the gap between their pension and their anticipated need (Conley, 2008; Howe et al., 2008).

While generational differences in satisfaction were statistically significant, regressions yielded very small R^2 values with negligible generation effect size estimations. For the satisfaction variables discussed above, data have demonstrated generational membership accounted for 0.2 – 0.5% of the variances. This was surprising, especially given the mainstream hypothesis that generational tensions and differences in work attitudes are strong enough to negatively impact institutional outcomes (Costanza et al. 2012; Parry & Urwin, 2011). This unforeseen finding may be explained by people's innate drive to want to explain perceived differences in others (Costanza et al., 2012). Generational differences exist and stereotypes are widely propagated across American culture. When we compare ourselves to others who are much older or younger, obvious differences seem to emerge. If differences are so clear, generational research should be easy – why isn't it, though? The fact that data analysis only included Boomers and GenXers is one plausible explanation for the surprising results. Initially, this research aimed to capture information on Boomer, GenX, and Millennial faculty members. The Millennial variable was excluded from data analysis because of the relatively small

subgroup size compared to the other generations. Results strongly suggest there are other, more plausible, explanations for the Boomer-GenX satisfaction differences and also raise questions about the nature of considering differences between groups of people based on generational membership alone. It may be possible that regardless of generational affiliation, the faculty participants had a similar character and expectations based on their pre-appointment assimilation and socialization to academic culture. Perhaps being in a collegial, professional environment encourages employees to set aside differences to some extent and work together (Harward, 2008).

Other explanations for the unexpected findings can be attributed to differences in the purposes and research designs between this investigation and the three research studies used to launch it (Carver et al., 2011; Quinn & Antony, 2009; Quinn & Trower, 2009). This study used multiple linear regression analyses on a preexisting COACHE *Tenure-Track Faculty Job Satisfaction Survey* dataset to determine how generation and other demographic variables *predicted* tenure-track faculty job satisfaction, as opposed to *identifying* differences in satisfaction means across generations.

Quinn and Trower (2009) presented their findings as suggestions for strategies department chairs can implement to accommodate their multigenerational faculty. Their research used independent *t*-tests to measure mean differences in how Boomer and GenX tenure-track faculty members responded to the COACHE *Tenure-Track Faculty Job Satisfaction Survey* instrument. While there was similarity with Quinn and Trower's (2009) findings of statistically significant differences in satisfaction between Boomers and GenXers and this project, the purposes of these studies were fundamentally different. Quinn and Antony (2009) and the Carver et al. (2011) research group both had more

diverse samples (for instance, faculty ages, faculty ranks, time in position) than the one in this study. The NSOPF:04 dataset used by Quinn and Trower (2009) was eight times larger (N = 88,904) than the one in this study and included faculty members from tenure-track and tenured positions. The Carver et al. (2011) group's dataset also had a very wide participant age-range, and included nursing faculty (95% female) from all ranks. It is possible that the increased diversity of their samples allowed researchers to capture information from a more diverse group of people and better identify trends. It is also possible that the rigorous methodological methods in Quinn and Antony (2009) and Carver et al. (2011) better teased out confounding age and generation effects, while controlling for period effects than the regression model used in this experiment.

Limitations and Delimitations

Limitations of the study: methodological. The rigor of this research was ensured by the internal validity of the research design and not the validity and reliability of the measures. Because this investigation used secondary analysis of pre-existing aggregated data, the researcher assumed the reliability and validity of the instrument and administration of the survey based on the reputations of COACHE and the researchers who rigorously designed and administered the *Tenure Track Faculty Job Satisfaction Survey*. COACHE researchers rigorously defined the satisfaction constructs and systematically and meaningfully constructed the instrument based on findings from extensive evaluative research. The researcher of this study determined the Cronbach's *alpha* for the complete survey was 0.969, indicating excellent internal consistency and homogeneity of satisfaction measures based on the following guidelines: $0.8 \leq \alpha < 1.0$ exemplary, $0.7 \leq \alpha < 0.8$ extensive, $0.6 \leq \alpha < 0.7$ moderate, $\alpha < 0.6$ minimal (Robinson,

Shaver, & Wrightsman, 1991). Subscale *alpha* values also ensured good homogeneity of the items used in calculating the dependent variables. The results from this study only show the relationship between variables, as this investigation conducted secondary analyses on an aggregated dataset containing responses from a nonrandom sample.

The limitations of this study arise from the complexity of generational research, the use of pre-existing datasets, and from the use of standardized survey instruments. The primary methodological limitation in this study, however, is a challenge all too familiar to generational researchers: it is virtually impossible to untangle the confounding reasons that make each generation different (Costanza et al, 2012; Macky et al., 2008b; Pew Research Center, 2010; Trzesniewski & Donnellan, 2010). The aggregated COACHE tenure-track faculty dataset used in this investigation contained five years of data. Cross-sectional data collected at one point in time controls for period effects, but analysis yields a confounded age/generation effect, causing the results of this study to be due to *either* age or generation (Kowske et al., 2010).

Common limitations of standardized survey instruments relate to occurrences before and during its administration. The reality that the *Tenure-Track Faculty Job Satisfaction Survey* is large potentially threatens internal validity. Participants may have reacted to the amount of time needed to complete the 51-question survey (approximately 30 minutes). According to COACHE (2011), over 90% of the respondents who entered the COACHE survey completed it in entirety, which minimizes potential threats to internal validity. Another potential threat to internal validity related to procedure is that the dataset used in this study contained responses over a five-year range. All tenure-track participants received the same survey, regardless of the year it was administered, which

minimizes possible threats to internal validity related to procedure. Another limitation in this study, as with all questionnaire research, is that participants self-report their own perceptions of satisfaction with various aspects of their work, which lead to inconsistencies between individuals.

Potential threats to external validity come from the sample not being randomly selected – COACHE-member institutions self-selected their faculty to participate. Even though the preexisting COACHE data set allows for a large-scale investigation of a geographically dispersed sample, this study only reflects the attitudes and perspectives of full-time, tenure-track faculty at COACHE affiliated institutions from 2005-2010. All four-year higher education institutions are eligible to join the COACHE consortium, where enrollment costs are based on institutional type and size (research, doctoral, and large master's universities: $35,000/3-years; baccalaureate colleges and small master's universities: $17,500/3-years). It remains unclear if faculty members at non-member institutions report satisfaction differently. As the sample size for this study was so large (*N*=16,444), this study could overcome some of the limitations of this validity issue. Furthermore, faculty members from more than 200 institutions participated in this survey suggesting that the threat to external validity is small and there is no a prori reason the findings of this investigation could not be generalizable.

In 2008, then-COACHE director Kiernan Mathews reported that many COACHE colleges have "…response rates exceeding 80 or even 90 percent…and the sample is, in fact, the census" (Mathews, 2008, p. 3), thus enhancing the likelihood that a faculty member's responses will be consistent with other faculty members within the same institution. According to COACHE researchers, the number of institutions, number of

surveys participating, number of surveys completed, and the response rates varied between years. Response rates, calculated prior to analysis, ranged from 56.2% in 2009 to 65.0% in 2007, which increases the likelihood that responses will be consistent within the sample.

Because COACHE data contain anonymous aggregated responses, it was possible that a tenure-track faculty member took the survey more than once during the five years. The survey is usually administered during the first year of a three-year membership. If a tenure-track faculty member who participated in the first administration of the survey had not received tenure before the next administration of the survey, the slight possibility exists that the dataset contained multiple responses from the same individual. Based on the unique participant IDs provided by COACHE researchers, 437 of 16,444 participants, or 2.7%, duplicate cases were detected. According to COACHE researchers, many institutions elected to wait to re-evaluate their faculty's satisfaction until four or five years after their COACHE membership began, further minimizing the limitations brought by this possibility.

This study's sample was not randomly selected, which threatens external validity. The COACHE *Tenure-Track Faculty Job Satisfaction Survey* was administered only to tenure-track faculty members who worked at institutions with paid membership in the COACHE consortium. Human Resource administrators identified the faculty members at their institution who met COACHE's "tenure-track" criteria. The survey took approximately 30 minutes to complete and the length of time required may have influenced participants to not complete the questionnaire in its entirety, which would, again, threaten internal validity. However, COACHE reported that of all the participants

who started the survey, more than 90% completed it, thus reducing this threat. Another common limitation of this study is that it relied exclusively on self-reported attitudes and perceptions on five-point, Likert-type scales, which may have been interpreted differently among individuals. Even though the COACHE dataset contained data over a five-year range, participants received the same questions regardless of survey year, minimizing possible threats to the internal validity related to procedure.

Because one goal of this study is to explore job satisfaction trends over time, a limitation arises from the use of cross-sectional surveys to detect changes over time. Surveys, such as the COACHE *Tenure-Track Faculty Job Satisfaction Survey*, capture data at a specific time and does not necessarily detect information on how those variables have changed over time. While this study is not a true longitudinal investigation, secondary analysis of pre-existing, repeated, cross-sectional designs provide useful information and have the ability to distinguish changes of subpopulations, such as generational cohorts, over time (Creswell, 2008; Frees, 2004; Sapsford, 2007; T. Smith, 2008).

Limitations of the study: research findings. There is no single concept of generation groups. In terms of defining a generation, most researchers accept Strauss and Howe's (1991) taxonomy of generations, but there are considerable differences in the starting and ending dates used. The lack of consistency in the field affects how the researcher analyzes and interprets findings, as well as how future researchers interpret results. This study used the following taxonomy and boundaries: Silent (1925-1945), Boomer (1946-1964), GenX (1965-1979), and Millennial (1980-2000). This sample represents a only a fraction of all tenure-track faculty members. However, the COACHE

dataset contained more than 16,000 responses from tenure-track faculty from more than 200 institutions across the United States, which overcomes some of the limitations of this threat to external validity and suggests there is no a priori reason findings of this investigation could not be generalizable to all COACHE tenure-track faculty. The findings of this study reflected the attitudes of participants who took the COACHE *Tenure-Track Faculty Job Satisfaction Survey* from 2005 to 2010, and are generalizable only to full-time, tenure-track faculty members at COACHE-affiliated institutions. At this time, there is no paucity of published research on the similarities or differences between faculty members at COACHE member institutions and non-member faculty. In a similar vein, the generalizability of this study is limited to tenure-track faculty members. The current trend within the academy is to convert tenure-line positions to adjunct status, thus fundamentally changing the nature of the professoriate (AAUP, 2010a; BLS, 2013; Finkelstein, 2008; Gappa & Austin, 2010; Gewin, 2012; Hudd et al., 2009; NCES, 2011; NSF, 2012; Thelin, 2011). Members of the GenX and Millennial generations are entering adjunct and part-time faculty positions with higher frequency; the results from this study may not be transferrable to that population because satisfaction contributors differ considerably between the two (Finkelstein, 2008; Gappa & Austin, 2010; Hudd et al., 2009; NCES, 2011; NSF, 2012; Waltmen, Berfom, Hollenshead, Miller, & August, 2012). Adjunct faculty are influenced most by time and place and face different working conditions than full-time faculty: many do not have an office, campus phone number, or departmental mailbox (Hudd et al., 2009). Some aspects of job satisfaction are universal across employees and generational research is a highly-researched field across occupations (Quinn & Antony, 2009; Zemke et al., 2000). It may be possible to evaluate

generational differences across the part-time faculty group. However making comparisons across ranks may become muddied. More research will be required in order to determine what, if any, universal faculty job satisfaction contributors exist. Follow-up investigations compare the empirically-determined universal variables across generations to overcome some of the limitations of this issue

Delimitations. This study is confined to a very specific population: tenure-track faculty members at COACHE member institutions between 2005 and 2010. Because the study used a preexisting dataset to describe and examine current faculty job satisfaction trends across generations, the sample needed to include participants from the Boomer, GenX, and Millennial generations. The oldest members from the Millennial generation, born in 1980, only started entering tenure-track positions (Kelly, 2007). Quinn and Antony (2009) reported that in 2004, Veterans tended to be Full Professors (r = .23), Boomers tended to be Associate Professors (r = .23), and Xers tended to be Assistant Professors (r = .53). In 2011, the median age for all doctoral degree recipients from United States universities was 32.2 years; 83.4% of the 49,562 doctorate recipients were from either the Millennial or Xer generations (NSF, 2011), and 51.7% of these students reported a definite post-graduation commitment to working in academe.

