The Effect of Stress and Perceived Social Support on Job Satisfaction: A Comparison Between U.S Born and Foreign-Born Faculty

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THE EFFECT OF STRESS AND PERCEIVED SOCIAL SUPPORT ON JOB SATISFACTION:
A COMPARISON BETWEEN U.S.-BORN AND FOREIGN-BORN FACULTY

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By
Lisa M. Owen

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THE EFFECT OF STRESS AND PERCEIVED SOCIAL SUPPORT ON JOB SATISFACTION:
A COMPARISON BETWEEN U.S.-BORN AND FOREIGN-BORN FACULTY

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Bob Owen, my husband, best friend and soul mate
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EPIGRAPH

A teacher affects eternity; he can never know where his influence stops.

Henry Adams
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Research indicates that academic work-stress is a significant and growing problem for faculty members. General work-stress studies suggest that social support may buffer the negative impact of stress on faculty job satisfaction. To date, little research has been conducted in this area. Even fewer studies have examined the potential differences between U.S.-born and foreign-born faculty members regarding these variables. This quantitative, non-experimental multivariate study utilized a survey to assess academic stressors, perceived departmental social support, and job satisfaction at a large U.S. university. The surveyed institution consisted of 807 full-time faculty members. The three-week survey yielded a response rate of 35%, with 227 U.S.-born faculty and 55 foreign-born faculty participating in the fall semester of 2014. Results indicated that perceived departmental social support moderates the effect of stress on job satisfaction for U.S.-born faculty members, but not for foreign-born faculty members. Further research is needed to more fully examine the differences found in this study.
CHAPTER I: INTRODUCTION

Introduction to the Issue

United States educational institutions are facing a growing problem of teacher retention (Daly & Dee, 2006; Giacometti, 2005; Kirby & Grissmer, 1993; Luekens, Lyter, & Fox, 2004; Xu, 2008a, 2008b). The United States (hereinafter, U.S.) has 7,236 institutions of postsecondary education, with 3,050 four-year institutions and 692 that are public four-year institutions (National Center for Education Statistics, 2014). The total number of students in U.S. higher education for the 2013-2014 academic year was 21 million, with four-year institutions accounting for 9,677,135 of these students. The need for full-time faculty at postsecondary institutions has increased by over 19% between 2001 and 2011 (National Center for Educational Statistics, 2012). By 2013, a total of 1,267,000 faculty members were teaching in institutions of higher education, and this number is anticipated to increase by another 236,400 new positions over the next 10 years (Bureau of Labor Statistics, 2014). If this trend is sustained, the number of postsecondary faculty would need to increase by almost 19% over the next 10 years. Consequently, the retention of faculty will continue to present a major challenge.

The primary mission for universities and colleges is the education of students. Institutions of higher education can only achieve this mission successfully if they have qualified and effective faculty. Institutions of higher education, however, are facing increased challenges. Factors both external and internal to these entities are changing the very fabric of long-held expectations and organizational norms, particularly for the faculty. State budgets have decreased spending for higher education by 28% over the last five years (Olliff, Palacios, Johnson, & Leachman, 2013). Student enrollment has
increased by 11.7% during the same period. As state budgets for higher education have
decreased, public colleges and universities across the U.S. have sought alternative ways
to cut costs. One method being used to reduce costs is to hire part time adjunct
instructors or non-tenure track faculty. In 2009, 66.5% of faculty positions in the U.S.
were non-tenure track positions, and half of all teaching positions were part-time
(Council for Higher Education Accreditation, 2014). Recent research indicates that the
changing trend in the composition of faculty at universities and colleges has negatively
impacted student retention and graduation rates (Eagan & Jaeger, 2009; Ehrenberg &
Zhang, 2005; Umbach, 2007). Changing conditions also affect the morale and job
satisfaction of faculty members.

Some researchers have suggested that the importance of retaining new faculty
members will continue to grow as senior faculty members from the baby-boomer
generation begin to retire over the next several years (Ponjuan, Conley, & Trower, 2011).
However, the most recent data indicate that the overall turnover rate for faculty members
at postsecondary institutions is 6.9% (National Center for Education Statistics, 2004).
Research conducted by the American Association of University Professors revealed that
recruiting new faculty and retaining current faculty was a very important concern for a
majority of institutions (Conley, 2007). This finding was not surprising, given the high
cost of repeatedly attempting to replace good teachers, both in terms of time and money
(Ambrose, Houston, & Norman, 2005). The cost of replacing faculty members is
estimated to be between 30% and 66% of the employee’s annual salary (Lavania,
Sharma, & Gupta, 2011). Leaders of institutions of higher education need to be aware of
the various motivational factors that influence faculty members’ intentions to remain in a
position, versus seeking employment elsewhere, in order to retain high quality professors. Postsecondary educational organizations should pay particular attention to job dissatisfaction of minority faculty members, including foreign-born faculty members who are more likely to leave (Kim, Wolf-Wendel, & Twombly, 2013; Smith & Calasanti, 2005; Trower, 2009).

Internationalization has become more important to institutions of higher education within the United States. Internationalization may be defined as “the process of integrating an international, intercultural or global dimension into the purpose, functions or delivery of postsecondary education” (Knight, 2003, p. 2). Greater exposure to international experiences increases U.S. students’ cultural sensitivities, improves their global understanding, and improves their skills in interacting with individuals from diverse backgrounds (Chapdelaine & Alexitch, 2004).

The two most common measures of internationalization at institutions of higher education are the proportion of both international students and of faculty (Delgado-Marquez, Escudero-Torres, & Hurtado-Torres, 2013). Faculty members at institutions of postsecondary education face increasingly diverse student populations. The number of international students has increased in the U.S. in the last decade by 77% (Institute of International Education, 2013). The percentage of foreign-born faculty members is also steadily increasing. In 1998, foreign-born faculty members accounted for approximately 7% of all faculty members at U.S. postsecondary institutions (Marvasti, as cited in Kim, Twombly, & Wolf-Wendel, 2012; National Center for Education Statistics, 1999; Schuster & Finkelstein, 2006). By 2007, the population of foreign-born faculty members had increased to 18% of all faculty members within U.S. higher education (Marvasti, as
cited in Kim et al., 2012; National Center for Education Statistics, 2008; Schuster & Finkelstein, 2006). Despite the importance of international faculty to higher education and the increase in their population, little research has been conducted on their experiences.

**Conceptual Framework**

The construct of social support has been important in multiple fields, including psychology, sociology, medicine, public health, leadership, business, and social work. Researchers in these fields have repeatedly demonstrated how and why relationships are important to people’s emotional, psychological, and even physical well-being (Sarason, Sarason, & Pierce, 1990). Organizational researchers have been studying the effects of social support on occupational stress for over 40 years. The origins of study of social support can be traced to several researchers, but most notably Moss (1973), Cassel (1976), and Cobb (1976). Research on social support reveals diverse definitions, models, and methods to study the relationship, with no clear framework for novice researchers. Many studies have found that social support operated either as a buffer or exerted a direct negative correlation against the effects of occupational stress (Cohen & Wills, 1985; Frese, 1999; Holt & Espelage, 2005; Johnson, Stewart, Hall, Fredlund, & Theorell, 1996; Osseiran-Waines & Elmacian, 1994).

Research on the direct effect of social support holds that the more social support that an individual perceives, the greater the job satisfaction, regardless of the amount of stress the individual experiences. Cohen, Doyle, Skoonner, Rabin, and Gwaltney (1997) found that having strong social support networks may prevent stress even before it occurs. In this study, 276 adults were medically prescreened, responded to a
questionnaire and had two blood draws. These subjects were quarantined before being exposed to a flu virus and completed an interview about their life stresses. A follow-up on subjects 28 days later assessed their blood and urine samples, and a subsequent questionnaire was administered that sought information regarding social support. Subjects with greater social support networks experienced fewer colds. This research provides evidence that social support may provide individuals with resources or coping mechanisms that allow them to simply avoid particular stressors.

Conversely, the buffering effect would support the idea that social support is needed only when one is under stress, as it is only at that point that the social support is used to help with coping (Aronson, Wilson, & Akert, 2010). Specifically, this support is used to help interpret the event as less stressful. Johnson and Jennison (1994) studied the buffering effects of social support on the drinking behavior of African Americans who experienced a stressful loss. The 1,478 subjects were surveyed regarding stress, alcohol usage, and social support. Their research found a direct relationship between stress and drinking, while social support – especially by family members and friends – was affective in modifying stress. Perceptions of social support buffer the individual’s perceptions of stress and increase positive coping mechanisms for those experiencing moderate to high levels of stressors.

Two meta-analysis studies have found support for both a direct effect and a buffering effect between stress and social support (Haly, 2009; Viswesvaran, Sanchez, & Fisher, 1999). Regardless of the specific model of the relationship between social support and stress that these two constructs clearly can interact to influence an individual’s work life. Simply stated, those who believe support is available to them tend
to experience less stress than do those who do not believe they have support (Lakey et al., 2002; Wethington & Kessler, 1986).

**Purpose of the Study**

The purpose of this study was to explore whether a relationship exists among faculty stressors, perceived social support, and job satisfaction, and then to more closely examine the potential interaction effect of foreign-born status. Many studies have examined the factors of stress, social support, and job satisfaction; this study sought to draw a distinction between the effects of these variables on U.S. faculty members and foreign-born faculty members at a four-year American university. The economic costs of a larger sample size cannot be justified until an initial exploration provides evidence that further in-depth investigation would adequately increase practical knowledge on this topic.

This study adds to the general body of knowledge regarding the potential interaction of departmental social support on stress as it reflects on job satisfaction. In addition, this study further examined whether any potential differences exist between U.S. faculty members and foreign-born faculty members in terms of levels of stress, impacts of different types of social support, and job satisfaction levels. This knowledge may provide better insights into the means by which institutions of postsecondary education can assist faculty members in reducing stress and increasing global job satisfaction.

**Rationale**

The profession of teaching in higher education has traditionally been viewed as low stress in comparison to other occupations, due to the job security of tenure, relatively
light workloads, flexibility of time, autonomy in performing work, and freedom to pursue individual research interests and professional development (Fisher, as cited in Gillespie, Walsh, Winfield, Dua, & Stough, 2001). Unfortunately, a growing body of research shows that instructional staff in higher education now self-report prevalent work stress and job dissatisfaction (Catano et al., 2007; Gillespie et al., 2001; Gmelch, Lovrich, & Wilke, 1984; Gmelch, Wilke & Lovrich, 1986; He et al., 2000; Kinman, 2001; Kinman & Jones, 2003). New faculty members at U.S. postsecondary educational institutions frequently characterize the profession as stressful, pressure ridden, and filled with uncertainty (Rice, Sorcinelli, & Austin, 2000; Sorcinelli & Austin, 1992). Studies consistently report that new faculty report feeling isolated, with a lack of a sense of community with peers; describe their work environment as competitive; and perceive a lack of collegiality that contradicts their expectations of the profession (Cawyer & Friedrich, 1998; Rice et al., 2000; Sorcinelli & Austin, 1992; Tierney & Bensimon, 1996). Research indicates that faculty satisfaction with the work environment decreases from year one to year three as a result of high stress caused by this critical time in the tenure process (Olsen, 1993). Olsen suggested that “providing first-year faculty with social, intellectual and physical support is critical to professional satisfaction with academe” (p. 465).

Smart (1990) suggested that faculty turnover can be explained and predicted by the following variables: individual characteristics reflecting demographic and work factors, adjustment to the work environment, and organizational and career satisfaction. Studies suggest that helping individual workers socialize in their new environment will help them to better adjust (Bashir, 2012; Hung-Wen & Ching-Hsiang, 2006). Cooper-
Thomas, Anderson, and Cash (2012) strongly recommended that employers create normal opportunities for individuals to interact in social settings in order to promote adjustment of new employees.

A growing body of research focuses on the distinctions between native-born and foreign-born faculty members in institutions of higher education (Corley & Sabharwal, 2007; Lin, Pearce, & Wang, 2009; Mamiseishvili, 2010; Mamiseishvili, 2011; Mamiseishvili & Rosser, 2010a; Moeller & Chung-Yan, 2013; Skachkova, 2007; Thomas & Johnson, 2004; Wells, Seifert, Park, Reed, & Umbach, 2007). Foreign-born faculty members have frequently been viewed as occupying a “special niche” within U.S. colleges and universities, particularly in the sciences — areas that tend to attract immigrant faculty members (Lin et al., 2009, p. 716). Some studies have found that foreign-born faculty members express less job satisfaction than their cohorts (Corley & Sabharwal, 2007; Wells et al., 2007). Two studies noted that international faculty members often experience a lack of social support from their colleagues (Skachkova, 2007; Thomas & Johnson, 2004). Research by Fish (2005) suggested that both personal adjustment assistance and social cultural assistance are important to helping international workers adjust to a new work environment.

**Research Questions**

The research objective for this study was to examine the relationship between various sociodemographic variables, types of faculty stressors, department social support and job satisfaction. Figure 1 provides a representation of the research model.
The following research questions were tested:

1. Does perceived social support moderate the relationship between occupational stress and job satisfaction for university faculty members after controlling for socio-economic factors?

2. Does perceived departmental social support have a significantly greater impact for foreign-born faculty, as opposed to U.S.-born faculty members in moderating the effect of occupational stress and job satisfaction?

These questions lead to three sublevels of empirical research questions. From the perspective of faculty members at a university:

a) Does a statistically significant difference exist between native-born and foreign-born faculty members on job satisfaction?

b) Does a statistically significant difference exist between male and female faculty members job satisfaction?
c) Does a statistically significant difference exist between instructors, assistant professors, associate professors, and professors on job satisfaction?

Definition of Terms

Studies investigating the relationship between stress and social support have adopted diverse frameworks. Sharing the operational definitions used in this research is important to orient the reader to the specific context of this study. Acknowledging that other definitions also may practically fit the context of this study, the following definitions for terms were used during the research project.

Culture: A means of grouping individuals based on some shared qualities (Northouse, 2013).

Faculty: Individuals whose specific assignments customarily are made for the purpose of providing instruction or teaching, research, or public service as principal activities. They may hold academic rank titles of professor, associate professor, assistant professor, instructor, lecturer, or the equivalent of any of those academic ranks.

Faculty work experience: The respondent’s self-reported number of years teaching.

Foreign-born faculty: Faculty members born outside the U.S. This term will be used interchangeably with “international faculty.”

Gender: The respondents’ reported self-identification of being either male or female.

Job satisfaction: An individual’s attitude that describes how well the person is content, or likes his or her job on a global level (Pond & Geyer, 1991).
Perceived faculty stressors: Within the occupation of university faculty, those specific demands of the occupation that have been described by a national survey as being stressors: reward and recognition, time constraints, departmental influence, professional identity, and student interaction (Gmelch, 1993).

Perceived social support: An individual’s subjective belief that he/she can rely on others for assistance regarding emotional concern, instrumental aid, information, or appraisal (House, 1981).

Perceived stress: An individual’s “anticipation of his or her inability to respond adequately to a perceived demand, accompanied by the anticipation of negative consequence(s) for an inadequate response” (Gmelch et al., 1986, p. 270).

Social support: An interpersonal transaction involving one or more of the following: (1) emotional concern (liking, love, empathy); (2) instrumental aid (goods or services); (3) information (about the environment); or (4) appraisal (information relevant to self-evaluation).

Stress: The psychological, physiological or behavioral reaction that occurs when an individual perceives a discrepancy between demands and available resources to meet the demand.

Stressor: The actual or perceived nature of a situation or event that causes stress.

Sociodemographic factors: An individual’s personal characteristics that define him/ her and the various cultural groups to which the individual is related based on a particular trait.
Assumptions

Assumptions are necessarily made any time research is conducted. As Leedy and Ormrod (2010) stated, “assumptions are so basic that, without them, the research problem itself could not exist” (p. 62). These assumptions are both large and small in scope, occurring throughout the research process. It is important to justify the assumptions that are made for this project in order to allow other researchers to effectively duplicate the process and expand on the research within the field of study.

This study assumes that colleges and universities desire to retain high quality faculty members and to improve job satisfaction among faculty. The rationale for this assumption is explained in Chapter II. Other assumptions are integral to this project as well. Many of these occur as a result of the chosen design for the study. Important assumptions for survey research include that the instruments are reliable, respondents in the sample adequately represent individuals within the larger population, and the respondents answered truthfully.

Significant time and effort was spent in choosing the instruments to be used in this study. The instruments were designed and validated by previous researchers within the field. An underlying assumption is that the surveys are reliable because they have been used in previous studies and published. Specific information about the instruments chosen for this study and their reliability is presented in Chapter III.

An underlying assumption in this study is that participants will be willing to respond to the survey. Obtaining adequate sample size is important for both generalizability and in order to run the appropriate statistical testing. This study encouraged faculty to respond to an electronic survey by providing incentives in a
random drawing. Additionally, the study should be of interest to the faculty members as it directly pertains to their work environment. While it is impossible to determine whether self-selection bias is a problem, potential concerns were addressed by assuring all members of the sample frame of confidentiality.