The minimum subgroup sample size for this study (N=16,444, 95% confidence level, 3.5% margin of error) was 748. The COACHE *Tenure-Track Faculty Job Satisfaction Survey* was selected because COACHE generates the largest, most geographically-dispersed dataset of tenure-track faculty job satisfaction scores, offers an approximation of present conditions; and strengthens the foundational understanding of tenure-track faculty job satisfaction—which may not be possible with other instruments

(Maahs-Fladung, 2009; Quinn & Trower, 2009; Trower, 2010). Between 2005 and 2010, COACHE administered two different surveys in parallel to all faculty members at participating institutions. Tenured faculty members received the COACHE *Faculty Job Satisfaction Survey*, and tenure-track faculty received the COACHE *Tenure-Track Faculty Job Satisfaction Survey*. The researcher specifically selected the *Tenure Track Faculty Job Satisfaction Survey* because it provided current information from three generations of faculty members. The study used a generational cohort model having generation birth year ranges as: Silent (1925-1945), Boomer (1946-1964), GenX (1965-1979), and Millennial (1980-2000).

Implications for Educational Practice and Policy

Obviously, since the data suggest demographic variables may not provide the best explanations for differences in satisfaction, it raises questions about the credibility of claims and policy recommendations coming from generational practitioners and consultants.

Implications for higher education leaders. If organizations and administrators continue to consider the generational recommendations published in the popular press, it may be an indication that there truly is some phenomenon occurring in higher education employees. Consultants have been calling for the academy to drastically restructure institutional policies and modify leadership based on generational membership alone (e.g., Bousquest, 2009; Cennamo & Gardner, 2008; Eisner, 2005; Hannay & Fretwell, 2011; Howe et al., 2008; Kelly, 2007; Martin & Tulgan, 2006; Sujansky & Ferri-Reed, 2009; Timmermann, 2007). Costanza et al. (2012) pointed out that many organizations across a variety of occupations have begun implementing interventions based on

generational recommendations (e.g., recruitment, retention, technology). While Costanza et al. (2012) did not specifically mention the academy, it may be possible that higher education institutions are considering similar measures. Because this study's findings add to an already inconsistent literature base, it seems advisable for administrators to be prudent when considering adopting interventions that rely solely on the unsubstantiated premise of generational differences. Higher education culture differs from other organizations, it is possible that generational effects, as we perceive them, are actually disguising other more plausible and complex variables causing the phenomena. In fact, it seems likely that radical changes in policy and practice interventions may be premature until in-depth evaluations, such as needs analysis, provide more conclusive evidence about the nature of the problem. In the mean time, academic leaders may want to use their familiarity with institutional climate and culture to consider perspectives from a variety of different viewpoints. By doing so, leaders may uncover institutionally specific needs, which could then be used in making informed, targeted policy and practice decisions. Ultimately, administrators may be able to increase faculty satisfaction, creativity, and innovation (Hannay & Fretwell, 2011; O'Brien, 2007; Sujansky & Ferri-Reed, 2009).

Implications for researchers interested in better understanding job satisfaction. Clearly, multiple regression results point to a need for additional, systematic research on cohort differences for work-related outcomes. Like a number of other generational-satisfaction research studies (e.g., Carver et al., 2011; Quinn & Antony, 2009; Quinn & Trower, 2009), this investigation was unable to capture information on Millennials. Researchers may find it helpful to collect data on all faculty members (or at

least a broad age-range of them) to give them the ability to assess differences, similarities, and make cohort comparisons for all generations. Because Millennials have only started entering tenure-track positions, it is likely best to wait until faculties are composed of a majority of Millennials in order to get a better picture of generational effects (Kelly, 2007; Kowske et al., 2010). While it is possible that generational differences may emerge from analyzing wide age-range samples, future researchers may also consider capturing information on a variety of work-related outcomes, not just job satisfaction. Concerns have been raised in the extant literature about whether a single variable, such as generation, can adequately explain behavior differences (Costanza et al., 2012; Pew Research Center, 2010; Yang & Land, 2008). Future researchers could expand our understanding of the complexities of faculty relationships and job satisfaction by exploring effects related to tenure-family balance, academic parenthood, gender equality perceptions, doctoral program socialization, second-career faculty (i.e., faculty with professional experience), part-time and tenure-track rank expectations, and institutional culture assimilation.

Suggestions for Future Research

Future research in this field could investigate explanations for the small coefficients of determinations and effect sizes in this study. While this study's results could indicate an actual generational phenomenon, they could also indicate merely that tenure-track faculty have a stronger group identity, and identity influences their work attitudes more than generational characteristics, in which a faculty culture, institutional memory, or organizational change theory may be more appropriate (Austin, 2011; O'Meara & Bloomgarden, 2011) It is possible that the observed 'generational

differences' reported in the literature are based on other variables such as life course (Roberts et al., 2006), development of conscientiousness in young adulthood (Judge et al., 2002), which would be better analyzed under different theoretical frameworks (e.g., job-congruence models, socio-emotional selectivity theory; Costanza et al., 2012).

Even though results failed to support the hypothesis that generation influences tenure-track faculty satisfaction, we should continue to advance our understanding of generational differences. Researchers need to focus on developing methodological approaches for sample selection and data analysis techniques. An improved research design that will be used consistently by researchers, could resolve some of the inconsistencies in generational theory. One possibility would be to utilize a hierarchical age-period-cohort framework to analyze decades worth of individual-level data (Kowske et al., 2010; Quinn & Antony, 2009; Yang & Land, 2008). By extending the data collection window, researchers would also be able to better disentangle confounding age and generation effects by controlling for societal influences and demographic trends (Dendecker et al., 2008; Rhodes, 1983). With a large enough sample, researchers might be able to empirically determine generational boundaries by using social remembering theories to measure generational memories against key faculty cultural development periods. Additionally, a wider dataset would allow researchers to control and explore the effects of the economic downturn on faculty satisfaction. Hierarchical models require large amounts of data, which may also correct for the limited number of Millennials currently in the workforce (Carver et al., 2012; Kowske et al., 2010). Finally, and perhaps most importantly, generational researchers must agree on the exact taxonomy, attributes, and boundaries of the generations before any meaningful advances can be made in

answering questions about large groups of employees based solely on their generational membership can be made. Many generational researchers have criticized the lack of consistent boundaries (e.g., Costanza et al., 2012; Giancola, 2006) and it is possible that favored generation cohorts are not good proxies for generation cohort effects (Parry & Urwin, 2010).

Conclusion

Even though generational stereotypes continue to be a catalyst for dialogue, data supporting or refuting them are inconsistent. This study's findings have contributed to the sparse literature on generational research in academe by providing information on the relationship between generation and tenure-track faculty job satisfaction. Descriptive and inferential statistical analysis methods were able to answer all research questions and revealed some unexpected findings. Aside from obtaining a much-needed generational description of current tenure-track faculty, this study sought to determine if generation could predict job satisfaction. Little evidence was found to support the hypothesis that generational differences influence employee satisfaction. In fact, results support past findings that generational differences are small and have little effect on work attitudes (e.g., Cennamo & Gardner, 2008; Davis et al., 2006; Kowske et al., 2010; Smola & Sutton, 2002; Westerman & Yamamura, 2007). It appears there is evidence to support the proposition that there is no 'magic bullet' when it comes to unraveling the complexities of job satisfaction research. Job satisfaction continues to be a very complex field in organizational psychology Despite the study's limitations, many questions pertaining to the credibility of the claims of generational-research gurus and consultants surfaced. Clearly additional exploration is needed in the interest of supplying higher education

administrators, policy makers, and other professionals with scientifically-backed evidence.

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APPENDIX A: RESEARCH HYPOTHESES

No.	Research Hypotheses
H_{N1} =	Generation is not predictive from the demographic variables gender, race, prior tenure-track appointments, and salary.
H_{A1} =	Generation is predictive from the demographic variables gender, race, prior tenure-track appointments, and salary.
H_{N2} =	Gender is not predictive of satisfaction with tenure practices.
H_{A2} =	Gender is predictive of satisfaction with tenure practices.
H_{N3} =	Generation is not predictive of satisfaction with tenure practices.
H_{A3} =	Generation is predictive of satisfaction with tenure practices.
H_{N4} =	Race is not predictive of satisfaction with tenure practices.
H_{A4} =	Race is predictive of satisfaction with tenure practices.
H_{N5} =	Salary is not predictive of satisfaction with tenure practices.
H_{A5} =	Salary is predictive of satisfaction with tenure practices.
H_{N6} =	Prior tenure-track experience is not predictive of satisfaction with tenure practices.
H_{A6} =	Prior tenure-track experience is predictive of satisfaction with tenure practices.
H_{N7} =	Gender is not predictive of satisfaction with clarity of institutional expectations for tenure.
H_{A7} =	Gender is predictive of satisfaction with clarity of institutional expectations for tenure.
H_{N8} =	Generation is not predictive of satisfaction with clarity of institutional expectations for tenure.
H_{A8} =	Generation is predictive of satisfaction with clarity of institutional expectations for tenure.
H_{N9} =	Race is not predictive of satisfaction with clarity of institutional expectations for tenure.

No.	Research Hypotheses
H_{A9} =	Race is predictive of satisfaction with clarity of institutional expectations for tenure.
H_{N10} =	Salary is not predictive of satisfaction with clarity of institutional expectations for tenure.
H_{A10} =	Salary is predictive of satisfaction with clarity of institutional expectations for tenure.
H_{N11} =	Prior tenure-track experience is not predictive of satisfaction with clarity of institutional expectations for tenure.
H_{A11} =	Prior tenure-track experience is predictive of satisfaction with clarity of institutional expectations for tenure.
H_{N12} =	Gender is not predictive of satisfaction with reasonableness of institutional expectations for tenure.
H_{A12} =	Gender is predictive of satisfaction with reasonableness of institutional expectations for tenure.
H_{N13} =	Generation is not predictive of satisfaction with reasonableness of institutional expectations for tenure.
H_{A13} =	Generation is predictive of satisfaction with reasonableness of institutional expectations for tenure.
H_{N14} =	Race is not predictive of satisfaction with reasonableness of institutional expectations for tenure.
H_{A14} =	Race is predictive of satisfaction with reasonableness of institutional expectations for tenure.
H_{N15} =	Salary is not predictive of satisfaction with reasonableness of institutional expectations for tenure.
H_{A15} =	Salary is predictive of satisfaction with reasonableness of institutional expectations for tenure.
H_{N16} =	Prior tenure-track experience is not predictive of satisfaction with reasonableness of institutional expectations for tenure.

No.	Research Hypotheses
H_{A16} =	Prior tenure-track experience is predictive of satisfaction with reasonableness of institutional expectations for tenure.
H_{N17} =	Gender is not predictive of satisfaction with the nature of the work (overall).
H_{A17} =	Gender is predictive of satisfaction with the nature of the work (overall).
H_{N18} =	Generation is not predictive of satisfaction with the nature of the work (overall).
H_{A18} =	Generation is predictive of satisfaction with the nature of the work (overall).
H_{N19} =	Race is not predictive of satisfaction with the nature of the work (overall).
H_{A19} =	Race is predictive of satisfaction with the nature of the work (overall).
H_{N20} =	Salary is not predictive of satisfaction with the nature of the work (overall).
H_{A20} =	Salary is predictive of satisfaction with the nature of the work (overall).
H_{N21} =	Prior tenure-track experience is not predictive of satisfaction with the nature of the work (overall).
H_{A21} =	Prior tenure-track experience is predictive of satisfaction with the nature of the work (overall).
H_{N22} =	Gender is not predictive of satisfaction with the nature of the work (teaching).
H_{A22} =	Gender is predictive of satisfaction with the nature of the work (teaching).
H_{N23} =	Generation is not predictive of satisfaction with the nature of the work (teaching).
H_{A23} =	Generation is predictive of satisfaction with the nature of the work (teaching).
H_{N24} =	Race is not predictive of satisfaction with the nature of the profession (teaching).
H_{A24} =	Race is predictive of satisfaction with the nature of the work (teaching).
H_{N25} =	Salary is not predictive of satisfaction with the nature of the work (teaching).
H_{A25} =	Salary is predictive of satisfaction with the nature of the work (teaching).

No.	Research Hypotheses
H_{N26} =	Prior tenure-track experience is not predictive of satisfaction with the nature of the work (teaching).
H_{A26} =	Prior tenure-track experience is predictive of satisfaction with the nature of the work (teaching).
H_{N27} =	Gender is not predictive of satisfaction with the nature of the work (research).
H_{A27} =	Gender is predictive of satisfaction with the nature of the work (research).
H_{N28} =	Generation is not predictive of satisfaction with the nature of the work (research).
H_{A28} =	Generation is predictive of satisfaction with the nature of the work (research).
H_{N29} =	Race is not predictive of satisfaction with the nature of the work (research).
H_{A29} =	Race is predictive of satisfaction with the nature of the work (research).
H_{N30} =	Salary is not predictive of satisfaction with the nature of the work (research).
H_{A30} =	Salary is predictive of satisfaction with the nature of the work (research).
H_{N31} =	Prior tenure-track experience is not predictive of satisfaction with the nature of the work (research).
H_{A31} =	Prior tenure-track experience is predictive of satisfaction with the nature of the work (research).
H_{N32} =	Gender is not predictive of satisfaction with the nature of the work (research).
H_{A32} =	Gender is predictive of satisfaction with the nature of the work (research).
H_{N33} =	Generation is not predictive of satisfaction with the nature of the work (research).
H_{A33} =	Generation is predictive of satisfaction with the nature of the work (research).
H_{N34} =	Race is not predictive of satisfaction with the nature of the work (research).
H_{A34} =	Race is predictive of satisfaction with the nature of the work (research).

No.	Research Hypotheses
H_{N35} =	Salary is not predictive of satisfaction with the nature of the work (research).
H_{A35} =	Salary is predictive of satisfaction with the nature of the work (research).
H_{N36} =	Prior tenure-track experience is not predictive of satisfaction with the nature of the work (research).
H_{A36} =	Prior tenure-track experience is predictive of satisfaction with the nature of the work (research).
H_{N37} =	Gender is not predictive of satisfaction with work and home.
H_{A37} =	Gender is predictive of satisfaction with work and home.
H_{N38} =	Generation is not predictive of satisfaction with work and home.
H_{A38} =	Generation is predictive of satisfaction with work and home.
H_{N39} =	Race is not predictive of satisfaction with work and home.
H_{A39} =	Race is predictive of satisfaction with work and home.
H_{N40} =	Salary is not predictive of satisfaction with work and home.
H_{A40} =	Salary is predictive of satisfaction with work and home.
H_{N41} =	Prior tenure-track experience is not predictive of satisfaction with work and home.
H_{A41} =	Prior tenure-track experience is predictive of satisfaction with work and home.
H_{N42} =	Gender is not predictive of satisfaction with climate, culture, and collegiality.
H_{A42} =	Gender is predictive of satisfaction with climate, culture, and collegiality.
H_{N43} =	Generation is not predictive of satisfaction with climate, culture, and collegiality.
H_{A43} =	Generation is predictive of satisfaction with climate, culture, and collegiality.
H_{N44} =	Race is not predictive of satisfaction with climate, culture, and collegiality.
H_{A44} =	Race is predictive of satisfaction with climate, culture, and collegiality.

No.	Research Hypotheses
H_{N45} =	Salary is not predictive of satisfaction with climate, culture, and collegiality.
H_{A45} =	Salary is predictive of satisfaction with climate, culture, and collegiality.
H_{N46} =	Prior tenure-track experience is not predictive of satisfaction with climate, culture, and collegiality.
H_{A46} =	Prior tenure-track experience is predictive of satisfaction with climate, culture, and collegiality.
H_{N47} =	Gender is not predictive of satisfaction with compensation and benefits.
H_{A47} =	Gender is predictive of satisfaction with compensation and benefits.
H_{N48} =	Generation is not predictive of satisfaction with compensation and benefits.
H_{A48} =	Generation is predictive of satisfaction with compensation and benefits.
H_{N49} =	Race is not predictive of satisfaction with compensation and benefits.
H_{A49} =	Race is predictive of satisfaction with compensation and benefits.
H_{N50} =	Salary is not predictive of satisfaction with compensation and benefits.
H_{A50} =	Salary is predictive of satisfaction with compensation and benefits.
H_{N51} =	Prior tenure-track experience is not predictive of satisfaction with compensation and benefits.
H_{A51} =	Prior tenure-track experience is predictive of satisfaction with compensation and benefits.
H_{N52} =	Generation is not predictive of satisfaction with tenure practices across generations controlling for gender, race, salary, and number of prior tenure-track faculty appointments. .
H_{A52} =	Generation is predictive of satisfaction with tenure practices across generations controlling for gender, race, salary, and number of prior tenure-track faculty appointments.

No.	Research Hypotheses
H_{N53} =	Generation is not predictive of satisfaction with clarity of institutional expectations for tenure across generations controlling for gender, race, salary, and number of prior tenure-track faculty appointments.
H_{A53} =	Generation is predictive of satisfaction with clarity of institutional expectations for tenure across generations controlling for gender, race, salary, and number of prior tenure-track faculty appointments.
H_{N54} =	Generation is not predictive of satisfaction with reasonableness of institutional expectations for tenure across generations controlling for gender, race, salary, and number of prior tenure-track faculty appointments.
H_{A54} =	Generation is predictive of satisfaction with reasonableness of institutional expectations for tenure across generations controlling for gender, race, salary, and number of prior tenure-track faculty appointments.
H_{N55} =	Generation is not predictive of satisfaction with the nature of the work (overall) across generations controlling for gender, race, salary, and number of prior tenure-track faculty appointments.
H_{A55} =	Generation is predictive of satisfaction with the nature of the work (overall) across generations controlling for gender, race, salary, and number of prior tenure-track faculty appointments.
H_{N56} =	Generation is not predictive of satisfaction with the nature of the work (teaching) across generations controlling for gender, race, salary, and number of prior tenure-track faculty appointments.
H_{A56} =	Generation is predictive of satisfaction with the nature of the work (teaching) across generations controlling for gender, race, salary, and number of prior tenure-track faculty appointments.
H_{N57} =	Generation is not predictive of satisfaction with the nature of the work (research) across generations controlling for gender, race, salary, and number of prior tenure-track faculty appointments.
H_{A57} =	Generation is predictive of satisfaction with the nature of the work (research) across generations controlling for gender, race, salary, and number of prior tenure-track faculty appointments.

No.	Research Hypotheses
H_{N58} =	Generation is not predictive of satisfaction with work and home across generations controlling for gender, race, salary, and number of prior tenure-track faculty appointments.
H_{A58} =	Generation is predictive of satisfaction with work and home across generations controlling for gender, race, salary, and number of prior tenure-track faculty appointments.
H_{N59} =	Generation is not predictive of satisfaction with climate, culture, and collegiality across generations controlling for gender, race, salary, and number of prior tenure-track faculty appointments.
H_{A59} =	Generation is predictive of satisfaction with climate, culture, and collegiality across generations controlling for gender, race, salary, and number of prior tenure-track faculty appointments.
H_{N60} =	Generation is not predictive of satisfaction with compensation and benefits across generations controlling for gender, race, salary, and number of prior tenure-track faculty appointments.
H_{A60} =	Generation is predictive of satisfaction with compensation and benefits across generations controlling for gender, race, salary, and number of prior tenure-track faculty appointments.

Note. H_N = null hypothesis, H_A = alternate hypothesis.

APPENDIX B: DATASOURCE APPLICATIONS AND PROTECTION PLAN

Western Carolina University Institutional Review Board for Protection of Human Subjects Application

Western Carolina University Request for Review Of Human Subjects Research (IRB)		WCU IRB Registration No:	Date Received at RA
Investigator Status (Select One) ☒Principal Investigator (PI) ☐Co-PI ☐Other Investigator ☐Faculty Advisor		WCU Status (Select One) ☐Staff ☐Faculty ☐ Undergraduate Student ☒ Graduate Student ☐ Unaffiliated	
Last Name (Please Indicate if maiden name was used for online training) McCullough	First Name Emily	Banner ID (92#) XXXXXXXXX	Telephone Number XXX-XXX-XXXX
Department Human Services	Campus Address 91 Killian	Email Address jellen@catamount.wcu.edu	
Investigator Status (Select One) ☐Principal Investigator (PI) ☐Co-PI ☐Other Investigator ☒Faculty Advisor		WCU Status (Select One) ☐Staff ☒Faculty ☐ Undergraduate Student ☐ Graduate Student ☐ Unaffiliated	
Last Name (Please Indicate if maiden name was used for online training) Cunningham	First Name Jessica	Telephone Number 828-227-2196	
Department Psychology	Campus Address 315 Killian	Email Address jdcunningham@email.wcu.edu	
Investigator Status (Select One) ☐Principal Investigator (PI) ☐Co-PI ☐Other Investigator ☐Faculty Advisor		WCU Status (Select One) ☐Staff ☐Faculty ☐ Undergraduate Student ☐ Graduate Student ☐ Unaffiliated	
Last Name (Please Indicate if maiden name was used for online training)	First Name	Telephone Number	
Department	Campus Address	Email Address	
Investigator Status (Select One) ☐Principal Investigator (PI) ☐Co-PI ☐Other Investigator ☐Faculty Advisor		WCU Status (Select One) ☐Staff ☐Faculty ☐ Undergraduate Student ☐ Graduate Student ☐ Unaffiliated	

Last Name (Please Indicate if maiden name was used for online training)	First Name	Telephone Number
Department	Campus Address	Email Address

Project Title (maximum 400 characters)
A COACHE Longitudinal Study: Trends Between Generational Diversification and Tenure-Track Faculty Satisfaction

Project Summary (maximum 400 characters) This study seeks to describe the current generational diversification landscape and explore tenure-track faculty job satisfaction across generations by means of a retrospective longitudinal cohort design using preexisting data from Harvard University's COACHE Tenure-Track Faculty Job Satisfaction Survey ©

Check any that apply
☒ Thesis or Dissertation ☐ Grant Proposal (deadline for submission:) ☐ Classroom Project ☐ Other Research

Send completed application with attachments to:
Institutional Review Board c/o Research Administration
Graduate School and Research | 109 Camp Building
FAX: 828-227-7480 | irb@wcu.edu
Allow 2 weeks for the review process to be completed.

Board Member Conducting Initial Review

☐ Leo Bobadilla
☐ Patricia Bricker
☐ Kathleen Brennan
☐ Steve Ha
☐ Marianne Hollis
☒ Meagan Karvonen
☐ Alex Macaulay

Investigator Signatures

I have read or been instructed on the Western Carolina University IRB Policies and Procedures and agree to abide by them. I agree to obtain approval before making any changes or additions to the project. I will provide progress reports at least annually, or as requested. I agree to report promptly to the IRB all unanticipated problems or adverse events involving risk to human subjects. I understand that any research conducted before this document is signed and dated is not approved and no legal protections are afforded to the investigators by WCU for research conducted prior to this date.

Type and Sign Name	Date
Emily E. McCullough	
Jessica D. Cunningham	

If you have more than four investigators, use the additional investigators signature page

Respond to the following questions. Attach copies of questionnaires, non-standardized tests, consent forms, and other supporting documents.

1. Briefly describe the purpose of proposed research.
This study seeks to describe the current generational diversification landscape, explore tenure-track faculty job satisfaction across generations, and examine how current satisfaction measures relate to published projections

2. Enrollment information
   a. Expected number of participants 15,000
   b. Does the study include any of the following populations, either as the target population or incidentally?