A final assumption of survey data collection is that participants are truthful in responding to questions. Assurances of confidentiality, as well as using an electronic format for responding to the survey, were used to promote honesty from the subjects. Participants who have anonymity respond more accurately, especially to questions that are perceived as sensitive (Fowler, 2009).

**Limitations**

Limitations are the potential weakness in any study. All research has limitations – usually as a result of time, resources, and methodology. As this study was conducted by a graduate student, financial and time constraints limited the scope and size of the sample. The study also was limited by the characteristics and number of participants who responded to the survey. Finally the research was limited in the extent to which it explained the variables of faculty job satisfaction and other components of retention.

One potential limitation of this research was that it may not offer sufficient generalizability. The U.S. Department of Labor officially recognizes 7,397 postsecondary institutions, of which 3,122 are degree granting, four-year institutions of higher education (National Center for Education Statistics, 2014). In 2011, these educational institutions employed 1,523,615 faculty members, with four-year institutions accounting for 1,115,627 instructional staff (National Center for Education Statistics, 2014). However, it is not economically feasible to survey all the faculty members of
these institutions. Different factors may affect these universities by location, culture, or size. Further research would need to be conducted to replicate the results on the broader intended population.

A major challenge for most surveys is low response rate for participation. The lower the response rate, the more likely that nonresponse bias will occur. Problems could be encountered with internal validity to the extent that those who chose not to respond are different from the survey participants on key variables that the survey was designed to study. However, some studies have proved that achieving a higher response rate for a survey does not result in significantly different estimates when using the same survey with lower response rates (Groves, 2006; Keeter, Kennedy, Dimock, Best, & Craighill, 2006). Some researchers have suggested that the use of incentives for subjects’ participation can increase response rates (Deehan, Templeton, Taylor, Drummond, & Strange, 1997; Halpern et al., 2011). This study utilized a random drawing for three incentives to stimulate faculty participation.

In addition, highlighting the benefits of the research or how it might be of interest to participants also has been found to stimulate increase of response rates (Groves et al., 1992; Groves, Presser, & Dipko, 2004). The researcher believes that this particular research topic will be of innate interest to faculty members, as it directly pertains to their real working conditions. Self-selection bias also was addressed by assuring all participants of confidentiality and privacy through the exclusion of individual identifiers in the survey and collecting all responses electronically through the Qualtrics program.

The concepts investigated in this study (stress, social support, and job satisfaction) are very complex phenomena. Many diverse theories and models have been
developed to attempt to explain adequately how these factors might interact. This study did not address or attempt to control for all of the potential factors that might be relevant to these constructs. This was a deliberate choice by the researcher in order to avoid a lengthy survey that might decrease the number of subjects who complete it.

Focusing attention on only particular target variables also permits a lower number of total subjects when conducting statistical testing, which makes the research more manageable and permits better statistical analysis. Individuals interested in other variables not covered by this study can use the results as a starting point for future research. While prior research was utilized to guide the methodology employed in this study, a future in-depth longitudinal study would provide more detailed data for evaluation.

The most fundamental limitation of this study was the identification of the total sample population of foreign-born full-time faculty members currently working at the selected postsecondary institution. U.S. law does not protect internationals as a specific protected class for employment discrimination purposes. However, Title VII of the Civil Rights Act of 1964 (42 United States Code §§ 2000e et seq.) specifically protects against national origin discrimination in employment (8 Code of Federal Regulations §§ 274.1 et seq.; 29 Code of Federal Regulations §§1606 et seq.). This law makes it illegal for employers in the U.S. to deny any individual equal employment opportunity because of birthplace, ancestry, culture, and linguistic characteristics common to a specific ethnic group, or accent. While all individuals working in the U.S. are required by federal law to prove they are authorized to work in the U.S. using the I-9 form, employers cannot request further information regarding an individual’s citizenship status in accordance
with the Immigration and reform Control Act of 1986 (8 Code of Federal Regulations § 274.1 et seq.) Regulations with the Department of Labor and Equal Opportunity Commission do not permit employers to require employees to specifically state their country of original or immigration status in order to avoid potential discrimination by employers (Baldwin, 2010). Employers may keep only information about international workers on a volunteer basis or for a legitimate business purpose.

Consequently, postsecondary institutions cannot legally maintain statistical data on the number of foreign-born full-time faculty members working on campus, unless they have a legitimate business reason for doing so. The only legitimate business reasons are to assist employees in sponsoring immigration petitions and to collect the appropriate taxes. At the organization selected for this study, 76 individuals are known to be non-citizens and resident aliens for tax purposes. While there may be a greater number of foreign-born faculty members within the sample, they are unidentifiable at this time. Consequently, known and identified foreign-born faculty made up 9% of the sample. The majority of foreign-born faculty members at the institution at which the research occurred were from Asian countries.

**Significance of the Study**

This study may assist institutions of postsecondary education to better understand the relationships between stress, perceived social support, and job satisfaction for faculty members. Understanding these relationships can help institutions to work toward enhancing social support, decreasing perceived stress, and increasing job satisfaction by developing programs that increase mechanisms for social support. Previous studies have found a high negative correlation between job satisfaction and employee turnover.
intentions (Hellman, 1997; Tett & Meyer, 1993). The ordering of job satisfaction preceding turnover intent is widely acknowledged by research (Daly & Dee, 2006).

Turnover of employees is a loss to an organization (Mathis & Jackson, 2012). Turnover can be voluntary, when a faculty member chooses to leave the organization, or involuntary, due to lack of funding for the position. Regardless of the reason for the turnover, unwanted organizational turnover negatively affects the institution. When organizations lose employees, they experience a loss of institutional knowledge, decreased satisfaction from remaining employees, and less ability to accomplish the same workload. If postsecondary educational intuitions can limit undesired turnover, they can minimize loss of revenue and time due to re-recruitment, provide better continuity of services to students, and reduce dissatisfaction from faculty members who bear the burden of increased workloads due to loss of colleagues.

Summary

Organizations of higher education are changing due to internal and external pressures. Changes in the American academic community are likely to endure into the foreseeable future. These changes are affecting the traditional expectations and work of faculty. Stressors of lower job security, less attractive compensation, longer hours of work, a diversifying student body, and changing expectations from administration are a growing concern for teachers within postsecondary education.

The largest resource for institutions of higher education is faculty. Without qualified and knowledgeable faculty, students cannot be educated. While individuals as a whole are resilient to stress and can absorb increasing pressures, they can do so only to a point. Organizations of higher education need to examine new methods to provide
support for their human capital. Prior research has shown that social support can reduce stress in the workforce. However, research has not fully examined the relationship between stress and departmental social support in academia. This study provides further information on particular factors’ influence on the interaction of stress and perceived departmental social support on job satisfaction of faculty members.

This chapter provided an overview of the problem, theoretical framework, an explanation of the purpose of the study, and a brief explanation of the research questions that were examined. Chapter II will examine the current research on stress, social support, culture, and job satisfaction. Chapter III offers an explanation of the methodology used for this study, and Chapter IV provides an analysis of the study’s findings. Finally, Chapter V presents conclusions based on the research results.
CHAPTER II: LITERATURE REVIEW

Work plays an important role in most individuals’ lives. On average, Americans spend half or more of their waking hours at work (Bureau of Labor Statistics, 2012). It is in an employer’s best interests to retain good employees. Replacing employees costs employers lost productivity, time, and money to recruit a new person to fill the position. Productive workplaces often are described in terms of high complexity, rapid change, and risk-taking innovations, all conditions that can be stressful due to high workloads, pressure, uncertainty, and lack of control (Walinga & Rowe, 2013). Research indicates that increased physical and mental complaints related to stress can have damaging effects on individuals and on the organizations for which they work (Wickramasinghe, 2010). Stress is increasing in U.S. workplaces; finding ways to reduce stress is important for both employees and employers (Blackmore et al., 2007).

A growing body of research reveals that many faculty leave the profession within the first few years (Daly & Dee, 2006; Giacometti, 2005; Olsen, 1993). The costs are high to repeatedly attempt to replace good faculty, both in terms of time and money (Gardner, 2012). Studies have linked employees’ perceptions of job satisfaction with their intent to leave (Hellman, 1997). It is important for institutions of higher education to understand the various factors that influence faculty members’ job satisfaction and social factors that impact their decisions to leave or remain at a particular institution. Theoretical research lends strong support to the notion that social interactions can influence an employee’s intention to remain with an employer. Some research has indicated that social attachments at work can diminish employee turnover (Friedman & Holtom, 2002). As human beings who interact within social dynamics, individuals can
be influenced by others. Proponents of the social information or social identity theory believe that social influences within an organization can affect job satisfaction of individual workers (Ghazzawi, 2008). While general factors that influence employee retention have been studied, little research has specifically examined the effect of social support on job satisfaction for faculty members’ intentions to remain at the institution of higher education. In particular, research is particularly scarce regarding the experiences of foreign-born faculty members. Most research has focused on the experiences of U.S. minority faculty, rather than international minority faculty members; when studies have included international faculty members, the findings most often have been grouped in an aggregate with other minority faculty members (Johnsrud, as cited in Thomas, 2002).

This chapter examines the existing research involving the principal areas of this study: U.S. faculty/international faculty, stress, social support, and job satisfaction. The nexus of these concepts is the heart of this investigation. While a plethora of research has been performed on the constructs of stress, social support, and job satisfaction, few have examined how these factors impact postsecondary faculty, and particularly international faculty members. This study seeks to add to the growing body of knowledge in this area.

Impact of Culture

The term “culture” has been defined in many different ways. In a 1952 publication, anthropologists Alfred Kroeber and Clyde Kluckhohn identified 156 different definitions and classified them into six main areas: descriptive, historical, normative, genetic, structural, and psychological. Culture is an abstract concept difficult to define, as it is dynamic. Broadly speaking, culture is viewed as a way of grouping people based on some shared qualities (Northouse, 2013). Faculty members in institutions of higher
education have been viewed as being influenced by at least five cultural layers: national, profession, institution, discipline, and the individual (Clark, as cited in Tierney & Rhoads, 1994). National culture varies by the specific country in which the faculty member’s educational institution is located. Professional culture is the specific occupation to which an individual belongs; for faculty, the profession is teaching. Institutional culture reflects the specific school of higher education, which is always unique based on a diverse variety of factors such as type (public versus private), size, location, mission, and leadership style. Discipline culture is the area of study in which a specific faculty member teaches. Individual culture consists of personal differences, including such categories as age, race, class, gender, sexual orientation, religious affiliation, or political affiliation.

**Professional culture.**

Tierney and Rhoads (1994) described a professional culture as a “group of people who engage in similar types of work, share common values and beliefs, and derive a similar sense of identity from their work” (p. 14). The profession of teaching is regarded as having at least five essential elements or shared common values and beliefs: employment equality, academic freedom and autonomy, balance and flexibility, opportunities for professional growth, and collegiality and community involvement (Gappa, Austin, & Trice, 2005). Employment equality is the belief that all faculty members are treated fairly by the institution, regardless of their rank or number of years of service. Equitable employment includes having the same policies, evaluation guidelines, resources, and benefits. Academic freedom is the right of all faculty members to express their own views in their research and teaching methodology. Balance and
flexibility is the ability of faculty members to arrange their own work schedules to best individually create their own work and home balance. Opportunities for professional growth include the institution encouraging faculty members to broaden their knowledge, abilities or skills through interaction with senior faculty, sabbaticals, or professional development. Collegiality and community involvement provides opportunities for faculty to participate in decision making, regular participation in a mutual respectful manner with colleagues, and service to the community through education of students. The context of this perceived professional culture for the profession of teaching at institutions of higher education can impact perceptions and expectations. While individual perceptions for interpreting actions or events are influenced by past experiences, current circumstances and personality differences — as well as culture at a subconscious level — can subtly shape individual realities (Kuh & Whitt, 1988).

**Institutional culture in U.S. organizations of higher education.**

The U.S. Department of Labor officially recognizes 2,192 degree granting four-year institutions of higher education in the United States; collectively, these institutions employ over 1,523,600 faculty members (National Center for Education Statistics, 2011). Individuals understand the culture of their specific organization through an “interpretive process that forms the basis for understanding behavior, events and actions” (Kuh & Whitt, 1988, p. 98). This infers that each U.S. institution of higher education may have different cultures based on unique characteristics such as missions, leadership style, institutional histories, or other similar individual differences. U.S. institutions of higher education have been described as having a culture that is a reflection of Western society, with a focus for achievement and objectivity, rather than an orientation of cooperation or
connectedness that is more consistent with the general professional culture of teaching at postsecondary educational institutions (Kuh & Whitt, 1988).

Faculty members comprise the largest population of employees at postsecondary institutions of higher education. Collectively, these faculty members are the fundamental resource of higher education organizations and vital to the organization, able to fulfill both short-term and long-term objectives and goals. The way in which faculty members are supported and socialized into their individual institutions frames the relationship that will be forged.

**Stress**

Stress has been defined as “a situation in which environmental demands, internal demands, or both, tax or exceed the adaptive resources of an individual” (Monat & Lazaeus, as cited in Keller et al., 2012). Stress can be defined in two categories: eustress, a positive type of stress that encourages individuals to look forward to every new day and that motivates performance; and distress, the negative type of stress resulting from severe prolonged troubling stressful situations (Selye & Fortier, 1950). Stress is part of one’s everyday life, including work. Lesage and Berjot (2011) stated that work stress can be experienced when “the demands of the work environment exceed the employees’ ability to cope with them” (p. 434). Stress can be particularly debilitating when it becomes overwhelming to an employee or becomes chronic (Walinga & Rowe, 2013).

Stress has been envisioned as a four-part cycle (McGrath, as cited in Smith, Anderson, & Lovrich, 1995). Stage I is concerned with the individual's identification of stressors present in the environment. These stressors can include excessive meetings, frequent interruptions, confrontations, and other environmental factors. In Stage II, the
individual's perception of the demands from the environmental factors determine the amount of stress that is produced by those factors. The individual's stress response is Stage III of the stress cycle. Greater stress is associated with the individual's perception of limited resources to meet the demands of the stressor. Whether an individual is able to mobilize resources to meet these demands is part of the stress response. To complete the stress cycle, Stage IV represents the consequences of the response to stress. This model proposes stress as a dynamic process in which psychological states and coping mechanisms change over time and across different circumstances or situations. If an individual has adequate resources and coping skills, he or she may not perceive any stress.

Figure 2. Stages of the stress cycle

Perceived stress is an individual’s “anticipation of his or her inability to respond adequately to a perceived demand, accompanied by the anticipation of negative consequence(s) for an inadequate response” (Gmelch et al., 1986, p. 270). In perceived
stress, the individual has made an appraisal about the stressor, with an evaluation of availability of resources to deal with the stressor. In this sense, it is an interaction between the characteristics of the stressor and the characteristics of the individual, including physiological, psychological, and cultural factors (Lazarus & Folkman, 1984). The interaction between these factors influences the individual’s response to the stressor.

Conceptualizations of stress usually are in two forms: duration and strength. The duration of stress is classified as acute, episodic, or chronic (Colligan & Higgins, 2005). Acute stress occurs when new demands, pressures, and expectations are placed on an individual, and these demands place the arousal level above the threshold of adaptability. These demands can be in the form of receiving unrealistic work demands, unexpected meetings that thwart attempts to complete work, and other situations that may cause frustration but generally last a short period of time. Episodic stress is experienced more frequently and consistently in multiple occurrences. Chronic stress is the accumulation of stressors that are persistent and long lasting.

The strength level of a particular stressor can be viewed as a point on a continuum. At one end of the continuum is mild stress, which can be easily remedied by relaxing and acquiring rest. At the other end is excessive distress, a severe negative stress that is prolonged in nature. At the distress level, tasks are perceived as too difficult. Excessive amounts of work stress can lead to health problems and can even result in a person being non-functional (Okoroma & Robert-Okah, 2007). Gmelch and Chen (1994) found that moderate levels of stress result in optimal job performance.
Faculty stressors.

The profession of teaching in higher education has been viewed as low stress in comparison to other occupations (Fisher, as cited in Gillespie et al., 2001). Stress is by nature a subjective rather than objective personal assessment. Unfortunately, a growing body of research is showing that faculty in higher education now self-report prevalent work stress and job dissatisfaction (Catano et al., 2007; Gillespie et al., 2001; Gmelch et al., 1984; Gmelch et al., 1986; He et al., 2000; Johnsrud & Rosser, 2002; Kinman, 2001; Kinman & Jones, 2003). This increased stress level is occurring not only in the United States, but across the profession regardless of the country studied. Barkhuizen and Rothmann (2008) studied faculty in postsecondary education in South African institutions, He et al. (2000) examined faculty in China and Japan, and Gillespie et al. (2001) researched faculty in higher education within Australia. The Kinman (2001) and Kinman and Jones (2003) studies examined faculty in higher education in the United Kingdom. Catano et al. (2007) and Moeller and Chung-Yan (2013) studied postsecondary faculty in Canada.

Most researchers have taken a snapshot approach to examine stress at a particular moment in time for faculty members. The majority of faculty work can be characterized by involving the performance of three main activities: teaching, research, and service. Differences in perceptions of stressors can be affected by individual personality factors, institutional differences, and demographic factors.