Vulnerable Population	Target	Incidental
Minors	☐	☐
Non-English speaking	☐	☐
Decisionally impaired or mentally incompetent	☐	☐
Prisoners or parolees	☐	☐
Pregnant women	☐	☐
WCU students	☐	☐

   c. What are the inclusion criteria for the study? (What characteristics of the study population make them eligible to participate?):
   Full-time, tenure-track faculty who have been in their position for at least 6 months at a COACHE member institution participating in the COACHE Tenure-Track Faculty Job Satisfaction Survey © during the 2006-2007, 2007-2008, 2008-2009, 2009-2010, 2010-2011 windows.
   d. What are the exclusion criteria for participation in this study? (What characteristics would make someone ineligible to participate?):
   Part time, not tenure-track (term, adjunct, tenured) faculty at a COACHE member institution participating in the COACHE Tenure-Track Faculty Job Satisfaction Survey © during the 2006-2007, 2007-2008, 2008-2009, 2009-2010, 2010-2011 windows, all faculty at non-COACHE member institutions
   e. Special procedures for handling vulnerable populations (enter "N/A" if your study involves no vulnerable populations):
   N/A

3. Give a brief description or outline of your research procedures as they relate to human subjects.
   a. Methods of recruiting participants and inducements to participate:
   Faculty members who fulfill the participation criteria were identified by their institution. Participant names and email addresses were compiled in a data file and provided to COACHE survey administrators Existing

aggregated data from 2006-2007, 2007-2008, 2008-2009, 2009-2010, and 2010-2011 COACHE Tenure-Track Faculty Job Satisfaction Surveys © will be obtained by permission from the Harvard Graduate School of Education (COACHE Data Set Application attached)

b. Methods for obtaining informed consent.
COACHE obtained informed consent from participants; faculty who consented were then given the opportunity to complete the survey.
➔ Make sure a copy of your recruitment information and informed consent form are attached to the proposal.

If you wish to request a waiver of consent, please explain your request here:
No need for informed consent for preexisting aggregated data sets; the participants are anonymous and responses are only presented in aggregate form.

c. Types of data collected:
Existing aggregated data from 2006-2007, 2007-2008, 2008-2009, 2009-2010, and 2010-2011 COACHE Tenure-Track Faculty Job Satisfaction Surveys ©

d. Activities in which participants will engage, including length of participation, nature of intervention (if applicable), and frequency of data collection:
N/A

4. Give a full description of potential risks to study participants. Select the appropriate level of risk from the drop-down menus below.

a. Legal: No foreseeable risk
b. Psychological: No foreseeable risk
c. Social: No foreseeable risk
d. Economic: No foreseeable risk
e. Physical risks: No foreseeable risk

If you answered anything other than "no foreseeable risks," please explain the nature of the risk, its likelihood of occurring, and its potential impact on participants:

f. Explain what steps have been taken to minimize these risks.
g. What provisions have been made to insure that appropriate facilities and professional attention necessary for the health and safety of the subjects are available and will be utilized?

5. Briefly explain the anticipated benefits of this study to participants and to society. (If there are no anticipated direct benefits to participants, say so.). Explain how the anticipated benefits outweigh the anticipated risks.
This study provides a much-needed current and comprehensive description of generational levels of tenure-track faculty members. It will illuminate changes in generational levels over time and explain the rate at which Millennials are entering tenure-track faculty positions. It will clarify trends between generational diversification and tenure-track faculty success.

6. Confidentiality
    a. Will data from your study be (select one): anonymous
    b. If the data will be confidential, explain the steps you will take to maintain confidentiality.

7. Do the data to be collected relate to illegal activities? no If yes, explain.

8. Is deception involved? no If yes, explain.

9. Summarize the steps that will be taken to protect subjects from the future potentially harmful use of the data collected in this study. (These steps may occur at the data collection, storage, analysis, and dissemination phases.) Explain how long you will keep the data.
   The requested restricted data for the purpose of this investigation will be used solely of the purpose of scientific research in order to obtain descriptive information of the national scope of tenure-track faculty satisfaction.
   Files containing raw data from COACHE, copies of the raw data, new data derived from the COACHE data, and analysis outputs will be encrypted on a file-system level under FireVault for Mac and stored, accessed, and analyzed on an independent password-protected personal computer. The computer is stored in a locked area when not in use. There is a slight possibility that data will be stored and transferred between the investigator and researcher. In this event, individually encrypted files will be stored on a secure USB encryption-certified storage drive containing only files relevant to this investigation. The encrypted files would then be opened on an independent password-protected personal computer; the computer is kept in a locked room when not in use. Files will not be transferred to this computer's hard drive. When not in use, the encryption-certified USB will be kept in a locked compartment. Copies of the data or analysis output will not be backed up or stored on an external hard drive. Neither data nor analysis outputs will be transmitted via email, email attachments, or FTP. Any printed raw data, copies of raw data, new data derived from COACHE data, or analysis outputs will be stored in a locked compartment when not in use.
   Upon completion of the study, physical and electronic copies of raw data from COACHE, copies of the raw, new data derived from the COACHE, and analysis outputs will be destroyed and properly disposed of within 5 days of completion of the study. Physical copies will be destroyed when shredded by the investigator or researcher. Electronic information on the encryption-certified USB drive used for data storage and transfer in this study will physically destroyed within 5 days of completion of the study with assistance from Western Carolina University's Information Technology center to ensure secure erasure and disposal. The raw COACHE data, copies of the raw data, new data derived from the COACHE data and analysis outputs will be securely erased from the independent personal computer using Apple Disk Utility's "Secure Empty Trash" open within Mac OS to ensure secure file deletion, secure empty space deletion, and secure hard drive format within 5 days of the completion of the study.

FOR RESEARCH INVOLVING SURVEYS, the PI must initial this statement:
EM I understand that approval of the use of WCU's online survey software (Qualtrics) is limited to the survey(s) specifically described in this IRB proposal. Any further use of Qualtrics for research purposes will require me to submit and receive approval for an amendment to this IRB proposal or a new IRB proposal before I can proceed. Use of Qualtrics is governed by WCU Policies on Conducting Surveys (#51) and Ethics in Research (#56), and to IRB policies. My signature indicates I will adhere to these policies.

COACHE Restricted Data Use Application and Data Protection Plan

INSTRUCTIONS: Please submit an original-signature copy of this agreement for each additional Research Staff person who may have access to the COACHE Data Set. (It will be countersigned and a copy returned to you.) Use additional copies of this page if necessary. The undersigned staff, in consideration of their use of this restricted data, certify the following:

1. That they have read the associated Restricted Data Use Agreement, and the Data Protection Plan incorporated by reference into this Agreement.
2. That they are "Research Staff" within the meaning of the Agreement (any research staff other than the Restricted Data Investigator).
3. That they will fully comply with the terms of the Agreement, including the Data Protection Plan incorporated by reference into it.
4. That they will not attempt to access this restricted data until approved to do so by the COACHE.

Study Title: A Longitudinal Investigation of Trends Between Generational Diversification and Tenure-Track Faculty Success

Signature: Date: Click here to enter text.

Typed Name: Jessica Cunningham Title: Assistant Professor

Institution: Western Carolina University

Address: 315 Killian Building

City/State/ZIP: Cullowhee, NC 28723

Telephone: (828) 227-2196 Fax: (828) 227-7005

Email: jdcunningham@email.wcu.edu

Signature approval by representative of COACHE:

Signature: Date:

Typed Name: Kiernan R. Mathews Title: Director

Email: Kiernan_Mathews@harvard.edu

The requested restricted data for the purpose of this investigation will be used solely of the purpose of scientific research in order to obtain descriptive information of the national scope of tenure-track faculty satisfaction.

Files containing raw data from COACHE, copies of the raw data, new data derived from the COACHE data, and analysis outputs will be encrypted on a file-system level under FireVault for Mac and stored, accessed, and analyzed on an independent password-protected personal computer. The computer is stored in a locked area when not in use. There is a slight possibility that data will be stored and transferred between the investigator and researcher. In this event, individually encrypted files will be stored on a

secure USB encryption-certified storage drive containing only files relevant to this investigation. The encrypted files would then be opened on an independent password-protected personal computer; the computer is kept in a locked room when not in use. Files will not be transferred to this computer's hard drive. When not in use, the encryption-certified USB will be kept in a locked compartment. Copies of the data or analysis output will not be backed up or stored on an external hard drive. Neither data nor analysis outputs will be transmitted via email, email attachments, or FTP. Any printed raw data, copies of raw data, new data derived from COACHE data, or analysis outputs will be stored in a locked compartment when not in use.

Upon completion of the study, physical and electronic copies of raw data from COACHE, copies of the raw, new data derived from the COACHE, and analysis outputs will be destroyed and properly disposed of within 5 days of completion of the study. Physical copies will be destroyed when shredded by the investigator or researcher. Electronic information on the encryption-certified USB drive used for data storage and transfer in this study will physically destroyed within 5 days of completion of the study with assistance from Western Carolina University's Information Technology center to ensure secure erasure and disposal. The raw COACHE data, copies of the raw data, new data derived from the COACHE data and analysis outputs will be securely erased from the independent personal computer using Apple Disk Utility's "Secure Empty Trash" open within Mac OS to ensure secure file deletion, secure empty space deletion, and secure hard drive format within 5 days of the completion of the study.

APPENDIX C: COACHE TENURE-TRACK FACULTY JOB SATISFACTION SURVEY INSTRUMENT CODEBOOK

Label	Values	Theme
Q35 - What is your race and/or ethnicity? (Check all that apply.)	{0, American Indian or Native Alaskan; 1, Asian, Asian-American, or Pacific Islander; 2, White (non-Hispanic); 3, Black or African-American; 4, Hispanic or Latino; 5, Other; 6, Multiracial; 98, Decline to answer}	Demographic background
Q40 - What is your sex?	{Male; Female}	Demographic background
Q275 - Not counting your current institution, at how many other colleges/ universities have you held a tenured or tenure-track faculty position?	{0; 1; 2; 3; 4; 5 or more; 98, Decline to answer}	Demographic background
Q280 - In what year were you born?	{1910… 1999; Decline to answer}	Demographic background
Q305 - What is your annual salary?	{Less than $30,000; $30,000 to $44,999; $45,000 to $59,999; $60,000 to $74,999; $75,000 to $89,999; $90,000 to $104,999; $105,000 to $119,999; $120,000 or above}	Demographic background
Q45A - Teaching - Please rate your level of satisfaction or dissatisfaction with the portion of your time spent on the following.	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Overall
Q45B - Research - Please rate your level of satisfaction or dissatisfaction with the portion of your time spent on the following.	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Overall

Label	Values	Theme
Q45C - Service (e.g., department/program administration, faculty governance, committee work, advising/mentoring students, speaking to alumni or prospective students/parents) - Please rate your level of satisfaction or dissatisfaction with the portion of your time spent on the following.	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Overall
Q45D - Outreach (e.g., extension, community engagement, technology transfer, economic development, K-12 education) - Please rate your level of satisfaction or dissatisfaction with the portion of your time spent on the following.	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Overall
Q45E - Administrative tasks (e.g., creating and submitting reports, routine paperwork) - Please rate your level of satisfaction or dissatisfaction with the portion of your time spent on the following.	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Overall
Q50A - Teaching - Please indicate whether you feel you spend too much or too little time on.	{0, Too little; 1, Too much; 98, Decline to answer}	Nature of Work - Overall
Q50B - Research - Please indicate whether you feel you spend too much or too little time on.	{0, Too little; 1, Too much; 98, Decline to answer}	Nature of Work - Overall

Label	Values	Theme
Q50C - Service (e.g., department/program administration, faculty governance, committee work, advising/mentoring students, speaking to alumni or prospective students/parents) - Please indicate whether you feel you spend too much or too little time on.	{0, Too little; 1, Too much; 98, Decline to answer}	Nature of Work - Overall
Q50D - Outreach (e.g., extension, community engagement, technology transfer, economic development, K-12 education) - Please indicate whether you feel you spend too much or too little time on.	{0, Too little; 1, Too much; 98, Decline to answer}	Nature of Work - Overall
Q50E - Administrative tasks (e.g., creating and submitting reports, routine paperwork) - Please indicate whether you feel you spend too much or too little time on.	{0, Too little; 1, Too much; 98, Decline to answer}	Nature of Work - Overall
Q55A - I am able to balance the teaching, research, and service activities expected of me. - Please rate your level of agreement or disagreement with the following statements.	{1, Strongly disagree; 2, Somewhat disagree; 3, Neither agree nor disagree; 4, Somewhat agree; 5, Strongly agree; 97, I don't know; 98, Decline to answer; 99, Not applicable}	Nature of Work - Overall

Label	Values	Theme
Q55B - My institution does what it can to help faculty who take on additional leadership roles to sustain other aspects of their faculty work. - Please rate your level of agreement or disagreement with the following statements.	{1, Strongly disagree; 2, Somewhat disagree; 3, Neither agree nor disagree; 4, Somewhat agree; 5, Strongly agree; 97, I don't know; 98, Decline to answer; 99, Not applicable}	Nature of Work - Overall
Q70A - The number of courses you teach - Please rate your level of satisfaction or dissatisfaction with the following.	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Teaching
Q70B - The level of courses you teach - Please rate your level of satisfaction or dissatisfaction with the following.	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Teaching
Q70C - The discretion you have over the content of the courses you teach - Please rate your level of satisfaction or dissatisfaction with the following.	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Teaching
Q70D - The number of students in the classes you teach, on average - Please rate your level of satisfaction or dissatisfaction with the following.	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Teaching

Label	Values	Theme
Q70E - The quality of students you teach, on average - Please rate your level of satisfaction or dissatisfaction with the following.	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Teaching
Q70EE - The quality of graduate students to support your teaching - Please rate your level of satisfaction or dis-satisfaction with the following.	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Teaching
Q70F - The support your institution has offered you for improving your teaching - Please rate your level of satisfaction or dissatisfaction with the following.	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Teaching
Q70H - How equitably the teaching workload is distributed across faculty in your department - Please rate your level of satisfaction or dis-satisfaction with the following.	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Teaching
Q80A - The amount of external funding you are expected to find - Please rate your level of satisfaction or dissatisfaction with the following.	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Research

Label	Values	Theme
Q80B - The influence you have over the focus of your research/scholarly/ creative work - Please rate your level of satisfaction or dissatisfaction with the following.	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Research
Q80C - The quality of graduate students to support your research/ scholarly/creative work - Please rate your level of satisfaction or dis-satisfaction with the following.	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Research
Q80D - Institutional support (e.g., internal grants/seed money) for your research/scholarly/ creative work - Please rate your level of satisfaction or dissatisfaction with the following.	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Research
Q80E - The support your institution provides you for engaging under-graduates in your research/scholarly/creative work - Please rate your level of satisfaction or dissatisfaction with the following.	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Research
Q85A - Obtaining externally funded grants (pre-award) - Please rate your level of satisfaction or dissatisfaction with the support your institution has offered you for...	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Research

Label	Values	Theme
Q85B - Managing externally funded grants (post-award) - Please rate your level of satisfaction or dissatisfaction with the support your institution has offered you for…	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Research
Q85C - Securing graduate student assistance - Please rate your level of satisfaction or dis-satisfaction with the support your institution has offered you for...	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Research
Q85D - Traveling to present papers or conduct research/creative work - Please rate your level of satisfaction or dis-satisfaction with the support your institution has offered you for...	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Research
Q85E - The availability of course release time to focus on your research - Please rate your level of satisfaction or dis-satisfaction with the following.	{1, Very dissatisfied; 2, Dissatisfied; 3, Neither satisfied nor dissatisfied; 4, Satisfied; 5, Very satisfied; 98, Decline to answer; 99, Not applicable}	Nature of Work - Research
Q136A - The tenure process in my department - Please rate the clarity of the following aspects of earning tenure in your department.	{1, Very unclear; 2, Somewhat unclear; 3, Neither clear nor unclear; 4, Somewhat clear; 5, Very clear; 98, Decline to answer}	Tenure and Promotion

Label	Values	Theme
Q136B - The tenure criteria (what things are evaluated) in my department - Please rate the clarity of the following aspects of earning tenure in your department.	{1, Very unclear; 2, Somewhat unclear; 3, Neither clear nor unclear; 4, Somewhat clear; 5, Very clear; 98, Decline to answer}	Tenure and Promotion
Q136C - The tenure standards (the per-formance thresholds) in my department - Please rate the clarity of the following aspects of earning tenure in your department.	{1, Very unclear; 2, Somewhat unclear; 3, Neither clear nor unclear; 4, Somewhat clear; 5, Very clear; 98, Decline to answer}	Tenure and Promotion
Q136D - The body of evidence (the dossier's contents) that will be considered in making my tenure decision - Please rate the clarity of the following aspects of earning tenure in your department.	{1, Very unclear; 2, Somewhat unclear; 3, Neither clear nor unclear; 4, Somewhat clear; 5, Very clear; 98, Decline to answer}	Tenure and Promotion
Q136F - My sense of whether or not I will achieve tenure - Please rate the clarity of the following aspects of earning tenure in your department.	{1, Very unclear; 2, Somewhat unclear; 3, Neither clear nor unclear; 4, Somewhat clear; 5, Very clear; 98, Decline to answer}	Tenure and Promotion
Q137A - A scholar - Is what's expected in order to earn tenure CLEAR to you regarding your performance as:	{1, Very unclear; 2, Somewhat unclear; 3, Neither clear nor unclear; 4, Somewhat clear; 5, Very clear; 98, Decline to answer}	Tenure and Promotion

Label	Values	Theme
Q137B - A teacher - Is what's expected in order to earn tenure CLEAR to you regarding your performance as:	{1, Very unclear; 2, Somewhat unclear; 3, Neither clear nor unclear; 4, Somewhat clear; 5, Very clear; 98, Decline to answer}	Tenure and Promotion
Q137C - An advisor to students - Is what's expected in order to earn tenure CLEAR to you regarding your performance as:	{1, Very unclear; 2, Somewhat unclear; 3, Neither clear nor unclear; 4, Somewhat clear; 5, Very clear; 98, Decline to answer}	Tenure and Promotion
Q137D - A colleague in your department - Is what's expected in order to earn tenure CLEAR to you regarding your performance as:	{1, Very unclear; 2, Somewhat unclear; 3, Neither clear nor unclear; 4, Somewhat clear; 5, Very clear; 98, Decline to answer}	Tenure and Promotion
Q137E - A campus citizen - Is what's expected in order to earn tenure CLEAR to you regarding your performance as:	{1, Very unclear; 2, Somewhat unclear; 3, Neither clear nor unclear; 4, Somewhat clear; 5, Very clear; 98, Decline to answer}	Tenure and Promotion
Q137F - A member of the broader community (e.g., outreach) - Is what's expected in order to earn tenure CLEAR to you regarding your performance as:	{1, Very unclear; 2, Somewhat unclear; 3, Neither clear nor unclear; 4, Somewhat clear; 5, Very clear; 98, Decline to answer}	Tenure and Promotion
Q138A - A scholar - Is what's expected in order to earn tenure REASONABLE to you regarding your performance as:	{1, Very unreasonable; 2, Somewhat unreasonable; 3, Neither reasonable nor unreasonable; 4, Somewhat reasonable; 5, Very reasonable; 98, Decline to answer}	Tenure and Promotion

Label	Values	Theme
Q138B - A teacher - Is what's expected in order to earn tenure REASONABLE to you regarding your performance as:	{1, Very unreasonable; 2, Somewhat unreasonable; 3, Neither reasonable nor unreasonable; 4, Somewhat reasonable; 5, Very reasonable; 98, Decline to answer}	Tenure and Promotion
Q138C - An advisor to students - Is what's expected in order to earn tenure REASONABLE to you regarding your performance as:	{1, Very unreasonable; 2, Somewhat unreasonable; 3, Neither reasonable nor unreasonable; 4, Somewhat reasonable; 5, Very reasonable; 98, Decline to answer}	Tenure and Promotion
Q138D - A colleague in your department - Is what's expected in order to earn tenure REASONABLE to you regarding your performance as:	{1, Very unreasonable; 2, Somewhat unreasonable; 3, Neither reasonable nor unreasonable; 4, Somewhat reasonable; 5, Very reasonable; 98, Decline to answer}	Tenure and Promotion
Q138E - A campus citizen - Is what's expected in order to earn tenure REASONABLE to you regarding your performance as:	{1, Very unreasonable; 2, Somewhat unreasonable; 3, Neither reasonable nor unreasonable; 4, Somewhat reasonable; 5, Very reasonable; 98, Decline to answer}	Tenure and Promotion
Q138F - A member of the broader community (e.g., outreach) - Is what's expected in order to earn tenure REASONABLE to you regarding your performance as:	{1, Very unreasonable; 2, Somewhat unreasonable; 3, Neither reasonable nor unreasonable; 4, Somewhat reasonable; 5, Very reasonable; 98, Decline to answer}	Tenure and Promotion
Q139A - I have received consistent messages from tenured faculty about the requirements for tenure.	{1, Strongly disagree; 2, Somewhat disagree; 3, Neither agree nor disagree; 4, Somewhat agree; 5, Strongly agree; 98, Decline to answer; 99, Not applicable}	Tenure and Promotion

Label	Values	Theme
Q139B - In my opinion, tenure decisions here are made primarily on performance-based criteria (e.g., research/creative work, teaching, and/or service) rather than on non-performance-based criteria (e.g., politics, relationships, and/or demographics).	{1, Strongly disagree; 2, Somewhat disagree; 3, Neither agree nor disagree; 4, Somewhat agree; 5, Strongly agree; 98, Decline to answer; 99, Not applicable}	Tenure and Promotion
Q145B - Have you received formal feedback on your progress toward tenure?	{0, No; 1, Yes; 98, Decline to answer}	Tenure and Promotion

APPENDIX D: SATISFACTION ITEM RESPONSE RATE DATA TABLES

		Cases					
		Valid		Missing		Total	
Survey Item	Year	N	Percent	N	Percent	N	Percent
Q23. My sense of whether or not I will achieve tenure is...	2005	4742	97.50%	124	2.50%	4866	100.00%
	2006	2103	97.80%	47	2.20%	2150	100.00%
	2007	1574	98.40%	26	1.60%	1600	100.00%
	2008	4379	98.30%	75	1.70%	4454	100.00%
	2009	1999	98.50%	31	1.50%	2030	100.00%
	2010	1323	98.40%	21	1.60%	1344	100.00%
Q24a. A scholar - Is what's expected in order to earn tenure CLEAR to you regarding your performance as:	2005	4803	98.70%	63	1.30%	4866	100.00%
	2006	2116	98.40%	34	1.60%	2150	100.00%
	2007	1586	99.10%	14	0.90%	1600	100.00%
	2008	4417	99.20%	37	0.80%	4454	100.00%
	2009	2011	99.10%	19	0.90%	2030	100.00%
	2010	1316	97.90%	28	2.10%	1344	100.00%
Q24b. A teacher - Is what's expected in order to earn tenure CLEAR to you regarding your performance as:	2005	4766	97.90%	100	2.10%	4866	100.00%
	2006	2087	97.10%	63	2.90%	2150	100.00%
	2007	1574	98.40%	26	1.60%	1600	100.00%
	2008	4365	98.00%	89	2.00%	4454	100.00%
	2009	2000	98.50%	30	1.50%	2030	100.00%
	2010	1309	97.40%	35	2.60%	1344	100.00%
Q24c. An advisor to students - Is what's expected in order to earn tenure CLEAR to you regarding your performance as:	2005	4621	95.00%	245	5.00%	4866	100.00%
	2006	1983	92.20%	167	7.80%	2150	100.00%
	2007	1485	92.80%	115	7.20%	1600	100.00%
	2008	4104	92.10%	350	7.90%	4454	100.00%
	2009	1901	93.60%	129	6.40%	2030	100.00%
	2010	1208	89.90%	136	10.10%	1344	100.00%
Q24d. A colleague in your department - Is what's expected in order to earn tenure CLEAR to you regarding your performance as:	2005	4756	97.70%	110	2.30%	4866	100.00%
	2006	2087	97.10%	63	2.90%	2150	100.00%
	2007	1562	97.60%	38	2.40%	1600	100.00%
	2008	4327	97.10%	127	2.90%	4454	100.00%
	2009	1984	97.70%	46	2.30%	2030	100.00%
	2010	1290	96.00%	54	4.00%	1344	100.00%
Q24e. A campus citizen - Is	2005	4759	97.80%	107	2.20%	4866	100.00%