In one of the earliest studies to examine faculty stress at the postsecondary level, Gmelch et al. (1984) surveyed 80 randomly selected doctoral granting institutions — 40 were public and 40 private — for a sample size of 1,920 faculty members. Responses to
the survey were returned by 1,221 faculty members. This study investigated stress level differences between tenured and non-tenured faculty members, academic rank, discipline, and gender. Perceptions of stress were measured in five categories: reward and recognition, time constraints, department influence, professional identity, and student interaction. Untenured faculty had greater perceptions of stress than tenured faculty across all five levels of stress. Not surprising, higher ranked faculty members experienced less stress than their lower ranked colleagues. Disciplinary differences were significantly different statistically on only two of the scales: reward and recognition, and student interaction. Only two of the five stress categories had a significant difference based on age of the respondent. Age was a factor for time constraint stressors and professional identity. In this study, gender accounted for significant differences only between married and single women on time constraints and professional identity. The Gmelch et al. 1984 study was unique, in that it was the first on faculty stress to explore stress on dimensions other than time constraints and influence.

The Higher Education Research Institute (HERI) faculty survey is one instrument that has been used to examine the change in faculty stress over time. HERI has been collecting data through faculty surveys since 1978 (Hurtado, Eagan, Pryor, Whang, & Tran, 2012). In general, HERI collects data from surveys every three years. Until 2007, all data was collected for only full-time faculty members. Data on part-time faculty members has been collected since 2007, due to the realization that the population of part-time faculty was increasing in institutions of higher education. Data between full-time faculty and part-time faculty are collected separately. The HERI survey is a web-based questionnaire. Questions have changed over time, but they have always included topics
such as how faculty spend their time, teaching methods, perceptions of their institutional climate, sources of stress, job satisfaction, and demographics.

Hendel and Horn (2008) compared the change in faculty stress between 1989 and 2001. To investigate the difference in faculty work stress over time, the researchers compared the results of the HERI faculty survey for 1989 to the results obtained on the same survey in 2001. In 1989, 392 colleges and universities participated in the HERI survey, with 35,478 full-time faculty members responding. During the 2001 HERI survey, 358 institutions of higher education participated, with 32,840 full-time faculty members completing the survey. An interesting difference was noted in the demographics of the participants of the survey in this 12-year period. The overall trend indicated an increase in the number of women, minority faculty members, and older faculty. The researchers analyzed the data sets using t-tests to compare 16 stressor items and then performed multiple regression analysis. The regression levels included demographic characteristics, faculty status, faculty work life, and the 1989 versus 2001 differences. The highest faculty stressors were time pressures, lack of a personal life, teaching load, institutional procedures, and red tape. Comparing stressors between 1989 and 2001, statistically significant differences were seen in 12 of the 16 items. The most notable effect in the comparison was that severity of stressors increased between these time periods. Work overload and time pressures were the most significant factors.

The most recent HERI survey was conducted in 2010 (Hurtado et al., 2012). Data was collected from 417 four-year colleges and universities, with 23,824 full-time and 3,547 part-time faculty members. The greatest sources of work stress for all full-time faculty members in higher education were: self-imposed high expectations (84.8%); lack
of personal time (82.2%); working with underprepared students (75.3%); institutional budget cuts (74.2%); procedures and red tape (71.3%); research and publishing demands (70.7%); teaching load (62.6%); and committee work (62%).

Women reported experiencing more stress than men on 22 of the 25 questions regarding stressors. Key areas of increased stress during the previous two years for women compared to men included working with students, the review and promotion process, and changes in work responsibilities. Female faculty members also are twice as likely to report subtle discrimination as a source of stress. Subtle discrimination was a reported source of stress for 63.6% African Americans, 42.6% Latino, 39.7% American Indian, 38.2% Asian, and 37.6% of those who self-identified as multi-racial/multi-ethnic.

One interesting trend in HERI is that full-time faculty members are reporting a significant decline in the amount of time they spend teaching. Approximately 20 years ago, 63.4% of full-time faculty reported spending nine hours or more a week teaching; in 2010, only 43.6% of full-time faculty members spent nine hours or more teaching weekly. The decline in hours spent teaching in the classroom has been slow, with 56.6% teaching nine hours or more a week just 10 years ago. There also has been a decline in the amount of time full-time faculty members report in preparing for classes each week. In the 2010 survey, 59.1% of faculty reported spending more than nine hours a week preparing for class, compared to 65.5% three years earlier.

**New faculty experiences and stressors.**

New employees to an organization frequently experience uncertainty and stress. They adjust to their new work environment through a process of organizational socialization, “the process by which an individual acquires the social knowledge and
skills necessary to assume an organizational role” (Maanen & Schein, as cited in Ponjuan et al., 2011, p. 324). Socialization to the specific norms of the institution or department is not automatic (Dunn, Rouse, & Seff, 1994). Tierney (1997) viewed socialization as a “give and take where new individuals make sense of an organization through their own unique backgrounds and the current context in which the organization resides” (p. 6). Other researchers have suggested that new employees negotiate their role within the organization as they receive information from more experienced employees within the organization (Schrodt, Cawyer, & Sanders, 2003; Smith & Turner, 1995). The experiences of these new employees have with other organizational members change prior expectations and cause the individual to evaluate, assess, prioritize or reject their evolving role within the organization and the organization’s expectations and norms. Research by Smart (1990) suggested that faculty turnover can be explained and predicted by three variables: individual characteristics reflecting demographic and work factors, adjustment to the work environment, and organizational and career satisfaction. Studies suggest that helping individual workers socialize in their new environment will help them to better adjust (Bashir, 2012; Hung-Wen & Ching-Hsiang, 2006). Cooper-Thomas et al. (2012) strongly recommended that employers create normal opportunities for individuals to interact in social settings in order to promote adjustment of new employees.

Eddy and Gaston-Gayles (2008) conducted a qualitative study that found four main areas of stress for new faculty members. In this study, 12 new faculty members who had been on the tenure track for three years or less were selected using snowball sampling. Each subject was interviewed either face-to-face or by telephone. All participants were presented with open-ended questions that asked them to identify job
stresses, organizational barriers, socialization to current position, how they balanced work-life, and the role of professional organizations. After the interviews were transcribed the researchers used reduction to sort the data based on similar themes.

The four main areas of stress for new faculty in this study were work-life integration, new teaching expectations, unclear and expanding expectations, and issues due to their minority status (Eddy & Gaston-Gayles, 2008). Participants reported stress from unclear expectations in their new roles both from their departments and from the institution as a whole. They described a lack of confidence in teaching, as they had no prior experience in doctoral programs. They complained that the requirements to achieve tenure were never clearly set out. When they sought guidance from others, a lack of clear direction occurred, which caused the subjects to feel even more isolated. A majority of participants expressed difficulty in achieving a work-life balance. Difficulty in budgeting time was frequent, as multiple demands from their new jobs competed for time. It appeared to be common that work responsibilities took priority for most new faculty over their home or personal life requirements. Most subjects admitted to feelings of guilt for attempting to find a balance between the multiple demands on their time. Finally, subjects in the study also reported feelings of stress regarding being underrepresented in the faculty at their institutions due to their gender, race or ethnic background. Their minority status caused them to be requested more often to fill a role of diversity representation on committees or other department and college events. These new faculty members believed more attention was paid to them due to external factors, which added a layer of heightened scrutiny for their minority representation, as opposed to their work
performance. This study demonstrated only a few perspectives of new faculty views of their work stresses.

One unique longitudinal study examined new faculty stress over time, in their first year and again in their third year (Olsen, 1993). The study was conducted at a large U.S. public university on 52 newly hired assistant professors who were full-time faculty members. Three quarters of the newly hired assistant professors were male. By their third year of employment, five were no longer at the institution; therefore, the study was repeated on the remaining 47 individuals. All participants were asked open-ended interview questions and took a Likert questionnaire that assessed their job values and job satisfaction. A paired t-test of the subjects between their first and third year as a new faculty member resulted in an increase in the mean rating of their overall work stress (3.26 to 3.43 t\textsubscript{1.45} = 1.94 p < 0.07) and a significant decrease in their reported level of job satisfaction (3.47 to 3.15 t\textsubscript{1.44} = 2.98 p < 0.005). The study revealed a 16% increase in these faculty members reporting their work as “very stressful.” In simultaneous regression, the first year stress was only statistically significant on only two dimensions: compensation/security and time/balance conflicts. This same analysis on year three data showed evidence that increased stress involved issues of recognition/support, compensation/security, job time/balance, and feedback. The researcher stated that many of these stressors involved the tenure process.

Other studies also have demonstrated that new faculty members of U.S. postsecondary educational institutions frequently characterize the profession as stressful, pressure ridden, and filled with uncertainty (Rice et al., 2000; Sorcinelli & Austin, 1992). Studies of new faculty also have consistently reported that they report feeling
isolated, feel a lack of a sense of community with their peers, describe their work environment as competitive, and perceive a lack of collegiality that contradicts their expectations of the profession (Cawyer & Friedrich, 1998; Rice et al., 2000; Sorcinelli & Austin, 1992; Tierney & Bensimon, 1996). Research indicates that faculty satisfaction with the work environment decreases from the first to the third year as a result of high stress caused by this critical time in the tenure process (Olsen, 1993). Olsen (1993) suggested that “providing first-year faculty with social, intellectual and physical support is critical to professional satisfaction with academe” (p. 465).

**International faculty member stressors.**

Recently, more research has focused on the distinctions between native-born and foreign-born faculty members in institutions of higher education (Collins, 2008; Corley & Sabharwal, 2007; Lin et al., 2009; Mamiseishvili, 2010; Mamiseishvili, 2011; Mamiseishvili & Rosser, 2010b; Moeller & Chung-Yan, 2013; Skachkova, 2007; Thomas & Johnson, 2004; Wells et al., 2007). Foreign-born faculty members have frequently been viewed as a “special niche” within U.S. colleges and universities, particularly in the science areas that tend to attract immigrant faculty members (Lin et al., 2009, p. 716). They have been considered an “invisible minority” on U.S. campuses, as few statistics have been collected or studies conducted to assess their needs or problems (Foote, Li, Monk, & Theobald, 2008).

Research indicates variations in the ways that different cultures perceive stress. O’Connor and Shimizu (2002) conducted a study comparing 82 British students to 84 Japanese students. They asked all participants to respond to four surveys assessing sense of personal control, perceived stress, coping style, and psychological distress. The results
showed that the Japanese students had a significantly higher level of stress than the British students. While British students showed a buffering effect between higher level of control and experiencing less stress, the Japanese students had no significant effect in the level of stress in relation to the perceived level of control. However, the Japanese students had significantly greater levels of negative psychological distress in the form of negative mood.

Liu, Spector, and Shi (2007) directly compared types of stressors between American and Chinese faculty and staff working at postsecondary institutions and noted statistically significant differences. The researchers compared 187 Chinese faculty and staff members to 179 other faculty and staff members using the Stress Index Record. Participants were asked to describe a particularly stressful work event during the previous 30 days. Interviewers followed up by asking specific questions about the stressors. The results revealed Americans as being stressed by a lack of control; this did not affect Chinese participants. Americans experienced significantly more direct conflict, while Chinese subjects experienced significantly more indirect conflict. Americans complained about team coordination, while Chinese subjects were more stressed by lack of training and conditions of employment. Chinese participants also reported significantly higher stress related to job evaluations and work mistakes (23%) than Americans (5%).

Klassen, Usher, and Bong (2010) also detected differences in stress in a cross-cultural comparison of U.S., Canadian, and Korean faculty. The survey sample was comprised of 210 teachers from Canada, 137 from the U.S., and 153 from Korea. All participants answered survey questions to address collective teacher efficacy belief, job satisfaction, job stress, and collectivism. While job stress was negatively correlated with
job satisfaction for U.S. and Canadian teachers, this was not the case for Korean teachers. Korean teachers experienced higher levels of stress, but increased job satisfaction, in comparison to the other two groups. The researchers viewed this difference as a result of Korean teachers who viewed their job as an important vocation: teachers improving student performance is a collective good for the society.

International faculty members also face additional stressors when teaching abroad that U.S. faculty members do not deal with during their careers (Collins, 2008). Collins (2008) conducted a convenience sampling of 30 foreign-born faculty members who were currently teaching geology or related subjects in the U.S. The instrument contained a mixture of Likert closed-response questions and open-ended responses. All respondents answered 24 questions: 13 background and demographic questions, five regarding challenges they experienced, four about the support they received from their department and on campus, and two about students’ perceptions. The main challenges discussed by the respondents in Collins’ survey revealed three main areas that were particularly challenging for foreign-born faculty members: obtaining permanent residency in order to remain in the United States (93%); cultural differences (87%); and dealing with feelings of loneliness (63%). When asked about support on campus, 73% reported events that demonstrated they did not believe they were supported by the on-campus international office, and 66% reported incidents in which their department head failed to support them. This study lends credence to the theory that foreign-born faculty members face significant challenges in the work environment that are not experienced by other faculty members.
These studies demonstrate that an individual’s culture may impact the perception of stress and stressors. Foreign-born faculty members may experience different types of stressors and increased levels of overall stress in the workforce. Research in this area has been slow. This current study will increase knowledge in the area of stress by examining whether differences exist between U.S. faculty members versus international faculty members, without assessing specific ethnic background. Most previous studies examined only differences between the U.S. citizens and individuals from Asian cultures.

**Coping**

Coping is the cognitive or behavioral efforts in which an individual engages to help manage perceived stress (Lazarus, 1991). Individual differences have been found to affect an individual’s choice in dealing with stressors. Gmelch (1993) studied 2,000 faculty members at U.S. colleges and universities and found that respondents reported 3,226 different coping responses to faculty stressors. A review of these coping mechanisms revealed seven categories: social support, physical activity, intellectual stimulation, entertainment, personal interest self-management, and supportive attitudes.

Folkman and Lazarus (1980) distinguished between two types of coping: problem focused and emotion focused. The researchers sampled 100 middle-aged individuals from Alameda County, California. Their participants were interviewed seven times in four-week intervals and asked to respond to a list of 68 coping strategies. They checked the strategies that they used to deal with a specific stressful event discussed in the interview after the interview session. The researchers determined that coping mechanisms shifted between emotional responses and problem-solving responses. Emotional responses were made in an attempt to relieve stressful emotions by changing
the meaning of the stressful event. Examples of emotional coping responses included avoidance, accepting sympathy or understanding from another, or sharing humor of the situation with others. Problem-solving responses attempted to directly manage the stressor. Examples of problem-solving strategies of coping included seeking information about the problem, requesting help from others, and taking direct action. The researchers found that, in 98% of cases, individuals used a mixture of emotional and problem-solving responses to deal with the stressors. When a situation was viewed as one for which they had the ability to alter, they were more likely to use a problem-focused solution; if the situation was perceived as one about which nothing could be done, an emotion-focused response was more likely to be engaged. Social support is a coping resource (Thoits, 1995). Social support can be received as either emotional or problem-solving coping mechanisms. Social support is an important coping and work-related resource, as support from supervisors or colleagues can help individuals complete their work on time, reduce the impact of work overload, and achieve work goals (Van der Doef & Maes, 1999).

**Social Support**

The concept of social support can mean different things to different individuals. The *Encyclopedia of Applied Psychology* described social support as “information that leads individuals to believe that they are valued, respected and loved and that helps them to cope with major life stressors and the challenges of everyday life. Social support is a special kind of social interaction that can appear in different ways and that can be both a psychological and a tangible resource provided by a social network” (Schwarzer & Buchwald, 2004). However, social psychologists have used a wide variety of operational definitions for conceptualization of the term. A 2004 study by Williams, Barclay, and
Schmied identified 30 different research definitions for social support. Some psychologists have proposed that social support directly benefits individual well-being, as it fulfills basic social needs such as affection, esteem/approval, belonging, identity, and security (Thoits, 1982).

Operationalizing a definition of social support is a difficult task because the concept is nebulous and complex. However, in order to conduct research in this area, it is necessary to have a concrete and functional definition that may be separated into variables that can be measured. Several researchers have chosen to use James House’s 1981 definition of social support because it applies to a range of support sources and contexts (Williams et al., 2004). James House (1981) operationally defined social support as “an interpersonal transaction involving one or more of the following: (1) emotional concern (liking, love, empathy); (2) instrumental aid (goods or services); (3) information (about the environment); or (4) appraisal (information relevant to self-evaluation)” (p. 39). House viewed emotional support as the most universally recognized function of support and stated that it involved providing empathy, caring, love, and trust. Instrumental support directly helps another by offering tangible assistance. Individuals offer informational support when they give advice on how to approach a problem or provide useful information. For House, informational support was not necessarily useful in and of itself, but it allowed individuals who received the informational support to better help themselves. Appraisal support is similar to informational support, in that it involves only communication of information and not direct assistance; but it provides feedback for self-evaluation or social comparison. Social support is a powerful resource that can equip individuals to cope with stress (House, 1981).
There are also individual and situational characteristics that can influence the type and availability of social support. Individual characteristics that have been found to influence social support include personality, roles, culture, and age (Cohen & Syme, as cited in Hupcey, 1998; Kahn, 1994). Individual characteristics also can impact the means by which social support is requested, offered, or accepted, meaning that personal characteristics can impact satisfaction with the availability of social support (Sarason et al., 1990).

A social support system has been shown to be important for individuals’ physical and psychological health, as it can improve their adaptive ability and coping mechanisms (Schwarzer & Knoll, 2007). Social integration and social network are essential factors that affect the availability of social support resources. Individuals build up supportive social relationships through social integration for the purpose of being socially accepted and integrated into a particular environment (Pomaki, DeLongis, Frey, Short, & Woehrle, 2010). Social interaction has been shown to improve career success as well (Sparrowe, Liden, Wayne, & Kraimer, 2001; Williams & Kirk, 2008). Theoretical research therefore, lends strong support for the notion that social support can influence an employee’s level of job satisfaction and his or her intention to leave an employer.

A study by Sparrowe et al. (2001) sheds light on social support in everyday work settings. These researchers conducted a field study of five organizations and examined relationships within work groups. Voluntary participants consisted of 296 employees involved in one of 47 work groups at the five organizations. Final analysis was conducted on 38 of the groups, after removing groups that did not consist of a sufficient number of members responding to all parts of the study. All subject groups were those
that had been formed and worked together prior to the study. On average, groups had worked together for 20 months. Surveys assessing networks and work attitudes were completed by subjects during work hours. Each group’s leader also completed questionnaires rating and analyzing individual and group performance. To evaluate the work networks, each group member answered questions about every other member of the group. The questions included: “Do you go to [name] for help or advice on work related matters?” and “Does [name] make it difficult for you to carry out your job responsibilities?” All questions were answered on a 7-point Likert scale from 1 (not at all) to 7 (very much). Using these total scores for each group member, the researchers calculated the degree to which each individual in the group was connected to the other group members. Members of the group were evaluated on a 7-point scale of 1 (strongly disagree) to 7 (strongly agree) by their supervisors for performance on required duties of the job and for performance of behaviors beyond normal job duties. The supervisors also evaluated overall group performance from 1 (very poor) to 7 (outstanding). Regression analysis indicated that the level of an individual’s connectedness to the group accounted for 13% of normal job performance and 10% of extra performance outside of normal job duties. Group connectedness to members accounted for 20% of the group’s total performance. These results showed that individuals who interacted and were more social within their groups displayed better job performance.

Traditionally, faculty members are thought to have a great deal of autonomy in their work activities: what classes they teach, when they schedule their classes, and how they teach their classes. However, the actual job duties involve a complex array of social relationships that intersect at many different levels of the individual institution.
Frequently, institutions of higher education require faculty members to serve on department, college, or campus-wide committees for joint governance purposes and as a service requirement. Universities that have a tenure system also impose specific procedures and requirements in order to request tenure. Most tenure review systems require colleagues to review research and teaching of the tenure candidate. Few faculty members can exist for long within a postsecondary education setting if they are isolated from others. The multiple social relationships can impact the work life of faculty members. Research has shown that a positive and nurturing environment permits the development of a sense of belonging and decreases faculty turnover intentions (Rosser, 2004).

Social support at work can help employees adapt to stressful work conditions (Bacharach & Bamberger, 2007; Luthans, Avolio, Avey, & Norman 2007). Social support diminishes workers’ perceptions of stress in two ways. Social support can change the conditions perceived within the environment, as well as the degree to which stressors are perceived as threats, harms, or challenges. Additionally, social support can help the worker with emotional coping. Two meta-analysis studies indicated that social support buffers the effect of work stress for employees (Haly, 2009; Viswesvaran et al., 1999). This causes social support to be a strong tool against the effects of work stress.

Considering social support as a resource to reduce employee stress and to create a positive and engaging workforce offers an additional advantage for organizations. Creating an environment conducive to social support does not require additional compensation, significant monetary investment, or other structural changes to pay and benefits. Fostering the growth and development of mechanisms of social support begins
with the employees already in its workforce. Core sources of social support in the work environment are supervisors and colleagues (Bergdahl, Larsson, Nilsson, Riklund Ahlstrom, & Nyberg, 2005; Firth, Mellor, Moore, & Loquet, 2004; Ganster, Fusilier, & Mayes, 1986; Greenglass, Fiksenbaum, & Burke, 1996; Himle, Jayaratne, & Thyness, 1989; Karasek, Triantis, & Chaudhry, 1982; Sloan, Newhouse, & Thompson, 2013).

**Social support from supervisors.**

Direct supervisors often are seen as agents of the organization for which an employee works, as they have the responsibility for directing and evaluating the employee’s performance (Rhoades & Eisenberger, 2002). Supervisor social support can include providing information, showing concern and encouraging employees, providing necessary resources, structuring the work environment, and providing feedback and opportunities for advancement (Babin & Boles, 1996; Griffin, Patterson, & West, 2001; Jiang & Klein, 2000; Rauktis & Koeske, 1994). Employees who perceive that they are receiving social support from their supervisor often interpret it as a message that they will be treated with dignity and are a valued member of the organization (Shore, Tetrick, Lynch, & Barksdale, 2006). Some research has shown that social support from a direct supervisor has more impact, as positional status determines the weight and strength the respondent chooses to give to the message (Beehr, Farmer, Glazer, Gudanowski, & Nair, 2003; Raven, 1993). Other research indicates that supervisor support, because of its nature as being more intermittent than support from colleagues, had a weaker influence on workers than support from colleagues (Chiaburu, 2010).
**Social support from colleagues.**

Peers working together in the same environment and in close immediate contact with one another usually exert greater influence on colleagues than supervisors. The influence on peer work outcomes is significant, even after controlling for the influence of a supervisor (Chiaburu & Harrison, 2008). Research confirms the role of coworker social support as a job resource capable of impacting worker engagement (May, Gilson, & Harter, 2004; Richardsen, Burke, & Martinussen, 2006; Schaufeli & Bakker, 2004).

The workplace can provide an atmosphere that supports the development of significant emotional bonds with colleagues. As faculty members share similar experiences with their colleagues, including but not limited to experiences with students, university policies, tenure process, and research or publication issues, these similar experiences can create the opportunity for faculty members to empathize with one another. These workplace bonds, not only increase the faculty member’s social integration, but also provide a sense of belonging, increase self-esteem, and improve affect (Cohen, 2004; Thoits, 2011; Uchino, 2004). Thoits (2011) suggested that social relationships with coworkers may enhance a workers wellbeing through perceptions of an increased availability of social support, should the need arise.

The perception of social support in the work environment is key to individuals being able to make use of it. Without awareness that coworkers are willing to provide support, the individual will not independently seek it. Although social support is an asset in the workplace, the perception of social support is not evenly distributed in any given population. Individuals who score high in agreeableness or extraversion perceive more social support than their colleagues (Zellars & Perrewé, 2001). Women consistently
report more social support from coworkers than men (Glass & Camarigg, 1992; Morrison, 2009; Schieman, 2006). In addition, Caucasians tend to perceive more support from their coworkers than African-Americans (Sloan et al., 2013). Cultural differences in the perception of social support also have been proven to exist.

**Cultural differences in social support.**

The amount of research devoted to the study of cultural differences in social support and the perception of social support across cultures is increasing (Beehr & Glazer, 2005; Bhagat, Kedia, Harveston, & Triandis, 2002; Chen, Kim, Mojaverian, & Morling, 2012; Glazer, 2006; Skachkova, 2007; Taylor, Sherman, Kim, Jarcho, Takagi, & Dunagan, 2004; Thomas & Johnson, 2004). Studies have specifically noted that international faculty members often experience a lack of social support from their colleagues (Skachkova, 2007; Thomas & Johnson, 2004). Research that seeks to illuminate the reason that these differences exist can be the first step in finding mechanisms to ensure all employees feel adequately supported.

Taylor, Welch, Kim, and Sherman (2007) found a cultural difference in social support between 40 European-American students compared to 41 Asian-American students. European-Americans were generally reported as having an individual outlook, while Asian cultures are generally viewed as having an interdependent or collective perspective. In collective cultures, the individual is usually seen as secondary to the needs, norms, and relationships within the group.

Each participant in this study was connected to heart rate and blood pressure measurement instruments that took readings every two minutes during the experiment. Subjects provided a saliva sample at the beginning and end of the procedure and were
asked to assess their level of stress on a 5-point scale. The subjects then engaged in the Trier Social Stress Task, which involves engaging in a series of tasks, including an arithmetic task and speech task, in order to produce an increase in cortisol stress levels. Participants prepared a speech on why they should be hired and were then randomly assigned to one of three writing groups. The three writing tasks involved implicit support (thinking about a group to which they were emotionally close and then writing about the aspects of the group that were important to them); explicit support (writing a letter to someone to whom they were close to asking for assistance); and no-support (writing about a local landmark). After the writing assignment, all subjects completed a counting task, in which they count backward from 2,083 by 13s for a period of five minutes with the experimenter repeatedly asking them to go faster. After the counting exercise, the subjects were asked to deliver the previous speech they had written. Participants were asked for another saliva sample and questioned about stress levels.

Taylor et al. found that Asian-Americans experienced more stress in the explicit support group than in the implicit support group or the control group, while European-Americans experienced less stress in the explicit support and more stress in the implicit support than in the control group. This indicates that Asian-Americans tend to be concerned with the negative effects of disclosing their problems to others who are close to them. The researchers believed that the observed difference was a result of culture, as collective cultures have a greater perception of mutual obligation within their relationships and they are less willing to draw on support from others, as it may undermine the harmony within the group.
In a 2012 study, Chen et al. examined the cultural differences in types of social support. Participants in this study were 99 female European-Americans and 93 Japanese females. All subjects were given a questionnaire that asked a series of directed questions about social interactions with close individuals within the prior 24 hours and how they sought or gave social support.

The study results indicated statistically significant differences between the groups. European-Americans were more likely to report providing social support. Europeans also were more likely to offer social support by using emotional support rather than problem-solving support. Japanese were significantly more likely to offer problem-focused social support. The U.S. subjects were more likely to desire that the recipients of the social support feel good about themselves, indicating a motivation to improve their self-esteem. The Japanese participants were more concerned with achieving closeness with the individual receiving the social support, without wanting to increase the other’s self-esteem. These results indicate that culture will influence both the meaning and function of social support.

**Job Satisfaction**

The definition of job satisfaction as a construct has changed over time. The layperson definition is the degree to which individuals like their jobs. Experts in the management and psychological fields have defined job satisfaction in different ways. One of the most widely used definitions of job satisfaction emanated from Dr. Edwin Locke, an organizational psychologist. In 1976, Locke famously described job satisfaction as “a pleasurable or positive emotional state resulting from the appraisal of
one’s job or job experiences” (Saari & Judge, 2004, p. 396). This definition implies that only feelings or affect is involved, an emotional reaction to the workplace.

Two researchers hypothesized a new definition in the mid-1980s. Examining previous research, Organ and Near (1985) assessed that in order to fully measure job satisfaction, they would need to look, not only at feelings, but also at the individual’s thoughts or cognitions. Their definition of job satisfaction required the subject to make an evaluation between various types of external factors and to compare their assessment to some predetermined standard. Organ and Near were clear in pointing to previous research in making this determination, although previous researchers may not have used the actual terms of thoughts or cognition. In reviewing the work of Campbell (1976), Andrews and Withey (1976), and McKennell (1978) it was apparent researchers had actually measured subjects’ thoughts, rather than feelings, in aren’t to Organ and Near that assessing job satisfaction. As past measurements of job satisfaction had included subjects’ thoughts about outside affects, the term must include both components. A review of past research led Organ and Near to conclude that employees could make a cogitative determination that they were satisfied based on a comparison of items important to them in their work environment, in comparison to other potential work environments, without experiencing the emotion of “happiness.”

More recently, psychologists have defined job satisfaction as an attitude. The attitude approach to job satisfaction defines it as an evaluative judgment that employees make about their job or the work environment (Dalal, Baysinger, Brummel, & LeBreton, 2012; Weiss, 2002). Research tends to suggest that four basic components can interact to affect how individuals perceive their attitude about job satisfaction. These factors are
predictors for individual differences in job satisfaction. The antecedents of job satisfaction are characteristics of the job, social influences, individual dispositional/genetic or personality factors, and values (Ghazzawi, 2008).

Individuals interacting in a socially dynamic environment can be influenced by others. Researchers who endorse the social information or social identity theory believe that social influences within an organization can affect job satisfaction of individual workers. Developed by Salancik and Pfeffer in 1978, the social information concept holds that the social context and an employee’s past experiences in a job will frame their current perceptions, thus determining the level of job satisfaction (Schnake & Dumler, 1987). A variety of social influences exist within any organization, including organizational culture, interactions within or between various groups, and individual relationships with coworkers or supervisors.

National culture is an important variable in global research on job satisfaction. Westover and Taylor’s 2010 longitudinal study found that employee characteristics that significantly affected job satisfaction varied by country. Their study, examining job satisfaction from 129,087 participants from a multi-national company with employees in 39 different countries, found job level was positively correlated with job satisfaction in individualistic countries but not in collectivistic countries (Huang & Vliert, 2004). Studies have even specifically found that foreign-born faculty members express less job satisfaction than their cohorts (Corley & Sabharwal, 2007; Wells et al., 2007). Conversely, at least one study has found no significant differences in foreign-born faculty members’ levels of global job satisfaction (Wells et al., 2007). While many studies
clearly show differences in job satisfaction and in various facets of satisfaction across countries, these studies do not provide insight into the reason for these differences.

**Summary**

Stress at work is a common problem for many employees, including faculty members. The ability of individuals to cope with stressors is influenced by the social support they perceive from supervisors and coworkers. Stress and social support interact and impact perceptions of global job satisfaction; little research has been conducted, however, on the correlation of these factors within academia. As institutions of higher education continue to internationalize, it is important to determine the relationships among these factors, not only for U.S. faculty members, but also for the growing population of foreign-born faculty members.

This chapter focused on literature involving stress, social support, and job satisfaction. It specifically highlighted research involving U.S. faculty members and international faculty members. By conducting research in this area, institutions of higher education may be able to reduce stress and improve global job satisfaction by finding mechanisms to increase social support for faculty members. The current study is intended to provide more research on the relationships between these variables. Chapter III will provide further explanation on the research methodology used for this study.
CHAPTER III: METHODOLOGY

This chapter provides an overview of the research design. The research methodology for this study was broken down to more closely examine the procedures utilized to test the hypotheses stated in Chapter I. This chapter begins by discussing the research design, as well as reviewing the research questions and hypotheses. The research procedures, population and sample, and instrumentation also are discussed. Finally, the chapter outlines the statistical procedures utilized in the analysis of the collected data.

Research Design

The selection of research methodology is essential to any study, as it determines the manner in which the data will be collected and analyzed. This study utilized a quantitative, non-experimental multivariate design (Creswell, 2014). Quantitative methods of investigation permit a researcher to test a theory, proposition, or hypothesis based on the relationships among variables. In quantitative research, hypotheses are tested using objective numerical data that are collected and then statistically analyzed. Non-experimental research designs do not allow for the active control or change the independent variables in order to measure different effects on the dependent variable (Slavin, 2007). This study used a non-experimental design because the research variables pre-existed within the population and could not be readily manipulated or changed. No treatment was proposed to alter any of the variables; rather, the researcher examined the relationships among variables. This type of research does not permit cause and effect conclusions, but it allows the investigation of possible relationships between factors, which can be useful for recognizing patterns or trends in data. Correlational research
does not enable a finding of cause and effect, as extraneous variables might affect one or all of the target variables and influence the relationship or interaction between them. The multivariate design allowed the examination of the influence of relationships among variables based on the use of multiple regression analysis (Slavin, 2007).

The specific non-experimental quantitative method used for this project was a survey, which is a method of collecting information by asking standardized questions to a particular sample of individuals within a population (Fowler, 2009). The purpose of a survey is to permit inferences to be made about some characteristic, behavior or attitude of a population based on generalizations from a sample. The use of surveys for quantitative research provides several advantages including: low cost, speed of administration, and rapid data collection. It also permits the study of multiple variables. Surveys are administrated in a variety of methods: face to face, telephone, mail, electronic mail, or on a web site (Fowler, 2009). The quality of a survey is largely determined by its purpose, method of data collection, and phrasing of questions.

This study sought to examine the interactions of departmental social support from department heads and colleagues with occupational stressors to predict job satisfaction of university faculty. The quantitative exploratory study used a combination of three previously validated scales to construct the survey instrument: the faculty stress index (Gmelch et al., 1986); faculty perceived social support survey (Moeller, 2009); and global job satisfaction measures (Quinn & Shepard, 1974). The design was cross-sectional, collecting data from the sample at one specific point in time. This enabled a snap shot description of conditions as they existed at that specific moment in time. The present study used a self-administered survey that was e-mailed to participants. The
major benefit of e-mailed surveys was to eliminate influences and biases of the interviewer (Slavin 2007). This study used closed-ended questions to limit variability between responses and to increase the speed and accuracy of data analysis.