Survey Item	Year	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
what's expected in order to earn tenure CLEAR to you regarding your performance as:	2006	2047	95.20%	103	4.80%	2150	100.00%
	2007	1532	95.80%	68	4.20%	1600	100.00%
	2008	4260	95.60%	194	4.40%	4454	100.00%
	2009	1945	95.80%	85	4.20%	2030	100.00%
	2010	1267	94.30%	77	5.70%	1344	100.00%
Q24f. A member of the broader community (e.g., outreach) - Is what's expected in order to earn tenure CLEAR to you regarding your performance as:	2005	4698	96.50%	168	3.50%	4866	100.00%
	2006	2023	94.10%	127	5.90%	2150	100.00%
	2007	1476	92.20%	124	7.80%	1600	100.00%
	2008	4167	93.60%	287	6.40%	4454	100.00%
	2009	1896	93.40%	134	6.60%	2030	100.00%
	2010	1242	92.40%	102	7.60%	1344	100.00%
Q25a. A scholar - Is what's expected in order to earn tenure REASONABLE to you regarding your performance as:	2005	4647	95.50%	219	4.50%	4866	100.00%
	2006	2116	98.40%	34	1.60%	2150	100.00%
	2007	1586	99.10%	14	0.90%	1600	100.00%
	2008	4417	99.20%	37	0.80%	4454	100.00%
	2009	2011	99.10%	19	0.90%	2030	100.00%
	2010	1316	97.90%	28	2.10%	1344	100.00%
Q25b. A teacher - Is what's expected in order to earn tenure REASONABLE to you regarding your performance as:	2005	4611	94.80%	255	5.20%	4866	100.00%
	2006	2087	97.10%	63	2.90%	2150	100.00%
	2007	1574	98.40%	26	1.60%	1600	100.00%
	2008	4365	98.00%	89	2.00%	4454	100.00%
	2009	2000	98.50%	30	1.50%	2030	100.00%
	2010	1309	97.40%	35	2.60%	1344	100.00%
Q25c. An advisor to students - Is what's expected in order to earn tenure REASONABLE to you regarding your performance as:	2005	4338	89.10%	528	10.90%	4866	100.00%
	2006	1983	92.20%	167	7.80%	2150	100.00%
	2007	1485	92.80%	115	7.20%	1600	100.00%
	2008	4104	92.10%	350	7.90%	4454	100.00%
	2009	1901	93.60%	129	6.40%	2030	100.00%
	2010	1208	89.90%	136	10.10%	1344	100.00%
Q25d. A colleague in your department - Is what's expected in order to earn tenure REASONABLE to you regarding your performance as:	2005	4491	92.30%	375	7.70%	4866	100.00%
	2006	2087	97.10%	63	2.90%	2150	100.00%
	2007	1562	97.60%	38	2.40%	1600	100.00%
	2008	4327	97.10%	127	2.90%	4454	100.00%
	2009	1984	97.70%	46	2.30%	2030	100.00%
	2010	1290	96.00%	54	4.00%	1344	100.00%

Survey Item	Year	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Q25e. A campus citizen - Is what's expected in order to earn tenure REASONABLE to you regarding your performance as:	2005	4473	91.90%	393	8.10%	4866	100.00%
	2006	2047	95.20%	103	4.80%	2150	100.00%
	2007	1532	95.80%	68	4.20%	1600	100.00%
	2008	4260	95.60%	194	4.40%	4454	100.00%
	2009	1945	95.80%	85	4.20%	2030	100.00%
	2010	1267	94.30%	77	5.70%	1344	100.00%
Q25f. A member of the broader community (e.g., outreach) - Is what's expected in order to earn tenure REASONABLE to you regarding your performance as:	2005	4337	89.10%	529	10.90%	4866	100.00%
	2006	2023	94.10%	127	5.90%	2150	100.00%
	2007	1476	92.20%	124	7.80%	1600	100.00%
	2008	4167	93.60%	287	6.40%	4454	100.00%
	2009	1896	93.40%	134	6.60%	2030	100.00%
	2010	1242	92.40%	102	7.60%	1344	100.00%
Q28. The way you spend your time as a faculty member - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your work:	2005	4762	97.90%	104	2.10%	4866	100.00%
	2006	2119	98.60%	31	1.40%	2150	100.00%
	2007	1572	98.20%	28	1.80%	1600	100.00%
	2008	4363	98.00%	91	2.00%	4454	100.00%
	2009	1985	97.80%	45	2.20%	2030	100.00%
	2010	1307	97.20%	37	2.80%	1344	100.00%
Q28B. The number of hours you work as a faculty member in an average week - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your work:[a]	2007	1573	98.30%	27	1.70%	1600	100.00%
	2008	4362	97.90%	92	2.10%	4454	100.00%
	2009	1982	97.60%	48	2.40%	2030	100.00%
	2010	1309	97.40%	35	2.60%	1344	100.00%
Q29a. The level of the courses you teach - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your work:	2005	4667	95.90%	199	4.10%	4866	100.00%
	2006	2078	96.70%	72	3.30%	2150	100.00%
	2007	1540	96.20%	60	3.80%	1600	100.00%
	2008	4270	95.90%	184	4.10%	4454	100.00%
	2009	1977	97.40%	53	2.60%	2030	100.00%
	2010	1302	96.90%	42	3.10%	1344	100.00%
Q29b. The number of courses you teach - Please indicate	2005	4671	96.00%	195	4.00%	4866	100.00%
	2006	2081	96.80%	69	3.20%	2150	100.00%

Survey Item	Year	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
your level of satisfaction or dissatisfaction with the following aspects of your work:	2007	1542	96.40%	58	3.60%	1600	100.00%
	2008	4273	95.90%	181	4.10%	4454	100.00%
	2009	1977	97.40%	53	2.60%	2030	100.00%
	2010	1302	96.90%	42	3.10%	1344	100.00%
Q29c. The degree of influence you have over the courses you teach - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your work:	2005	4663	95.80%	203	4.20%	4866	100.00%
	2006	2077	96.60%	73	3.40%	2150	100.00%
	2007	1535	95.90%	65	4.10%	1600	100.00%
	2008	4265	95.80%	189	4.20%	4454	100.00%
	2009	1975	97.30%	55	2.70%	2030	100.00%
	2010	1300	96.70%	44	3.30%	1344	100.00%
Q29d. The discretion you have over the content of your courses you teach - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your work:	2005	4665	95.90%	201	4.10%	4866	100.00%
	2006	2068	96.20%	82	3.80%	2150	100.00%
	2007	1536	96.00%	64	4.00%	1600	100.00%
	2008	4260	95.60%	194	4.40%	4454	100.00%
	2009	1969	97.00%	61	3.00%	2030	100.00%
	2010	1302	96.90%	42	3.10%	1344	100.00%
Q29e. The number of students you teach - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your work:	2005	4667	95.90%	199	4.10%	4866	100.00%
	2006	2075	96.50%	75	3.50%	2150	100.00%
	2007	1540	96.20%	60	3.80%	1600	100.00%
	2008	4280	96.10%	174	3.90%	4454	100.00%
	2009	1975	97.30%	55	2.70%	2030	100.00%
	2010	1303	96.90%	41	3.10%	1344	100.00%
Q30b. The amount of time you have to conduct research/produce creative work - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your work:	2005	4721	97.00%	145	3.00%	4866	100.00%
	2006	2119	98.60%	31	1.40%	2150	100.00%
	2007	1573	98.30%	27	1.70%	1600	100.00%
	2008	4355	97.80%	99	2.20%	4454	100.00%
	2009	1989	98.00%	41	2.00%	2030	100.00%
	2010	1308	97.30%	36	2.70%	1344	100.00%
Q30c. The amount of external funding you are expected to find - Please indicate your level of	2005	4371	89.80%	495	10.20%	4866	100.00%
	2006	1856	86.30%	294	13.70%	2150	100.00%
	2007	1392	87.00%	208	13.00%	1600	100.00%
	2008	3863	86.70%	591	13.30%	4454	100.00%

Survey Item	Year	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
satisfaction or dissatisfaction with the following aspects of your work:	2009	1741	85.80%	289	14.20%	2030	100.00%
	2010	1129	84.00%	215	16.00%	1344	100.00%
Q30d. The influence you have over the focus of your research/creative work - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your work:	2005	4694	96.50%	172	3.50%	4866	100.00%
	2006	2101	97.70%	49	2.30%	2150	100.00%
	2007	1570	98.10%	30	1.90%	1600	100.00%
	2008	4328	97.20%	126	2.80%	4454	100.00%
	2009	1983	97.70%	47	2.30%	2030	100.00%
	2010	1303	96.90%	41	3.10%	1344	100.00%
Q38a. The fairness with which your immediate supervisor evaluates your work - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your workplace:	2005	4258	87.50%	608	12.50%	4866	100.00%
	2006	1918	89.20%	232	10.80%	2150	100.00%
	2007	1431	89.40%	169	10.60%	1600	100.00%
	2008	3969	89.10%	485	10.90%	4454	100.00%
	2009	1802	88.80%	228	11.20%	2030	100.00%
	2010	1206	89.70%	138	10.30%	1344	100.00%
Q38b. The interest tenured faculty take in your professional development - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your workplace:	2005	4626	95.10%	240	4.90%	4866	100.00%
	2006	2057	95.70%	93	4.30%	2150	100.00%
	2007	1524	95.20%	76	4.80%	1600	100.00%
	2008	4154	93.30%	300	6.70%	4454	100.00%
	2009	1890	93.10%	140	6.90%	2030	100.00%
	2010	1260	93.80%	84	6.20%	1344	100.00%
Q38c. Your opportunities to collaborate with tenured faculty - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your workplace:	2005	4417	90.80%	449	9.20%	4866	100.00%
	2006	1933	89.90%	217	10.10%	2150	100.00%
	2007	1444	90.20%	156	9.80%	1600	100.00%
	2008	4057	91.10%	397	8.90%	4454	100.00%
	2009	1846	90.90%	184	9.10%	2030	100.00%
	2010	1231	91.60%	113	8.40%	1344	100.00%
Q38d. The value faculty in your department place on your work - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your	2008	4124	92.60%	330	7.40%	4454	100.00%
	2009	1866	91.90%	164	8.10%	2030	100.00%
	2010	1259	93.70%	85	6.30%	1344	100.00%

Survey Item	Year	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
workplace: [a]							
Q39a. The amount of professional interaction you have with tenured faculty in your department/at your institution - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your workplace:	2005	4629	95.10%	237	4.90%	4866	100.00%
	2006	2051	95.40%	99	4.60%	2150	100.00%
	2007	1520	95.00%	80	5.00%	1600	100.00%
	2008	4161	93.40%	293	6.60%	4454	100.00%
	2009	1900	93.60%	130	6.40%	2030	100.00%
	2010	1269	94.40%	75	5.60%	1344	100.00%
Q39b. The amount of personal interaction you have with tenured faculty in your department/at your institution - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your workplace:	2005	4613	94.80%	253	5.20%	4866	100.00%
	2006	2033	94.60%	117	5.40%	2150	100.00%
	2007	1516	94.80%	84	5.20%	1600	100.00%
	2008	4145	93.10%	309	6.90%	4454	100.00%
	2009	1897	93.40%	133	6.60%	2030	100.00%
	2010	1266	94.20%	78	5.80%	1344	100.00%
Q39c. The amount of professional interaction you have with pre-tenured faculty in your department/at your institution - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your workplace:	2005	4541	93.30%	325	6.70%	4866	100.00%
	2006	1999	93.00%	151	7.00%	2150	100.00%
	2007	1487	92.90%	113	7.10%	1600	100.00%
	2008	4092	91.90%	362	8.10%	4454	100.00%
	2009	1866	91.90%	164	8.10%	2030	100.00%
	2010	1209	90.00%	135	10.00%	1344	100.00%
Q39d. The amount of personal interaction you have with pre-tenured faculty in your department/at your institution - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your workplace:	2005	4531	93.10%	335	6.90%	4866	100.00%
	2006	2002	93.10%	148	6.90%	2150	100.00%
	2007	1491	93.20%	109	6.80%	1600	100.00%
	2008	4078	91.60%	376	8.40%	4454	100.00%
	2009	1861	91.70%	169	8.30%	2030	100.00%
	2010	1209	90.00%	135	10.00%	1344	100.00%
Q40. How well you fit (e.g.,	2005	4660	95.80%	206	4.20%	4866	100.00%

Survey Item	Year	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
your sense of belonging, your comfort level) in your department/at your institution - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your workplace:	2006	2060	95.80%	90	4.20%	2150	100.00%
	2007	1535	95.90%	65	4.10%	1600	100.00%
	2008	4187	94.00%	267	6.00%	4454	100.00%
	2009	1916	94.40%	114	5.60%	2030	100.00%
	2010	1272	94.60%	72	5.40%	1344	100.00%
Q41. The intellectual vitality of the tenured faculty in your department/at your institution - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your workplace:	2005	4623	95.00%	243	5.00%	4866	100.00%
	2006	2035	94.70%	115	5.30%	2150	100.00%
	2007	1519	94.90%	81	5.10%	1600	100.00%
	2008	4143	93.00%	311	7.00%	4454	100.00%
	2009	1872	92.20%	158	7.80%	2030	100.00%
	2010	1256	93.50%	88	6.50%	1344	100.00%
Q41a. The intellectual vitality of pre-tenure faculty in your department - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your workplace: [a]	2008	4067	91.30%	387	8.70%	4454	100.00%
	2009	1833	90.30%	197	9.70%	2030	100.00%
	2010	1202	89.40%	142	10.60%	1344	100.00%
Q41b. Opportunities for participation, appropriate to your rank, in the governance of your institution - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your workplace: [a]	2008	3950	88.70%	504	11.30%	4454	100.00%
	2009	1791	88.20%	239	11.80%	2030	100.00%
	2010	1190	88.50%	154	11.50%	1344	100.00%
Q41c. Opportunities for participation, appropriate to your rank, in the governance of your department - Please indicate your level of satisfaction or dissatisfaction with the following aspects of your workplace:	2008	3757	84.40%	697	15.60%	4454	100.00%
	2009	1796	88.50%	234	11.50%	2030	100.00%
	2010	1236	92.00%	108	8.00%	1344	100.00%
Q42. On the whole, my	2007	1536	96.00%	64	4.00%	1600	100.00%

Survey Item	Year	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
institution is collegial - Please indicate your level of agreement or disagreement with the following statement.	2008	4204	94.40%	250	5.60%	4454	100.00%
	2009	1919	94.50%	111	5.50%	2030	100.00%
	2010	1267	94.30%	77	5.70%	1344	100.00%
Q36. How satisfied or dissatisfied are you with your compensation (that is, your salary and benefits)?	2005	4681	96.20%	185	3.80%	4866	100.00%
	2006	2065	96.00%	85	4.00%	2150	100.00%
	2007	1542	96.40%	58	3.60%	1600	100.00%
	2008	4211	94.50%	243	5.50%	4454	100.00%
	2009	1920	94.60%	110	5.40%	2030	100.00%
	2010	1269	94.40%	75	5.60%	1344	100.00%
Q45b. All things considered, how satisfied or dissatisfied are you with your institution as a place to work?	2005	4658	95.70%	208	4.30%	4866	100.00%
	2006	2063	96.00%	87	4.00%	2150	100.00%
	2007	1538	96.10%	62	3.90%	1600	100.00%
	2008	4201	94.30%	253	5.70%	4454	100.00%
	2009	1905	93.80%	125	6.20%	2030	100.00%
	2010	1270	94.50%	74	5.50%	1344	100.00%
Q45a. All things considered, how satisfied or dissatisfied are you with your department as a place to work?	2005	4307	88.50%	559	11.50%	4866	100.00%
	2006	1772	82.40%	378	17.60%	2150	100.00%
	2007	1268	79.20%	332	20.80%	1600	100.00%
	2008	4196	94.20%	258	5.80%	4454	100.00%
	2009	1900	93.60%	130	6.40%	2030	100.00%
	2010	1266	94.20%	78	5.80%	1344	100.00%

[a]Questionnaire items had missing data from one or more survey years and were excluded from the investigation

APPENDIX E: CHECKING OF ASSUMPTIONS DATA TABLES AND FIGURES

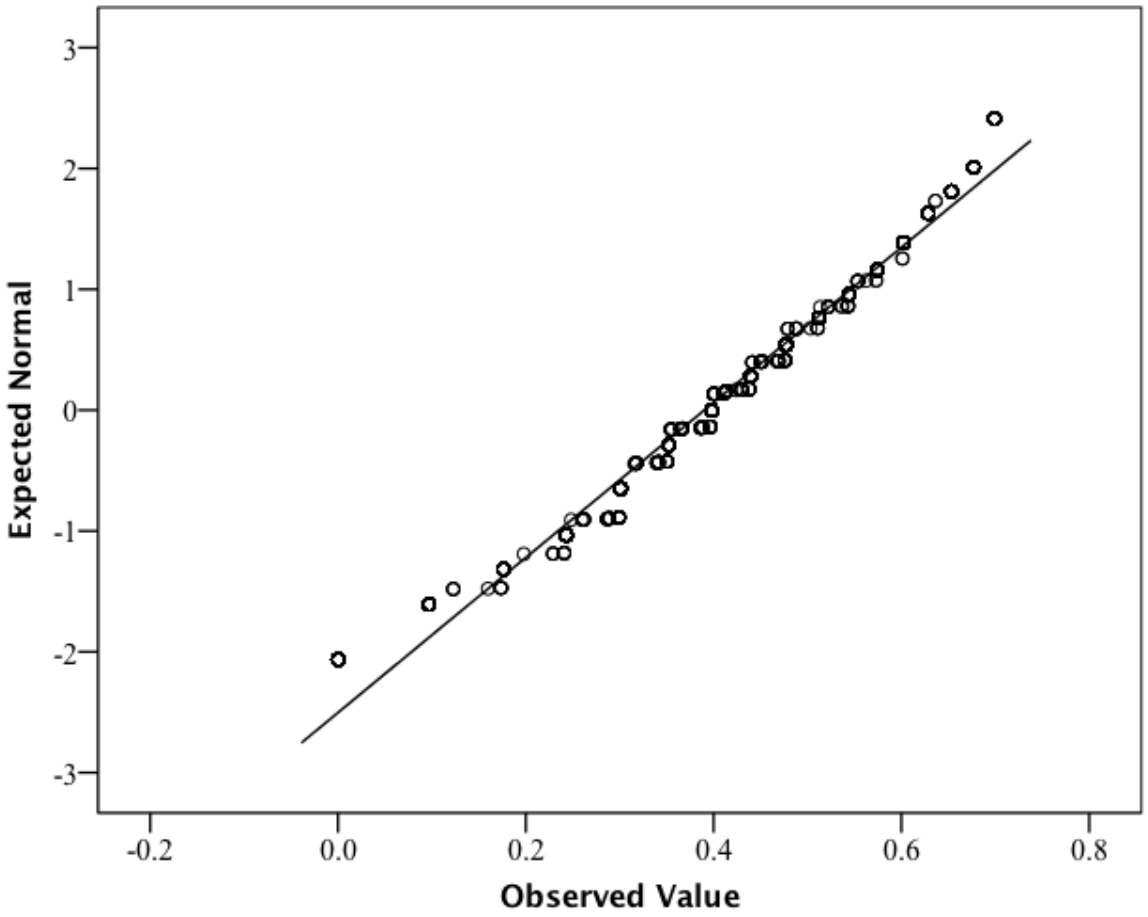

Figure E.1. Normality Q-Q plot for transformed satisfaction with clarity of institutional expectations variable.

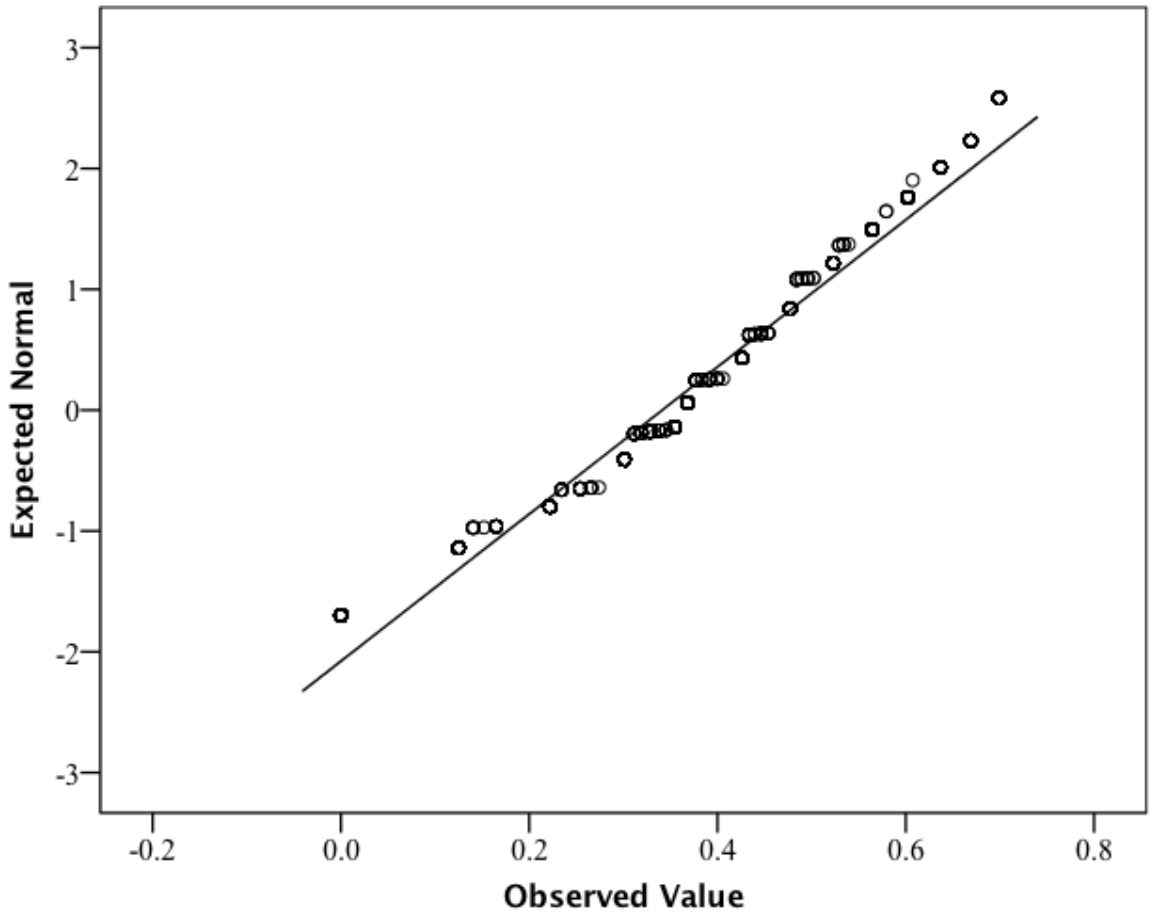

Figure E.2. Normality Q-Q plot for transformed satisfaction with reasonableness of institutional expectations variable.