**Research Procedure**

Institutional Review Board (IRB) approval was obtained prior to conducting this study. This procedure is required of all studies that use human subjects for research in order to protect them from physical or psychological harm. Approval was granted for this project on June 16, 2014. A copy of the IRB approval is attached as Appendix A. After IRB approval, permission was requested from the selected institution to send the survey by electronic mail to all full-time faculty members. A list of all current full-time faculty members at the institution was obtained through a special request to the institution’s Academic Affairs office. All 807 full-time faculty members at the institution were sent an e-mail explaining the study and requesting their participation. A copy of this recruitment e-mail is attached as Appendix B. This e-mail contained the link to the actual survey instrument in *Qualtrics*. After reading the information about the study, recipients indicated their consent to participate by proceeding to the survey instrument. Volunteer participants were linked to the Qualtrics website for the specific survey. *Qualtrics*’ default system allowed each individual who received the survey the ability to respond only once to the link that was sent. The researcher monitored the response rates to the survey and sent two reminder e-mails, each a week apart, to the participants over the three-week survey period to encourage higher response rates.

Research indicates that surveys tend to have a low response rate. However, when participants are interested in the topic of the survey, they are more likely to respond.
Given the topic of this study, the researcher believed it would be of interest to all faculty members, and of particular interest to new and international faculty members. Research suggests that the use of incentives for subjects’ participation in responding to surveys can increase response rates (Deehan et al., 1997; Halpern et al., 2011). To encourage active participation in order to obtain a sufficient sample size for statistical analysis, the researcher notified the volunteer participants that, by completing the survey, they would be eligible to participate in a random drawing for three incentives. The incentives included an iPad, a $100 gift card, and a $50 gift card. Participants also could choose not to engage in the random drawing, as opting out ensured complete anonymity. Other than the identities of the three winners of the random drawing, the researcher had no knowledge of the identity of the participants, which protected the privacy and confidentiality of the subjects.

At the end of the three-week response period, the results of the survey were exported from Qualtrics into Statistical Package for the Social Sciences (SPSS) software for data analysis. Before actual analysis, the exported data were reviewed against original data for any discrepancies or errors due to the export process. The data were cleaned to ensure proper variable coding, and grouped variables were transformed to averaged totals. This ensured that any potential problems with the data were corrected before data analysis was conducted.

**Population and Sample**

The population of interest for this study included all faculty members working in institutions of postsecondary education within the United States. This population was too immense to be examined in one study. As the purpose was exploratory to determine
whether any relationships exist between the target variables, it was logical to study a relatively small sample. The economic costs of a larger sample could not be justified until an initial exploration provided evidence that further in-depth investigations would adequately increase practical knowledge on this topic.

The study utilized a sampling frame of faculty located at one large, south-central university. Convenience sampling was used, and the postsecondary institution chosen included 807 full-time faculty members. Pre-identified foreign-born faculty members accounted for 9% of this population, with the majority coming from Asian countries. This study focused on only full-time faculty members to avoid any potential confounding variables between full-time and part-time faculty members.

Sample size is an important factor in a researcher’s ability to determine statistical significance during data analysis. The sample size has a direct influence on the effect size and power level. Various recommendations exist on calculating minimum sample size. Green (1991) recommended a minimum sample size of \( 104 + \kappa \), where \( \kappa \) is the number of predictors or variables in the study. This study had seven sociodemographic factors and three independent variables (perceived faculty stress, immigration status, and perceived social interactions), for a total of 10 variables. Using Green’s recommendation, the sample size should have been at least 114. Using the A-priori Sample Size Calculator (Soper, 2014) for multiple regression, a minimum sample size of 118 was needed (\( \alpha = .05 \), power = .80, predictors = 10, \( d = .15 \)) for statistical significance and sufficient power. Hair, Anderson, and Tatham (1987) identified a ratio of 15 observations for each variable in order to obtain good generalizability of the findings to the population. This method proposed a minimum goal of 150 subjects, which was a
sample size above these recommended guidelines. Further information regarding the survey response rate is provided in Chapter IV.

**Instrumentation**

This study was relatively novel; therefore, no instrument existed that specifically targeted all of the desired variables. Thus, permission was obtained permission to use relevant surveys previously designed by other researchers in order to create a measuring instrument for this study. The survey instrument was comprised of previously validated scales and subscales that measured perceived faculty stress, perceived social support within a department, and job satisfaction. A copy of the entire survey can be found in Appendix C.

**Perceived faculty stress.**

The Faculty Stress Index© for perceived faculty stress was developed by Gmelch et al. (1984) in the National Faculty Stress Project. The Faculty Stress Index was developed from a series of national studies. The original study was an examination of 80 doctoral granting postsecondary institutions, with a 75.2% response rate of 1,920 participants.

Special permission was obtained from Dr. Walter H. Gmelch to use the Faculty Stress Index for educational purposes only. This instrument is copyrighted by Dr. Gmelch of the University of San Francisco. A copy of the e-mail granting permission to use this instrument is attached as Appendix D.

The instrument contained 47 items: 45 that are perceived as stressors in academic work, and 2 additional items to assess overall work stress and stress in daily life. The scale was a five-factor model of faculty stressors and included subscales for lack of
reward/recognition, time constraints, lack of departmental influence, lack of professional identity, and student interactions. The reward and recognition subsection can be analyzed by responses to questions 9, 21, 22, 32, 35, 37, 39, 42 and 43. The time constraint subscale can be examined by responses to questions, 1, 2, 3, 4, 12, 15, 16, 18, 23, 25, 26, 28, 29, 30, 31, 38, 44, and 45. Departmental influence can assessed using questions 5, 34, 36, 40, and 41. Professional identity can be analyzed by responses to questions 7, 8, 11, 13, 14, 17, 20, and 24. Finally, the last subscale of student interaction can be examined by responses to questions 6, 10, 19, 27 and 33. The instrument asked each respondent to rate each question based on a five-point Likert type scale, but the instrument also contained a sixth point for stresses not applicable to the respondent in order to avoid forced responses. The scale ranged from slight pressure to excessive pressure. The Faculty Stress Index has a test/retest reliability coefficient of 0.83. Factor analysis in the original study indicated the instrument as a whole accounted for 86% of the total common variance for faculty stress.

In the original study, the factor loading for 31 of the 45 questions was highly loaded on one of the five subscales: 8 items for reward and recognition (accounting for 55% of the common variance); 10 for time constraints (accounting for 12% of the common variance); 4 departmental influence items (accounting for 7% of the common variance); 4 for professional identity (accounting for 6% of the common variance); and 5 for student interactions (accounting for 6% of the common variance). Higher scores on all stressor subscales indicated a greater perception of stress.
Perceived department social support.

Perceived department social support was measured from two sources: perceptions of social support from the individual’s department head (immediate supervisor) and perceptions of social support from colleagues within the department. Moeller’s (2009) previously developed instrument was utilized to assess this construct. Moeller created the perceived department social support instrument based on instruments that had been previously created. The perceived department social support instrument was based on the Scales of Perceived Social Support (MacDonald, 1998) and the measures of social support (Greenglass, Burke, & Konarski, 1997). These social support measures were based on House’s (1981) definition of social support, whose research asserted four categories of social support: emotional, instrumental, informational, and appraisal. Emotional support is the type of support most commonly considered in relation to social support; it involves providing empathy, caring, trust, or love. Appraisal involves the communication of information that incorporates self-evaluation and can be implicit or explicit. Instrumental support directly assists the individual involved to perform the work tasks. Informational support provides one with information to help solve the problem, rather than direct support. In this respect, emotional and appraisal support frequently are measured together as one concept of emotional support, while informational and instrumental are linked together as problem-solving support.

Moeller’s (2009) instrument on academic social support contains 16 questions for each of the two subscales for department head support and colleague support. The questions asked participants to respond to each statement based on a five-point Likert scale. The instrument consists of four questions for each of the four types of social
support. Questions 1, 2, 3, and 4 are measures for emotional support; questions 5, 6, 7, and 8 are designed to measure instrumental support; and questions 9, 10, 11, and 12 are measures for informational support. Finally, questions 13, 14, 15, and 16 are measures of appraisal social support. In the colleague social support scale, items 15 and 16 were reversed for scoring, as they were originally written in the negative. In a similar fashion, department head social support items 13 and 15 were reverse scored after data was collected due to their negative phrasing. The subscales previously had been found to be reliable with a Cronbach alpha of 0.95 for department head support and a Cronbach alpha of 0.96 for colleague social support (Moeller, 2009). High scores on each of the social support subscales indicate that the individual perceived positive social support from that particular source, either department head or colleagues.

Moeller’s (2009) academic social support instrument was created through work performed at the University of Windsor, Canada. The researcher requested and was granted special permission to use the department head and colleague social support subscales of this instrument for educational purposes. A copy of the permission is attached as Appendix E.

**Job satisfaction.**

Faculty job satisfaction was assessed using the Global Job Satisfaction Measures designed by Quinn and Shepard (1974), with modifications by Pond and Geyer (1991). Permission to use this instrument was received by Dr. Samuel Pond from North Carolina State University. A copy of the e-mail granting permission is attached as Appendix E.

The Global Job Satisfaction survey contains six items. Reliability of this instrument has been confirmed in multiple studies (Birnbaum & Somers, 1993; McFarlin
& Rice, 1992; Mossholder, Bennett, & Martin, 1998; Williams, Gavin, & Williams, 1996). The coefficient alpha for the six-item measure was found to range from 0.81 to 0.89. For each of the six questions, the subject was asked to respond to the question based on a five-point Likert type scale.

Job satisfaction has been found to correlate positively with affective commitment to an occupation and the organization (Birnbaum & Somers, 1993; Mossholder et al., 1998; Pond & Geyer, 1991). Research has consistently shown an inverse relationship between job stress and global job satisfaction (De Jonge, Dormann, Janssen, Dollard, Landeweerd & Nijhuis, 2001; Noblet, Rodwell, & McWilliams, 2006). Studies have found that social support from supervisors and coworkers is positively related to job satisfaction (De Jonge et al., 2001; Noblet et al., 2006). Research also has shown that global job satisfaction and perceived organizational support are empirically distinct in a confirmatory factor analysis (Eisenberger, Cummings, Armeli, & Lynch, 1997).

**Sociodemographic questionnaire.**

Sociodemographic information was collected for survey participants. The 10-item sociodemographic section was located at the end of the survey. This section included categorical nominal data on gender; legal work status (U.S. citizen, naturalized citizen, immigrant or non-immigrant status); occupational title (instructor, assistant professor, associate professor, or professor); job classification (full-time or part-time); personal relationship status (single, committed relationship, married, divorced, or widowed); and educational level (bachelor, masters, professional, or doctoral degree). The job classification question was included only to screen out any potential part-time faculty member who might have been inadvertently included in the e-mail that requested
faculty participation. Continuous data was collected for the sociodemographic factors of salary, age; years of teaching experience; and, if the respondent was an international faculty member, the number of years in the United States.

**Research Questions and Data Analysis**

IBM’s Statistical Package for the Social Sciences (SPSS), version 21, was utilized to analyze the data. The various factors of data analysis included a mix of descriptive statistics and inferential statistics. Descriptive statistics were used for the sociodemographic nominal variables of gender, immigration status, occupational title, and job classifications. Descriptive statistics were used to determine the 10 highest stressors out of the 45 potential stressors within this population. Inferential statistics were used for interactions and relationships between variables. The inferential statistics used in this study were multiple regression, analysis of variance, and t-tests. Given that the focus of the current study is on testing the effects of a number of independent variables on a single dependent variable, as well as on the relative contribution of each independent variable to the explanation of variance in the dependent variable, multiple regression analysis was used to test the main research questions.

Two main research question and three subsidiary questions guided this study. The first research question was: Does perceived social support moderate the relationship between occupational stress and job satisfaction for university faculty members after controlling for socio-economic factors? When a third variable influences the direction or strength of the relationship between the independent and dependent variable, it is said that the third variable *moderates* that relationship (Baron & Kenny, 1986). In this case, no causal inferences may be drawn, and the relationship would be considered correlated.
The first step in analyzing the data was to obtain averages for all questions within the variables of stress, social support, and job satisfaction. The data were checked to ensure that the assumptions of multiple regression were correct for the sample data. These assumptions are non-zero variance, no multicollinearity, homoscedasticity, independent errors, normally distributed, and linear (Field, 2009). Z scores were obtained, and samples with variables of plus or minus 3 standard deviations were removed pursuant to the survey general rules (Fowler, 2009). In this data set, four participants were removed due to outliers in their predictor variables.

Multiple regression was utilized to test the two continuous independent variables (perceived stress and perceived social support) against the dependent variable of job satisfaction. Sociodemographic factors of gender, age, salary, immigration status, title, years of experience, and personal relationship status were tested in the first block to determine the effect of these variables on job satisfaction. The sociodemographic factors were removed by running the key independent variables of stress and social support in the second block. This multiple regression analysis was run once with the averaged total score for each variable. A second regression was then run to determine whether a presence of a buffering effect existed with the moderating variable when using the z-scores for the main variables of stress, social support, and the interaction of stress times social support.

The second research question was: Does perceived departmental social support have a significantly greater impact for foreign-born faculty, as opposed to U.S.-born faculty members in moderating the effect of occupational stress and job satisfaction? To analyze this question, the z scores for stress, social support, and the interaction effect of
stress times social support were run on the selected participants who identified as U.S.-born faculty. The B for the stress result in this equation was then compared to high social support and the interaction of high social support with stress, -1 standard deviation of social support for high social support, and low social support and the interaction of low social support and stress, and +1 standard deviation for low social support. This same comparison was conducted for the participants who identified as foreign-born faculty members.

In addition, three sublevel empirical research questions were examined. The first was: Does a statistically significant difference exist between native-born and foreign-born faculty members on job satisfaction? A t-test was used to compare U.S.-born and foreign-born faculty members on the job satisfaction scale. The second sublevel question was: Does a statistically significant difference exist between male and female faculty members job satisfaction? A t-test was used to compare male and female faculty members on job satisfaction. Finally, the third question was: Does a statistically significant difference exist between instructors, assistant professors, associate professors, and professors on job satisfaction? An analysis of variance (ANOVA) was conducted between the titles of instructor, assistant professor, associate professor, and professor on the job satisfaction dependent variable. Additionally, psychometric analysis was utilized to determine reliability for the specific sample. Cronbach’s alpha determined reliability or internal consistency.

**Summary**

This chapter has provided an explanation of the research design and methodology. A description of the population, sample data collection procedures, and instrumentation
was provided to allow this study to be duplicated or expanded upon by future researchers. The methodology was justified based on prior studies, and the intent to provide an exploratory examination of the relationship between combinations of variables that have not been tested.

Chapters IV and V will provide the results of the data from the survey. The interactions and results for the subsidiary questions will be analyzed prior to drawing conclusions from the research. Finally, a discussion is included on potential ways postsecondary institutions can integrate findings from this research in a practical manner and will provide recommendations for future research.
CHAPTER IV: RESULTS AND DATA ANALYSIS

The purpose of this study was to determine whether perceived department social support moderated the relationship between perceived stress and job satisfaction for full-time faculty members. This study also examined whether perceived departmental social support had a significantly greater impact for international faculty, as opposed to U.S. faculty members, in moderating the effect of occupational stress and job satisfaction.

This chapter details the results of the study and summarizes the statistical analysis of the data collected from a survey conducted at a large four-year public university.

At the end of the three-week data collection period, the Qualtrics survey results were downloaded into SPSS 21, and the data were cleaned up and assessed. The original results indicated that 307 people had responded to the survey. However, 22 of the responses were removed due to their lack of answers on a majority of the questions. Four participants’ data were removed due to outliers within their data sets of plus or minus 3 standard deviations. This resulted in a sample size of 281 and yielded an overall response rate of 35%. The sample size exceeded the initial minimal sample size of 114 to 150 that was indicated in Chapter III.

Instrument Reliability

Reliability was tested on the scores received on the Faculty Stress Index, Department Social Support, and Global Job Satisfaction surveys. Reliability is an assessment that the scores received on a particular measuring instrument consistently reflect the construct being measured (Field, 2009). According to the American Psychological Association (1985), reliability “is the degree to which test scores are free from errors of measurement” (p. 19). Sources of measurement error include random
variation in individual respondent, environmental factors, and instrument variables. Reliability tests ensure that the instrument has internal consistency, rather than random errors in measurement. Cronbach’s coefficient alpha is a statistical procedure that indicates the extent to which various items correlate in measuring the same variable (Litwin, 1985). Cronbach Alpha is the most common measure to test an instrument’s reliability. Crobach Alpha scores were computed for each of the three measurement instruments that were used in this survey. The Cronbach’s Alpha for the Faculty Stress Index was 0.940 ($\alpha = 0.94$). The Cronbach’s Alpha for the perceived Department Social Support scale was 0.966 ($\alpha = 0.97$). Finally, the Global Job Satisfaction Cronbach’s Alpha was 0.961 ($\alpha = 0.96$). All three scales indicated high internal reliability on the scores from participants in this sample. To ensure that the Cronbach Alpha’s scores were not indicating high reliability due to low variability between questions for each construct, the Guttman split-half reliability test also was conducted. Table 1 shows internal reliability for the three subscales, comparing both the Cronbach Alpha scores and the Guttman split-half reliability scores.

Table 1

<table>
<thead>
<tr>
<th>Scale Name</th>
<th>Number of Items</th>
<th>Cronbach’s Alpha</th>
<th>Guttman Split-half</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Stress Index</td>
<td>47</td>
<td>.940</td>
<td>.897</td>
</tr>
<tr>
<td>Department Social Support</td>
<td>32</td>
<td>.966</td>
<td>.720</td>
</tr>
<tr>
<td>Global Job Satisfaction</td>
<td>6</td>
<td>.961</td>
<td>.951</td>
</tr>
</tbody>
</table>

Note: $\alpha \geq .70$ indicates an acceptable level of reliability.
Descriptive Statistics

Variables containing only nominal or ordinal measurements are referred to as categorical variables. The sociodemographic questions were categorical variables. Only descriptive statistical analysis is permitted for variables that are categorical. A total of 107 of the participants (38.9%) were male, and 171 were female (62.1%). Three subjects chose not to identify their gender. The distribution of respondents by faculty title was 14.6% professor, 29.5% associate professor, 34.5% assistant professor, 19.6% instructor, and 1.8% other or choosing not to answer. Table 2 illustrates the breakdown of participants by title and gender, with seven respondents omitted because they chose not to respond to one of these variables.

Table 2

Survey Participants by Title and Gender

<table>
<thead>
<tr>
<th>Variable</th>
<th>Gender</th>
<th>Total</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>Male</td>
<td>Female</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructor</td>
<td>14 (5%)</td>
<td>41 (14.7%)</td>
<td>55</td>
<td>20.06%</td>
</tr>
<tr>
<td>Assistant Professor</td>
<td>33 (11.9%)</td>
<td>62 (22.3%)</td>
<td>95</td>
<td>34.67%</td>
</tr>
<tr>
<td>Associate Professor</td>
<td>38 (13.7%)</td>
<td>45 (17.3%)</td>
<td>83</td>
<td>30.29%</td>
</tr>
<tr>
<td>Professor</td>
<td>22 (8.3%)</td>
<td>19 (6.8%)</td>
<td>41</td>
<td>14.96%</td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>7</td>
<td></td>
<td>.02%</td>
</tr>
<tr>
<td>Total</td>
<td>107 (39%)</td>
<td>167 (61%)</td>
<td>274</td>
<td></td>
</tr>
</tbody>
</table>

The total years of teaching experience of the respondents is shown in Figure 3, separating U.S. faculty and international faculty, with the total bar graph for each category indicating grouped totals. This graph illustrates that, for the years of experience, demographic respondents are negatively skewed rather than normally distributed.
Figure 3. Distribution of teaching experience.

The respondents consisted of 19.5% international faculty and 80.4% U.S. citizens. The relative response rate compared to the total faculty population was 28% U.S. citizens and 6% international faculty members. Table 3 provides the breakdown of respondents by gender and U.S. faculty versus international faculty.

Table 3

Survey Participants by U.S.-born versus Foreign-born Faculty Status and Gender

<table>
<thead>
<tr>
<th>Variable</th>
<th>Gender</th>
<th>Total</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S.-born</td>
<td>83 (29.4%)</td>
<td>144 (51.1%)</td>
<td>227</td>
<td>80.5%</td>
</tr>
<tr>
<td>Foreign-born</td>
<td>25 (8.9%)</td>
<td>30 (10.7%)</td>
<td>55</td>
<td>19.5%</td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>3</td>
<td></td>
<td>1.1%</td>
</tr>
<tr>
<td>Total</td>
<td>108 (38.8%)</td>
<td>174 (61.7%)</td>
<td>282</td>
<td></td>
</tr>
</tbody>
</table>

Ninety-two percent of international faculty members who responded to the survey indicated they had been in the U.S. longer than five years.
The majority of all respondents, 68.4%, reported being married. When the personal relationship category was transformed by group into single, divorced, or widowed versus being in a committed relationship or married, the results indicated that 77% of participants had a significant other in their personal life. The breakdown of personal relationship status by U.S. and international faculty is shown in Table 4.

### Table 4

_Survey Participants by U.S.-born versus Foreign-born Faculty Status and Personal Relationship Status_

<table>
<thead>
<tr>
<th>Variable</th>
<th>Personal Relationship</th>
<th>Total</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No significant other</td>
<td>Significant other</td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>U.S.-born</td>
<td>44 (16%)</td>
<td>180 (51.1%)</td>
<td>224</td>
<td>81%</td>
</tr>
<tr>
<td>Foreign-born</td>
<td>19 (7%)</td>
<td>33 (12%)</td>
<td>52</td>
<td>19%</td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td>9</td>
<td>9</td>
<td>1.1%</td>
</tr>
<tr>
<td>Total</td>
<td>63 (23%)</td>
<td>213 (77%)</td>
<td>276</td>
<td></td>
</tr>
</tbody>
</table>

The demographic factor of age was close to being normally distributed.

Figure 4 indicates that the sample age distribution by gender.
Figure 4. Distribution of age in survey sample by gender.

Sociodemographic variables were requested from all participants as the last part of the survey. These variables included gender; approximate age range; and work status as either U.S.-born or foreign-born (if foreign-born, the number of years in the U.S.); title; range of teaching experience; number of years working for their current employer; and current personal relationship status. Table 5 provides the frequency, mean, and standard deviations (SD) for the responses to these variables. The mean of .62 for gender indicates that more females answered the survey than men. The response rate by gender was shown in Table 2. The mean of 5.87 for approximate age indicates that the participants on average were between 40 and 49. The mean of 4.78 for salary indicates that the salary of most participants was on average between $50,000 and $69,000. The work status was scored as 0, indicating U.S.-born faculty, and 1 for foreign-born faculty.
The mean of 1.19 demonstrates that the majority of respondents were U.S.-born. The actual percentage difference between these two groups was illustrated in Table 3.

The mean of 4.80 for years that foreign-born faculty were in the U.S. demonstrates that the majority of foreign-born faculty had been in the U.S. between 5+ and 9 years. The mean of 2.60 for title illustrates that the majority of respondents were associate and assistant professors. The actual percentages for each group were shown in Table 2. The approximate years of teaching mean of 5.33 indicates that all participants had an average level of 8 to 15 years teaching. The mean of 4.23 of approximate years teaching at their current institution demonstrates that the average of prior teaching experience at the institution was between 6 and 10 years. The mean of 2.72 for personal relationship status illustrates that the majority of subjects were married. The breakdown of this variable by percentage can be seen in Table 5.

Table 5

Descriptive Statistics for Sociodemographic Variables

<table>
<thead>
<tr>
<th>Factor Name</th>
<th>Frequency</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>278</td>
<td>.62</td>
<td>.49</td>
</tr>
<tr>
<td>Approximate age range</td>
<td>276</td>
<td>5.87</td>
<td>2.13</td>
</tr>
<tr>
<td>Approximate salary range</td>
<td>278</td>
<td>4.78</td>
<td>1.98</td>
</tr>
<tr>
<td>Work status</td>
<td>280</td>
<td>1.19</td>
<td>.40</td>
</tr>
<tr>
<td>Foreign-born years in U.S.</td>
<td>49</td>
<td>4.80</td>
<td>1.22</td>
</tr>
<tr>
<td>Title</td>
<td>276</td>
<td>2.60</td>
<td>.97</td>
</tr>
<tr>
<td>Approx. years of teaching experience</td>
<td>279</td>
<td>5.33</td>
<td>2.26</td>
</tr>
<tr>
<td>Approx. years working at WKU</td>
<td>275</td>
<td>4.23</td>
<td>2.33</td>
</tr>
<tr>
<td>Personal relationship status</td>
<td>273</td>
<td>2.72</td>
<td>.86</td>
</tr>
</tbody>
</table>
The 10 items that were the most significant stressors for this sample are found in Table 6 by mean. The highest stressor was salary, with setting high self-expectations second. These results were similar to those in the 2010 HERI study for the overall ten highest stressors for the entire sample (Hurtado et al., 2012). Data in the HERI 2010 indicated the high faculty stressors as self-imposed high expectations (84.8%); lack of personal time (82.2%); working with underprepared students (75.3%); institutional budget cuts (74.2%); procedures and red tape (71.3%); and research and publishing demands (70.7%). In examining the top 10 stressors for the U.S.-born (Table 7) and foreign-born (Table 8) faculty members, four items appear as high stressors, which do not appear on the top 10 list for the opposite group. U.S.-born faculty members listed the following four items as high stressors (descending by mean): 30-Attending meetings that take up too much time; 44-Having job demands that interfere with other personal activities; 2-Participating in work related activities outside of regular working hours; and 14-Believing that the progress in my career is not what it should or could be. These unique high stressors for U.S.-born faculty members relate to time constraint issues between work and home. Foreign-born faculty members listed the following four items as high stressors: 19-Teaching, advising inadequately prepared students; 17-Securing financial support for my research; 41-Not knowing how my chair evaluates my performance; and 43-Not having clear criteria for evaluation of research and publication. The unique high stressors for foreign-born faculty members relate directly to primary work duties of teaching, research, and achievement of tenure. This confirms previous research that U.S.-born and foreign-born faculty members perceive different stressors (Collins, 2008; Klassen et al., 2010; Liu et al., 2007).
Table 6

*Means of Top 10 Stressors for Sample*

<table>
<thead>
<tr>
<th>Stressor</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>42. Receiving inadequate salary to meet financial needs</td>
<td>3.46</td>
</tr>
<tr>
<td>8. Imposing excessively high self-expectations</td>
<td>3.39</td>
</tr>
<tr>
<td>12. Having insufficient time to keep abreast of current developments in my field</td>
<td>3.24</td>
</tr>
<tr>
<td>29. Feeling that I have too heavy a work load, one that I cannot possibly finish during the normal work day</td>
<td>3.09</td>
</tr>
<tr>
<td>20. Preparing a manuscript for publication</td>
<td>2.95</td>
</tr>
<tr>
<td>30. Attending meetings that take up too much time</td>
<td>2.94</td>
</tr>
<tr>
<td>10. Having students evaluate my teaching performance</td>
<td>2.86</td>
</tr>
<tr>
<td>44. Having job demands that interfere with other personal activities</td>
<td>2.85</td>
</tr>
<tr>
<td>19. Teaching advising inadequately prepared students</td>
<td>2.83</td>
</tr>
<tr>
<td>2. Participating in work-related activities outside of regular working hours</td>
<td>2.82</td>
</tr>
</tbody>
</table>

Table 7

*Mean of Top 10 Stressors for U.S.-born Faculty*

<table>
<thead>
<tr>
<th>Stressor</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>42. Receiving inadequate salary to meet financial needs</td>
<td>3.36</td>
</tr>
<tr>
<td>8. Imposing excessively high self-expectations</td>
<td>3.36</td>
</tr>
<tr>
<td>12. Having insufficient time to keep abreast of current developments in my field</td>
<td>3.13</td>
</tr>
<tr>
<td>29. Feeling that I have too heavy a work load, one that I cannot possibly finish during the normal work day</td>
<td>3.06</td>
</tr>
<tr>
<td>*30. Attending meetings which take up too much time</td>
<td>2.95</td>
</tr>
<tr>
<td>20. Preparing a manuscript for publication</td>
<td>2.84</td>
</tr>
<tr>
<td>10. Having students evaluate my teaching performance</td>
<td>2.83</td>
</tr>
<tr>
<td>*44. Having job demands which interfere with other personal activities</td>
<td>2.83</td>
</tr>
<tr>
<td>*2. Participating in work-related activities outside of regular working hours</td>
<td>2.80</td>
</tr>
<tr>
<td>*14. Believing that the progress in my career is not what it should or could be</td>
<td>2.75</td>
</tr>
</tbody>
</table>
Table 8

Means of Top 10 Stressors for Foreign-born Faculty

<table>
<thead>
<tr>
<th>Stressor</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>42. Receiving inadequate salary to meet financial needs</td>
<td>3.87</td>
</tr>
<tr>
<td>12. Having insufficient time to keep abreast of current developments in my field</td>
<td>3.64</td>
</tr>
<tr>
<td>8. Imposing excessively high self-expectations</td>
<td>3.52</td>
</tr>
<tr>
<td>20. Preparing a manuscript for publication</td>
<td>3.37</td>
</tr>
<tr>
<td>*19. Teaching advising inadequately prepared students</td>
<td>3.26</td>
</tr>
<tr>
<td>*17. Securing financial support for my research</td>
<td>3.22</td>
</tr>
<tr>
<td>29. Feeling that I have too heavy a work load, one that I cannot possibly finish during the normal work day.</td>
<td>3.22</td>
</tr>
<tr>
<td>*41. Not knowing how my chair evaluates my performance.</td>
<td>3.04</td>
</tr>
<tr>
<td>10. Having students evaluate my teaching performance.</td>
<td>2.98</td>
</tr>
<tr>
<td>*43. Not having clear criteria for evaluation of research and publication.</td>
<td>2.94</td>
</tr>
</tbody>
</table>

The differences between the total sample means and U.S.-born participants, compared to the foreign-born participants, revealed interesting information for the key variables (Table 9). The mean stress level for the sample was 2.44. U.S. faculty reported a lower mean stress level of 2.40, compared to foreign-born faculty members who reported a mean stress level of 2.58. The mean social support level for the sample was 3.51. U.S.-born faculty reported a higher mean level of social support of 3.62, compared with foreign-born faculty who reported a mean level of social support of 3.07. The total mean job satisfaction level for the sample was 3.66. U.S.-born faculty reported a higher mean level of social support of 3.80, compared with 3.10 of foreign-born faculty members. Examining the difference in the perceptions of received social support between colleague and department head, U.S.-born faculty members reported a higher overall mean from colleagues, while foreign-born faculty members reported a higher mean social support from their department head.
Table 9

*Descriptive Statistics for Stress, Social Support and Job Satisfaction*

<table>
<thead>
<tr>
<th>Factor Name</th>
<th># of Items</th>
<th>Mean</th>
<th>(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress</td>
<td>281</td>
<td>2.44</td>
<td>0.68</td>
</tr>
<tr>
<td>U.S.-born</td>
<td>226</td>
<td>2.40</td>
<td>.65</td>
</tr>
<tr>
<td>Foreign-born</td>
<td>54</td>
<td>2.58</td>
<td>.75</td>
</tr>
<tr>
<td>Total Social Support</td>
<td>281</td>
<td>3.51</td>
<td>0.75</td>
</tr>
<tr>
<td>U.S.-born</td>
<td>226</td>
<td>3.62</td>
<td>.68</td>
</tr>
<tr>
<td>Foreign-born</td>
<td>54</td>
<td>3.07</td>
<td>.86</td>
</tr>
<tr>
<td>Colleague Social Support</td>
<td>281</td>
<td>3.53</td>
<td>0.85</td>
</tr>
<tr>
<td>U.S.-born</td>
<td>226</td>
<td>3.66</td>
<td>.75</td>
</tr>
<tr>
<td>Foreign-born</td>
<td>54</td>
<td>2.99</td>
<td>1.04</td>
</tr>
<tr>
<td>Department Head Social Support</td>
<td>281</td>
<td>3.52</td>
<td>0.84</td>
</tr>
<tr>
<td>U.S.-born</td>
<td>226</td>
<td>3.59</td>
<td>.82</td>
</tr>
<tr>
<td>Foreign-born</td>
<td>54</td>
<td>3.15</td>
<td>.84</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>281</td>
<td>3.66</td>
<td>1.08</td>
</tr>
<tr>
<td>U.S.-born</td>
<td>226</td>
<td>3.80</td>
<td>.99</td>
</tr>
<tr>
<td>Foreign-born</td>
<td>54</td>
<td>3.10</td>
<td>1.25</td>
</tr>
</tbody>
</table>

**Inferential Statistics**

This study investigated the relationship between stress, department social support, and job satisfaction for full-time faculty members at a large university. The first step in analyzing the results was to determine whether a relationship exists between stress, department social support and job satisfaction. The sample indicated that department social support and job satisfaction correlated negatively with stress. Stress was significantly correlated with job satisfaction, $r = -.49$, $p < 0.01$. Colleague social support was significantly correlated with job satisfaction, $r = .64$, $p < 0.01$. Department head
social support also was significantly correlated with job satisfaction, $r = .52$, $p < 0.01$.

Table 10 shows the correlations between the variables.

Table 10

*Correlations for Stress, Social Support, and Job Satisfaction*

<table>
<thead>
<tr>
<th>Factor Name</th>
<th>Stress</th>
<th>CSS</th>
<th>DHSS</th>
<th>JS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress</td>
<td>1</td>
<td>-.326*</td>
<td>-.313*</td>
<td>-.493*</td>
</tr>
<tr>
<td>Colleague Social Support (CSS)</td>
<td>-.326*</td>
<td>1</td>
<td>.581*</td>
<td>.643*</td>
</tr>
<tr>
<td>Department Head Social Support (DHSS)</td>
<td>-.313*</td>
<td>.581*</td>
<td>1</td>
<td>.516*</td>
</tr>
<tr>
<td>Job Satisfaction (JS)</td>
<td>-.493*</td>
<td>.643*</td>
<td>.516*</td>
<td>1</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).