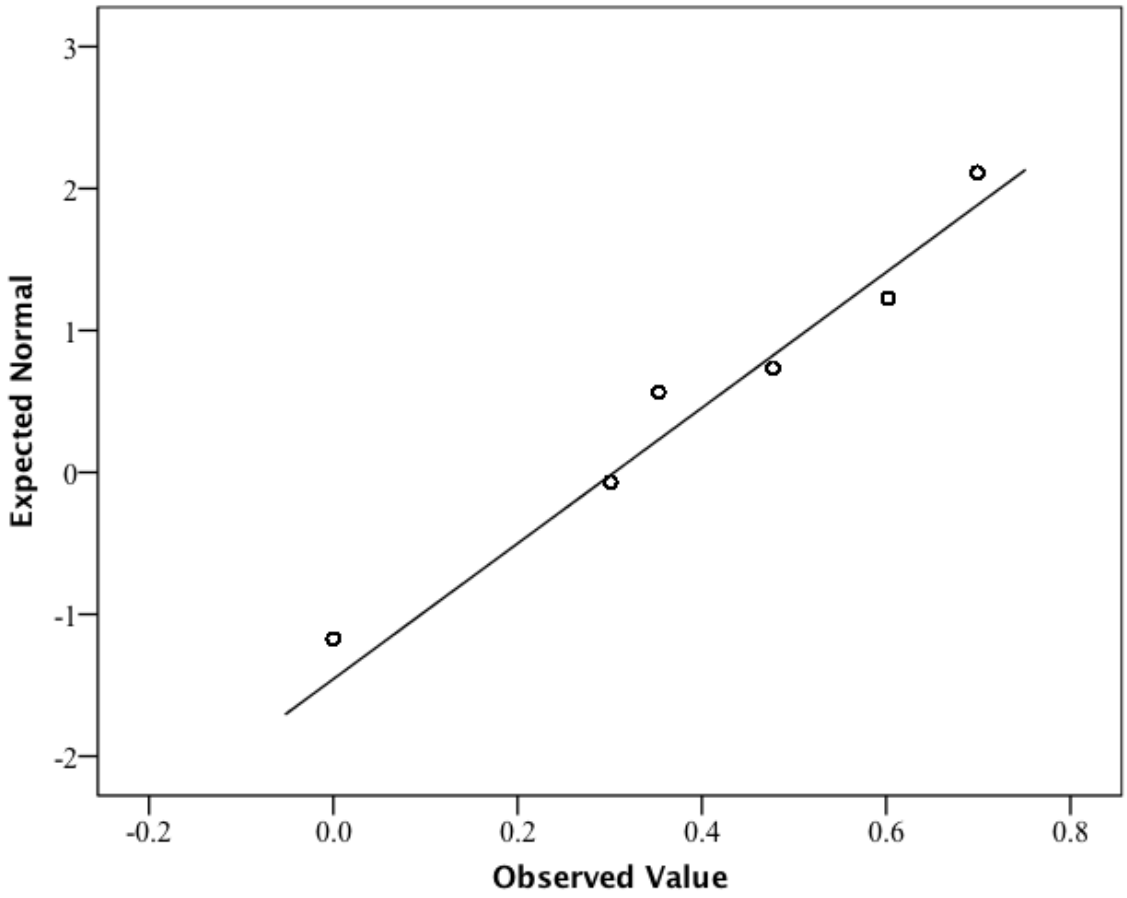

Figure E.3. Normality Q-Q plot for transformed satisfaction with nature of the work (overall) variable.

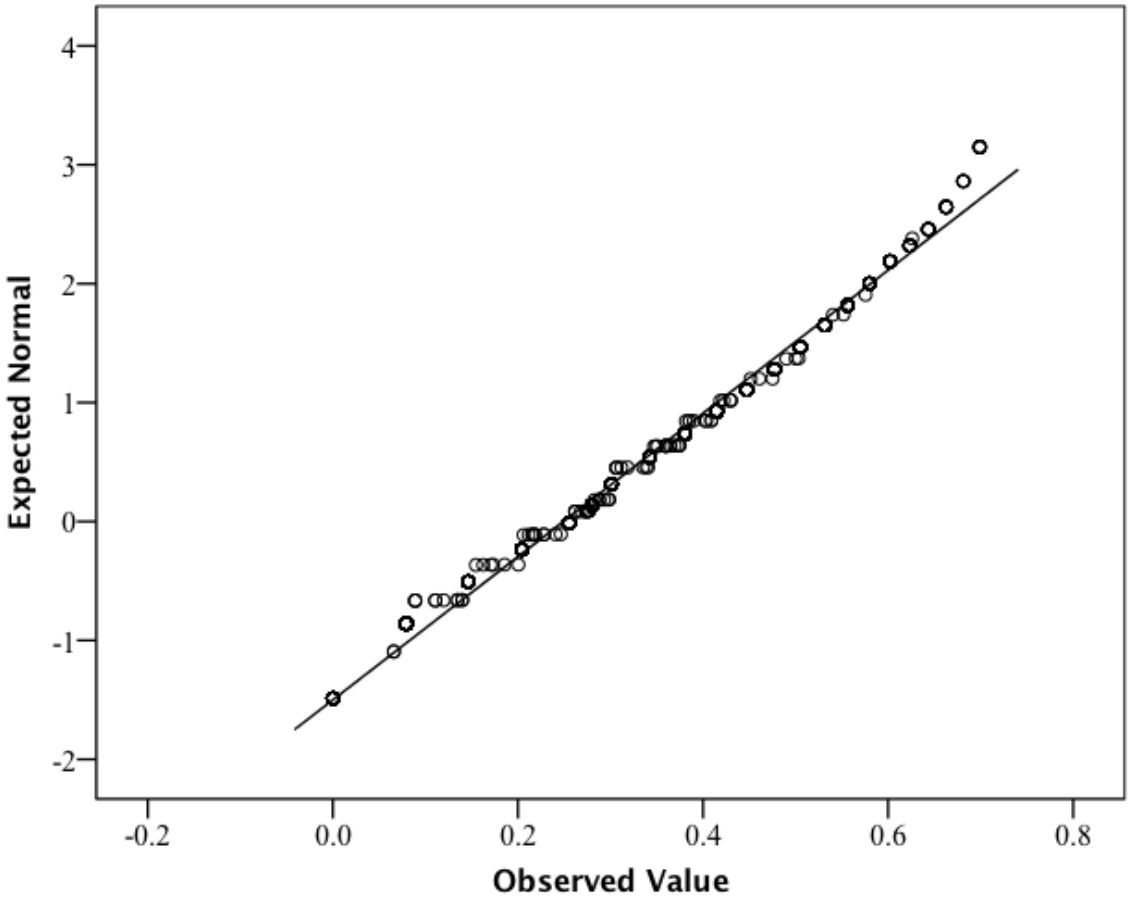

Figure E.4. Normality Q-Q plot for transformed satisfaction with nature of the work (teaching) variable.

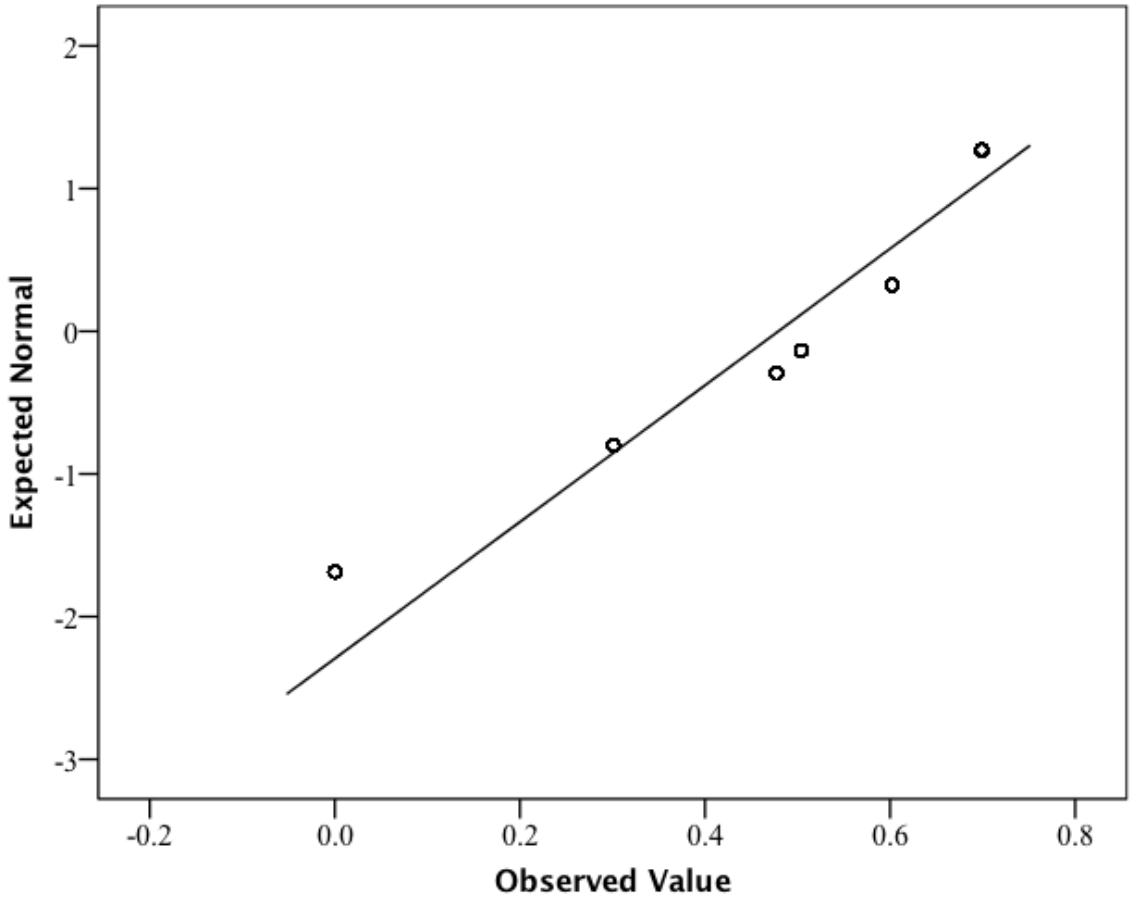

Figure E.5. Normality Q-Q plot for transformed satisfaction with nature of the work (research) variable.

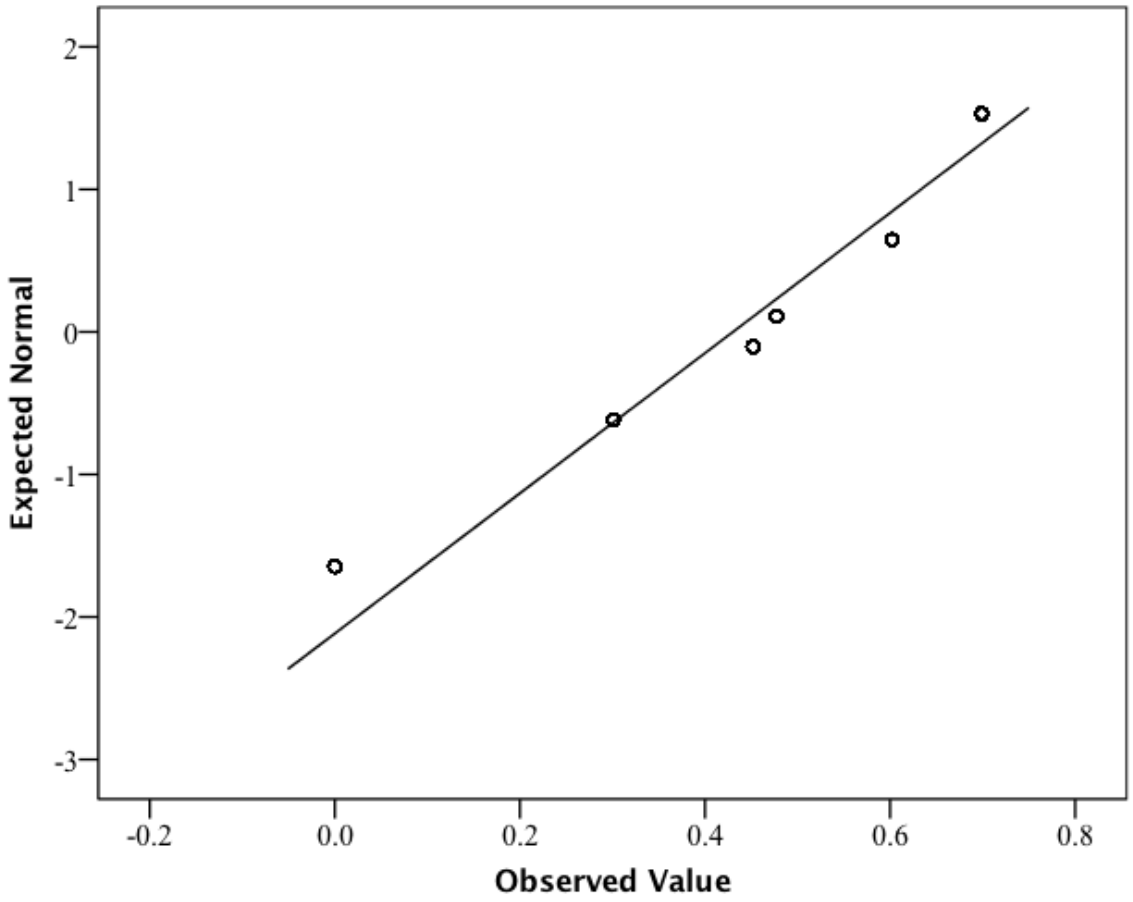

Figure E.6. Normality Q-Q plot for transformed satisfaction with compensation and benefits variable.