The first main research question in this study was Does perceived social support moderate the relationship between occupational stress and job satisfaction for university faculty members after controlling for socio-economic factors? The variable for personal relationship status was collapsed into two categories: single and in a committed relationship. The variables for gender, U.S. or international faculty status and personal relationship status were then transformed into dummy variables in order to become continuous variables with designations of only 0 and 1.

Hierarchical multiple regression models can be impacted by both the number of predictors and the sample size. Rather than using all collected sociographic data, only the predictors that the literature illustrated as predictors of job satisfaction were entered into the initial regression model. One of the assumptions of multiple regression is that the data is linearly related. The literature suggested that the variable of salary may be correlated with job satisfaction; however, the relationship was found to be U-shaped, rather than a linear relationship, and it was not added to the regression model. Prior research suggested that the variables of gender, age, personal relationship status, and
U.S.-born versus foreign-born may be correlated linearly with job satisfaction. The main predictor variables of stress and social support were entered into the regression in block 1. The sociodemographic variables of gender, age, personal relationship status and U.S.-born versus foreign-born were entered into the second block of the regression. The frequency, means, and standard deviations of all predictors for this regression are presented in Table 11.

Table 11

Descriptive Statistics for Anticipated Predictors of Job Satisfaction

<table>
<thead>
<tr>
<th>Factor Name</th>
<th># of Items</th>
<th>Mean</th>
<th>(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (IV)</td>
<td>270</td>
<td>.61</td>
<td>.49</td>
</tr>
<tr>
<td>Age (IV)</td>
<td>270</td>
<td>5.88</td>
<td>2.14</td>
</tr>
<tr>
<td>Personal relationship status (IV)</td>
<td>270</td>
<td>.77</td>
<td>.42</td>
</tr>
<tr>
<td>U.S. faculty/International faculty (IV)</td>
<td>270</td>
<td>.19</td>
<td>.39</td>
</tr>
<tr>
<td>Average amount of stress (IV)</td>
<td>270</td>
<td>2.41</td>
<td>.67</td>
</tr>
<tr>
<td>Perception of department social support (IV)</td>
<td>270</td>
<td>3.54</td>
<td>.75</td>
</tr>
<tr>
<td>Job satisfaction (DV)</td>
<td>270</td>
<td>3.70</td>
<td>1.06</td>
</tr>
</tbody>
</table>

The hierarchical multiple regression procedure allows the researcher to examine the independent influences of predictor variables accounting for variation between sets of predictors. R-squared and adjusted R-squared statistics represent the overall variations of the dependent variable explained by the independent and control variables in the equation. However, multiple regression model can be affected by multicollinearity, which is defined as two or more of the variables being very closely linearly related (Field, 2009). Multicollinearity did not occur in the survey sample. The tolerance and variance inflation factor (VIF) indicate whether a problem exists with multicollinearity. If the tolerance is low (< 1-R²), then a problem may exist with multicollinearity. In this case,
the adjusted $R^2$ was .52. As 1 minus .52 is .48, all tolerance levels were above this amount, which means a problem with multicollinearity is not likely. In general, if the largest VIF is greater than 10, then there is cause for concern. In this instance, the largest VIF was 1.31, which is much lower than 10, indicating no problem with multicollinearity.

When the main predictor variables of stress and social support were entered into the regression model, they significantly predicted the level of job satisfaction $F (2, 267) = 134.93$ p = .000, adjusted $R^2 = .50$. This indicates that 50% of the variance of job satisfaction for this sample can be explained by stress and social support. The sociodemographic variables of gender, age, personal relationship status, and U.S.-born and foreign-born faculty also significantly predicted job satisfaction $F (4, 263) = 3.67$, p = .006, adjusted $R^2 = .09$. These four sociodemographic factors accounted for an additional 9% of the variance of job satisfaction within the sample. The entire group of variables significantly predicted job satisfaction, $F (6, 262) = 138.60$, p < .05, adjusted $R^2 = .53$. Together, these variables account for 53% of the variance in job satisfaction for this sample, which is a large effect according to Cohen (1988).

The beta weights and significance values presented in Table 12 indicate the variables that contributed the most in predicting job satisfaction when the combination of the four sociodemographic predictors, stress, and perception of department social support were entered together as predictors. With this combination of predictors, perception of department social support had the highest beta of .53, while amount of stress at beta -.29 was the other variable that significantly contributed to predicting job satisfaction.
Table 12

*Initial Hierarchical Multiple Regression Analysis Summary*
*(N = 270).*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SEB</th>
<th>β</th>
<th>(R^2)</th>
<th>(\Delta R^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress</td>
<td>-.46</td>
<td>.07</td>
<td>-.29</td>
<td>.50</td>
<td>.50</td>
</tr>
<tr>
<td>Social support</td>
<td>.78</td>
<td>.07</td>
<td>.55</td>
<td>.55**</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>2.03</td>
<td>.34</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td>.53</td>
<td>.52</td>
</tr>
<tr>
<td>Stress</td>
<td>-.46</td>
<td>.07</td>
<td>-.29</td>
<td>.50</td>
<td>.50</td>
</tr>
<tr>
<td>Social support</td>
<td>.78</td>
<td>.07</td>
<td>.55</td>
<td>.55**</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
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<td>.09</td>
<td>.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.05</td>
<td>.02</td>
<td>.09</td>
<td>*</td>
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</tr>
<tr>
<td>Relationship status</td>
<td>.19</td>
<td>.11</td>
<td>.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S.-born/foreign-born</td>
<td>-.11</td>
<td>.13</td>
<td>-.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1.62</td>
<td>.41</td>
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<td></td>
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</tr>
</tbody>
</table>

Note: *p < .05; **p < .01

While this information indicates the significant relationships between these variables, it does not examine whether social support was a moderator between stress and job satisfaction. In order to examine moderation effects, a new variable must be created through transformation, and the regression must then be re-tested. The new variable is a cross product between centered stress and centered social support. Centering a variable uses the initial total scores of all participants for a variable and determines the mean for each variable, and then subtracts the initial values from the mean for that variable. Centering is done in determining moderation to reduce any potential multicollinearity problems. Once the centered variables are achieved, the multiple regression is performed again with an additional variable of the cross products of the centered stress and social support variable.
The tolerance and VIF are examined for the test of the moderation by social support on stress. If the tolerance is low (< 1-R²), then a problem is likely with multicollinearity. In this case, since adjusted R² is .53 and 1 minus .53 is .47, all tolerance levels were above this amount, and a problem is not likely. In general, if the largest VIF is greater than 10, then there is cause for concern. In this instance, the largest VIF was 1.37, which is much lower than 10, indicating that a problem is not likely.

When an examination was made of the variables of centered stress, centered perceived department social support, and the interaction effect of stress times perceived social support, they significantly improved the prediction, with R² change = .52, F(3, 266) = 94.38, p = .000; stress and department social support predictors were still significant predictors (Table 13). When the four sociodemographic predictors were entered alone, they significantly predicted level of job satisfaction F (4, 262) = 3.06, p = .02, adjusted R² = .02. However, as indicated by the R², only 2% of the variance of job satisfaction could be predicted by knowing the four sociodemographic factors. The entire group of variables significantly predicted job satisfaction, F (7, 262) = 97.44, p < .05, adjusted R² = .54. This is a large effect (Cohen, 1988).
Table 13

Hierarchical Multiple Regression Analysis Summary for Research Question 1 (N = 270).

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SEB</th>
<th>ß</th>
<th>R²</th>
<th>( R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
<td>.52</td>
<td>.51</td>
</tr>
<tr>
<td>Centered Stress</td>
<td>-.32</td>
<td>.05</td>
<td>-.29*</td>
<td>.52</td>
<td>.51</td>
</tr>
<tr>
<td>Centered Social Support (SS)</td>
<td>.59</td>
<td>.05</td>
<td>.53**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction (Stress x SS)</td>
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<td>.05</td>
<td>.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>3.69</td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
</tr>
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<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
<td>.53</td>
<td>.52</td>
</tr>
<tr>
<td>Centered Stress</td>
<td>-.32</td>
<td>.05</td>
<td>-.29*</td>
<td>.53</td>
<td>.52</td>
</tr>
<tr>
<td>Centered Social Support</td>
<td>.57</td>
<td>.06</td>
<td>.51**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction (Stress x SS)</td>
<td>.10</td>
<td>.05</td>
<td>.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.17</td>
<td>.09</td>
<td>.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.04</td>
<td>.02</td>
<td>.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relationship status</td>
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<td>.11</td>
<td>.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S.-born/ foreign-born</td>
<td>-.09</td>
<td>.13</td>
<td>-.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>3.22</td>
<td>.18</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Note: *p<.05; **p<.01

Table 13 shows the multiple regression analysis used to determine whether social support moderates the effects of stress on job satisfaction. Results show that the F-statistic was significant for the model p = .000. The adjusted R² was .39 for the stress, perceived social support, and interaction effect F (3, 276) = 60.72, p < .000. For job satisfaction, an effect was found of perceived social support, B = .48 (SE = .056) p < .001, and there also was an effect for stress B = -.32 (SE = .054) p < .001. This interaction was plotted (see Table 14) and investigated with simple slopes tests (Aiken & West, 1991). Providing support for the hypothesis, the results illustrated that higher stress was associated with lower job satisfaction for participants with low social support scores (-1 SD), B = -.38(SE = .07) p < .001. This negative effect of stress was
significantly reduced for those with high social support scores (+1SD), B = .27(SE = .07) p < .001. However, the overall effect of the interaction for the entire sample size was small, at $R^2 = .40$.

Table 14

*Slope Investigation of the Interaction of Stress and Social Support for all Participants (N = 281)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SEB</th>
<th>$\beta$</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centered Stress</td>
<td>-.32</td>
<td>.05</td>
<td>-.30**</td>
<td>.40</td>
<td>.39</td>
</tr>
<tr>
<td>Centered Social Support (SS)</td>
<td>.48</td>
<td>.06</td>
<td>.44**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction (Stress* x SS)</td>
<td>.06</td>
<td>.05</td>
<td>.06*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>3.86</td>
<td>.05</td>
<td></td>
<td>.40</td>
<td>.39</td>
</tr>
</tbody>
</table>

Step 2 (-1 SD SS)

| Stress                        | -.38| .07 | -.35**  | .40   | .39          |

Step 3 (+1 SD SS)

| Stress                        | -.27| .07 | -.25**  | .40   | .39          |

Note: *p < .05; **p < .01

The second main question for this research study was: Does perceived departmental social support have a significantly greater impact for foreign-born faculty, as opposed to U.S.-born faculty members in moderating the effect of occupational stress and job satisfaction? Social support in this sample was found to moderate the relationship between stress and job satisfaction. However, social support may have a more statistically significant impact as a moderator for one of the predictors of international faculty, as opposed to U.S.-born faculty, in the correlation between these variables.
To examine the impact of U.S.-born versus foreign-born faculty status on the stress, social support, and job satisfaction relationship, three multiple regressions were utilized. The moderation effect was investigated first on U.S.-born faculty members (Table 15), which indicated that moderation occurred. Finally, the moderation effect was investigated on foreign-born faculty members (Table 16), which indicated no moderation effect for this group of subjects.

When the three predictors of stress, social support, and the interaction (moderator) effect were entered for the U.S.-born faculty, they significantly predicted the level of job satisfaction $F(3, 222) = 51.21$ $p = .000$, adjusted $R^2 = .41$. A similar result for the total population moderation effect on job satisfaction was achieved for U.S.-born faculty members. The moderation effect for U.S.-born faculty by stress was $B = -.35$ (SE = .056) $p < .001$. An effect also was noted for perceived social support $B = .518$ (SE = .061) $p < .001$. These two effects also were qualified by an interaction between the two $B = .103$ (SE = .054) $p < .05$. The impact of stress was lower with higher social support $B = -.350$ (SE = .11) $p < .002$. The impact of stress increased when perceived social support was less (-1SD), $B = -.65$ (SE .11) $p < .000$. Higher social support related to a lower stress level for U.S.-born faculty members. The result of the slope of the interaction of stress and social support for U.S.-born faculty members is found in Table 15.

When foreign-born faculty were examined with stress, social support, and interaction (modifier) job satisfaction, the relationship was statistically significant, $F(3, 50) = 41.29$ $p = .000$, adjusted $R^2 = .71$. However, no moderation effect was noted for stress, as stress was no longer statistically significant in the interaction. The results of the regression for foreign-born faculty members is found in Table 16.
Table 15

*Slope Investigation of the Interaction of Stress and Social Support for U.S.-born Faculty (N=225)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SEB</th>
<th>β</th>
<th>(R^2)</th>
<th>(\Delta R^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centered Stress</td>
<td>-.35</td>
<td>.06</td>
<td>-.33</td>
<td>(-.33**)</td>
<td></td>
</tr>
<tr>
<td>Centered Social Support (SS)</td>
<td>.52</td>
<td>.06</td>
<td>.46</td>
<td>(+.46**)</td>
<td></td>
</tr>
<tr>
<td>Interaction (Stress* x SS)</td>
<td>.10</td>
<td>.05</td>
<td>.10</td>
<td>(+.10^*)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>3.71</td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Step 2 (-1 SD SS)**             |      |      |      |         |              |
| Stress                            | -.24 | .08  | -0.423 | \(-.423**\) |              |

| **Step 3 (+1 SD SS)**             |      |      |      |         |              |
| Stress                            | -.45 | .08  | -0.43 | \(-.43**\)  |              |

Note: *p < .05; **p < .01

This study also endeavored to examine three questions on the sociodemographic factors’ effect on job satisfaction. First, for faculty members at a university, was a significant difference evident between U.S.-born faculty members and foreign-born
faculty members in job satisfaction? The results of the t-test indicated that, on average, U.S.-born faculty experienced greater job satisfaction ($M = 3.80, SE = .066$) than international faculty ($M = 3.10, SE = .17$). This difference was significant, $t(69) = 3.79$, $p < .001$. The second question asked: Does a statistically significant difference exist between male and female faculty members job satisfaction? The results of the t-test indicated that, on average, female faculty members experienced greater job satisfaction ($M = 3.72, SE = .08$) than males ($M = 3.60, SE = .10$). However, this difference was not significant $t(276) = -.899$, $p > .05$. Finally the third question was: Does a statistically significant difference exist between instructors, assistant professors, associate professors, and professors on job satisfaction? The final question was analyzed by running an ANOVA. The instructor group experienced more job satisfaction ($M = 3.95, SE = .11$) than the assistant professor group ($M = 3.41, SE = .12$); associate professors ($M = 3.69, SE = .12$); and professors ($M = 3.78, SE = .16$). This difference was significant $F(3,272) = 3.33$, $p < .02$.

**Summary**

This chapter provided an overview of the demographics of the sample for the survey. The descriptive statistics were presented for all categorical variables. Interestingly, the high stressors for the sample were similar to those that had previously been identified as high stressors in the national HERI study. However, differences in the reported high stressors between U.S.-born and foreign-born faculty members also were found. U.S. faculty members reported the highest levels of social support and job satisfaction, while foreign-born faculty members reported the highest levels of stress.
Inferential statistics were presented to answer the two main research questions and the three subsidiary questions engaged within this study. The results demonstrated that social support moderates the relationship of stress on job satisfaction for the two groups, when examining all participants as one complete group and for U.S. faculty members. However, social support did not moderate the relationship with stress for job satisfaction for foreign-born faculty members, although social support was a strong predictor of job satisfaction for this group. Chapter V will present the study’s conclusions.
CHAPTER V: CONCLUSION

Discussion

Faculty work-stress is a significant and growing problem that leads to decreased job satisfaction (Catano et al., 2007; Gillespie et al., 2001; Gmelch et al., 1984; Gmelch et al., 1986; He et al., 2000; Johnsrud & Rosser, 2002; Kinman, 2001; Kinman & Jones, 2003). Stress levels are increasing across the profession, regardless of the country studied (Barkhuizen & Rothmann, 2008; Catano et al., 2007; Gillespie et al., 2001; He et al., 2000; Kinman, 2001; Kinman & Jones, 2003; Moeller & Chung-Yan, 2013).

Drawing on previous research findings, this study sought to determine whether perceived departmental social support could moderate the effect of stress on job satisfaction. It further explored whether a moderating effect exists when comparing U.S.-born and foreign-born faculty.

Consistent with previous research, academic job satisfaction was negatively associated with work-stressors of university faculty members and positively associated with perceived departmental social support. The model for job satisfaction was statistically significant within the research sample. Predictor variables of stress and social support accounted for 50% of the variance in job satisfaction. The variables of gender, age, personal relationship status, and U.S.-born versus foreign-born work status determined 53% of the variance in job satisfaction when added to the model. The results of this model suggest that a moderator or interaction effect may exist between stress and department social support on job satisfaction.

The primary goal of this study was to investigate the potential of an interaction effect between stress and social support for job satisfaction. This study found a buffering
(moderation) effect between stress and perceived social support for the entire population (Table 14). The moderation effect would allow a university to either decrease faculty perceived stressors or increase departmental social support in order to increase overall job satisfaction for faculty members. As a practical matter, it would be difficult for a university to decrease perceived stressors, as these are generally a function of primary job duties. These results, however, reveal that the overall perception of faculty stressors would be reduced or mitigated by increases in departmental social support. Potential new resources for departmental social support might include: creating listservers that would permit faculty who experience stressors to request advice from other faculty members, particularly relating to research issues or new updates in the field; establishing departmental monthly coffee hours to encourage free exchanges of information between younger and veteran faculty members; or providing a tenure mentor to help clarify the process and expectations. Universities need to explore new mechanisms for increasing departmental social support against those that are already in use within their own environments to ensure maximum effectiveness when making changes.

The second objective of this study was to determine whether any potential difference exists in the buffering effect between U.S.-born and foreign-born faculty members. This study found a moderation effect for U.S.-born faculty members (see Table 15), but no a moderation effect was found for foreign-born faculty members (see Table 16). In the regression model for U.S.-born faculty members (Table 15), both stress ($B = -.35$) and perceived departmental social support ($B = .52$) were highly correlated with job satisfaction. However, the regression model for foreign-born faculty members (Table 16) indicated that only perceived departmental support ($B = .82$) was highly
correlated with job satisfaction. The stressors that were measured in the survey instrument could potentially explain the difference.

The literature reveals distinctions between U.S.-born and foreign-born faculty members’ perceived stressors (Collins, 2008; Corley & Sabharwal, 2007; Lin et al., 2009; Mamiseishvili, 2010; Mamiseishvili, 2011; Mamiseishvili & Rosser, 2010b; Moeller & Chung-Yan, 2013; Skachkova, 2007; Thomas & Johnson, 2004; Wells et al., 2007). This study found small differences in the means of perceived stressors when comparing the top 10 stressors between groups (see Tables 7 and 8). While the uneven sample size between the U.S.-born and foreign-born faculty members prevents further inferential statistical exploration of these differences within this study, these results warrant further investigation.

Prior research also has suggested that foreign-born faculty members have additional stressors, such as immigration issues, cultural differences, and loneliness, that are not shared by their U.S.-born cohorts (Collins, 2008). The lack of a buffering effect for foreign-born faculty members may have been affected by the instrument chosen to assess faculty stressors. This study used the Faculty Stress Index designed by Dr. Walter Gmelch of the University of San Francisco. The instrument was established using the results from the National Faculty Stress Project in 1984. The Faculty Stress Index was designed to study perceived stressors for faculty members as had been identified in 1984. However, as noted in the introduction of this study, the number of foreign-born faculty members in the U.S. has significantly increased since 1984. For instance, while Foreign-born faculty members accounted for only 7% of faculty members in the U.S. in 1998, by 2007 the population of foreign-born faculty members had risen to 18% within U.S.
postsecondary institutions (Marvasti, as cited in Kim et al., 2012; National Center for Education Statistics, 1999; Schuster & Finkelstein, 2006). It is reasonable to assume that an even greater difference exists in the percentage of foreign-born faculty members between 1984 and today. The instrument did not account for specific faculty stressors that are unique to foreign-born faculty members, as identified by Collins (2008).

This study also explored three additional questions on the sociodemographic factors that impacted job satisfaction. The results of the t-test between U.S.-born and foreign-born faculty members found that U.S.-born experienced significantly more job satisfaction than foreign-born. This may be due to cultural differences in stressors that were not assessed by the measurement instrument used for perceived stress. Foreign-born faculty members perceived differences in the influence of stressors (Tables 7 and 8). Further investigation is necessary to explore the reasons for this finding.

Consistent with previous research results, this study found a difference in job satisfaction based on gender (McCoy, Newell, & Gardner, 2012). Females reported greater job satisfaction (M = 3.72) than males (M = 3.60); these results, however, were not statistically significant. This may indicate that the particular institution of higher education that was studied has been successful in providing an environment that is more gender neutral.

Finally, faculty title was assessed with job satisfaction. This study found a statistical significant difference between faculty members’ job satisfaction based on title. Instructors experienced significantly greater job satisfaction (M = 3.95) than assistant professors (M=3.41), associate professors (M = 3.69) and professors (M = 3.78). These results may be explained by the tenure process that does not impact instructors. Job
satisfaction is lowest for assistant professors as they work toward achieving tenure, and it then improves for associate professors and professors after achieving tenure. The continued increase in level of job satisfaction from associate professor to professor supports this conclusion. The requirement of research and publications could introduce additional stressors that also may impact the difference in overall job satisfaction between these groups.

The different ways in which workplace social support and stressors affect job satisfaction highlight the importance of monitoring the impact of any interventions designed to address faculty stress. Intended changes in social support mechanisms may have different impacts for different segments of the institution’s populations. Institutions need a better understanding of the interaction of these variables in order to affect changes based on needs within their unique organizations. Soliciting input from diverse groups of faculty members is recommended before engaging in changes that alter the existing relationships of these variables.

**Limitations and Future Research**

This study was intended as an initial exploration into the potential moderating effects of social support, while comparing U.S.-born and foreign-born faculty. The study was limited in its ability to fully explore relationships between U.S.-born and foreign-born faculty members due to extremely unequal sample sizes between these groups. Uneven comparison groups in multiple regression can cause a Type II error, otherwise known as a failure to correctly reject the null hypothesis when there has been a statistical change (Spatz, 2011). Future studies should examine multiple postsecondary institutions
in order to more carefully scrutinize group differences between U.S.-born and foreign-born faculty members.

This study may have been limited by the use of an instrument that did not include potential unique stressors to foreign-born faculty members, thereby failing to fully explore occupational stressors within this group. Time has changed the population characteristics of postsecondary institutions; it may be appropriate to revisit the social science measuring instruments used to make its assessments. Few surveys exist that are appropriate to study stressors and the social support structures particular to higher education. A newly designed survey assessing these particular differences may close the gaps in the literature.

Prior research has found cultural differences between the types of social support that work best for individual and collective societies (Chen et al., 2012; Taylor et al., 2007). This study could not examine that potential difference due to the relatively small population size of foreign-born faculty members at the researched institution. The research in this area generally has been conducted on students, as opposed to faculty members. Future research should be conducted regarding this issue for U.S.-born and foreign-born faculty members.

This study modeled job satisfaction with limited factors. While the factors that were explored accounted for 53% of the variance of job satisfaction within the sample, several potential variables were not included in this research. Stress and job satisfaction may be explained by a variable or interaction that was not included in this study, such as locus of control. Future studies could use other variables identified by the literature to investigate these potentials in comparing and contrasting U.S.-born faculty to foreign-
born faculty members. A better understanding of the interactions between variables may help focus work-stress interventions.

Summary

The present study contributes, not only to bodies of research on faculty job satisfaction, but also provides a better understanding of potential differences between U.S.-born and foreign-born faculty members. Recent changes in higher education are contributing to the elevated stress level of university faculty. National data show a trend for an increased need for high quality faculty in the coming years. Today, internal and external factors are changing the fabric of higher education. Less state funding has resulted in compressed salary ranges in many state institutions. Faculty is the primary resource for postsecondary organizations. Research suggests that these organizations need to make changes in the near future in order to retain high quality faculty members.

Research has shown that internationalization in higher education improves students’ understanding of the global world in which they live. Providing these students with opportunities to interact with foreign-born faculty members is a proven successful mechanism of internationalization. Additional research needs to be conducted to better understand both the needs and differences between U.S.-born and foreign-born faculty members in order to provide the best possible support to each group.

This study indicates that social support can buffer the results of faculty stress. The study also provides empirical evidence that the interaction between stress, social support, and job satisfaction depends upon faculty status as U.S.-born and foreign-born. The results suggest that further research is needed to compare U.S.-born and foreign-born faculty in order to better understand similarities and differences. Organizations of higher
education need to prepare for the changes they are experiencing as a result of internal and external pressures that impact their most vital resource. The most appropriate to prepare is through research that provides knowledge about the factors of stress, social support, and job satisfaction that will most strongly influence the retention of high quality faculty members.
References


doi:10.1007/s11162-008-9113-8


Gardner, S. K. (2012). I couldn’t wait to leave the toxic environment: A mixed methods study of women faculty satisfaction and departure from one research institution.


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APPENDIX A: IRB Approval

DATE: June 16, 2014
TO: Lisa Owen, EdD
FROM: Western Kentucky University (WKU) IRB
PROJECT TITLE: [576178-1] Are University Faculty Members Islands? An Examination of the Interaction of Work Stress and perceived Departmental Social Support on Faculty Members' Job Satisfaction
REFERENCE #: IRB 14-480
SUBMISSION TYPE: New Project
ACTION: APPROVED
APPROVAL DATE: June 16, 2014
REVIEW TYPE: Exempt from Full Board Review

Thank you for your submission of New Project materials for this project. The Western Kentucky University (WKU) IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Exempt from Full Board Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by an implied consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the consent document.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

This project has been determined to be a Minimal Risk project.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

If you have any questions, please contact Paul Mooney at (270) 745-2129 or irb@wku.edu. Please include your project title and reference number in all correspondence with this committee.
Dear Faculty Members,

I am an EdD doctoral student conducting research on the relationship between faculty work stress and social support. A number of research studies indicate that academic work stress has become a significant concern for both universities and faculty members. According to the 2010-2011 Higher Education Research Institute 86% of full-time faculty members at public universities reported being stressed. Increased understanding of the relationship between various types of social support and faculty stressors may help to create programs to better assist faculty members in the future.

Your participation is critical to this research. I would greatly appreciate your participation in my survey. Once you have completed the survey you will be eligible to participate in a random drawing to win one of three prizes: a 16 GB iPad Air, a $100 Visa Gift Card, and a $50 Visa Gift Card. Your responses to this survey are completely anonymous. However, if you wish to be entered into the random drawing for a chance to win one of these prizes you will need to provide contact information. If you choose to participate in the random drawing you will be redirected to a second survey which will request your e-mail address so that the winners can be contacted to collect their prizes. This second survey is not connected to your responses in the original survey.

If you consent to participating in this survey, please start the survey now by clicking the following hyperlink.

https://wku.co1.qualtrics.com/SE/?SID=SV_00YzyNKib36a7rv

Thank you for your participation,

Lisa Owen
APPENDIX C: Survey

Preamble

Dear Faculty Members,

I am an EdD doctoral student conducting research on the relationship between faculty work stress and social support. A number of research studies indicate that academic work stress has become a significant concern for both universities and faculty members. According to the 2010-2011 Higher Education Research Institute 86% of full-time faculty members at public universities reported being stressed. Increased understanding of the relationship between various types of social support and faculty stressors may help to create programs to better assist faculty members in the future.

Your participation is critical to this research. I would greatly appreciate your participation in my survey. Once you have completed the survey you will be eligible to participate in a random drawing to win one of three prizes: a 16 GB iPad Air, a $500 Visa Gift Card, and a $500 Visa Gift Card. Your responses to this survey are completely anonymous. However, if you wish to be entered into the random drawing for a chance to win one of these prizes you will need to provide contact information. If you choose to participate in the random drawing you will be redirected to a second survey which will request your e-mail address so that the winners can be contacted to collect their prizes. This second survey is not connected to your responses in the original survey.

Your participation in this survey is completely voluntary. Completion of the survey should only take approximately 20 minutes. The survey is set up so that you may stop at any point and you may resume taking the survey where you left off if you are interrupted or need to stop for any reason. If you feel uncomfortable answering any question, at any time, you are free to not answer any specific question or to withdraw entirely from the survey.

This research project has been approved by the Institutional Review Board at Western Kentucky University. In designing this research plan, every effort has been made to eliminate any potential risk. However, please be aware that there may be some risk associated with participating including, but not limited to, loss of time or discomfort in answering questions. The researcher will make every effort to maintain the confidentiality of your identity and your name will not be published or shared. All data from this survey will be reported only in aggregate format. All responses in the survey are anonymous.

If you have any questions or concerns about this survey or its procedures, you may contact Lisa Owen by e-mail at lisa.owen@WKU.edu. To maintain your anonymity, you may also contact WKU’s Institutional Review Board by leaving a letter at Tate Page Hall Room 364 for Mr. Paul Mooney, with any questions or concerns you may have regarding this project. Dr. Randy Carps, Department of Management/Leadership at Western Kentucky University, is the advisor for this research study. He may be reached by e-mail at randy.carps@WKU.edu.

If you consent to this survey, please start the survey now by clicking on the arrow button below.

Thank you for your participation,

Lisa Owen

Section I. Faculty Stressors

The following work-related situations have been identified as potential sources of stress for faculty members at institutions of higher education. It is possible that some of the situations cause more pressure than others. Indicate to what extent each of the following items is a source of pressure by clicking the appropriate response.

Faculty Stressors
(The following Faculty Stress Index was created by Dr. Walter H. Gneezy (993). This instrument is copyrighted and used herein by special permission from Dr. Gneezy.)

<table>
<thead>
<tr>
<th>Not Slight</th>
<th>Low</th>
<th>Moderate</th>
<th>High</th>
<th>Excessive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable</td>
<td>Pressure</td>
<td>Pressure</td>
<td>Pressure</td>
<td>Pressure</td>
</tr>
</tbody>
</table>

128
1. Participating in the work of departmental or university committees
2. Participating in work-related activities outside of regular working hours
3. Meeting social obligations (clubs, parties, volunteer work) expected of me because of my position
4. Complying with departmental and university rules and regulations
5. Having inadequate facilities (office, library, laboratories, classrooms)
6. Evaluating the performance of students
7. Making presentations at professional conferences and meetings
8. Imposing excessively high self-expectations
9. Receiving inadequate university recognition for community service
10. Having students evaluate my teaching performance
11. Resolving differences with fellow faculty members
12. Having insufficient time to keep abreast of current developments in my field
13. Having insufficient authority to perform my responsibilities
14. Believing that the progress in my career is not what it should or could be
15. Assignment of duties that take me away from my office.
16. Being interrupted frequently by telephone calls and drop-in visitors

Faculty Stressors Continued

<table>
<thead>
<tr>
<th>Stressor</th>
<th>Not Applicable</th>
<th>Slight Pressure</th>
<th>Low Pressure</th>
<th>Moderate Pressure</th>
<th>High Pressure</th>
<th>Excessive Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>17. Securing financial support for my research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Frequently being requested to provide community services</td>
<td></td>
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<tr>
<td>19. Teaching advising inadequately prepared students</td>
<td></td>
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<tr>
<td>20. Preparing a manuscript for publication</td>
<td></td>
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<tr>
<td>21. Being unclear as to the scope and responsibilities of my job</td>
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<tr>
<td>22. Having insufficient reward for instructional/departmental service</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>23. Having inadequate time for teaching preparation</td>
<td></td>
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<tr>
<td>24. Feeling pressure to compete with my colleagues</td>
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</tr>
<tr>
<td>25. Having repetitious teaching and job assignments</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
26. Writing letters and memos, and responding to other paperwork
27. Resolving differences with students
28. Having insufficient time for performing the service function
29. Feeling that I have too heavy a work load, one that I cannot possibly finish during the normal work day
30. Attending meetings which take up too much time

Faculty Stressors Continued

31. Dealing with program changes or reduced enrollment impacting my job
32. Receiving insufficient recognition for teaching performance
33. Making class presentations
34. Trying to influence my chair's actions and decisions which affect me
35. Not having clear criteria for evaluating service activities
36. Resolving differences with my chair
37. Lacking congruency in institutional, departmental, and personal goals
38. Having to teach subject matter for which I am not sufficiently prepared
39. Receiving insufficient institutional recognition for research performance
40. Lacking personal impact on departmental institutional decision making
41. Not knowing how my chair evaluates my performance
42. Receiving inadequate salary to meet financial needs
43. Not having clear criteria for evaluation of research and publication activities
44. Having job demands which interfere with other personal activities (recreation, family, and other interests)
45. Being drawn into conflict between colleagues

Faculty Stressors Continued

46. Assess the level of stress you experience in your job
47. Assess the level of stress you experience in
Section II. Perceived Social Support from Department Colleagues

Instructions: The section below asks you to rate your level of disagreement or agreement with the following statements about your colleagues within your department. Please click the button that best represents your response to each statement:

(If you work in more than one department, please focus on the department in which you spend the majority of your time.) Please respond to these questions from your own point of view while considering your department colleagues.

---

Perceived Social Support from Department Colleagues
(The following Colleague Social Support instrument was created by C. Moeller, 2000. The instrument was based on prior social support instruments from MacDonald (1998), and Greenglass, Bartke and Konarski’s (1997). This instrument is copyrighted. Special permission to use this instrument herein was received from C. Moeller.)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My department colleagues show they care about me.</td>
<td></td>
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<tr>
<td>2. My department colleagues are sensitive to my personal problems.</td>
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<tr>
<td>3. My department colleagues are willing to listen to my work-related problems.</td>
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<tr>
<td>4. My department colleagues are easy to confide in.</td>
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<tr>
<td>5. My department colleagues offer me practical kinds of help (e.g., offer to fill in a class when I am sick, join me teaching materials).</td>
<td></td>
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<tr>
<td>6. My department colleagues go out of their way to do things that make my work life easier for me.</td>
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<tr>
<td>7. My department colleagues would pitch in to help me do something that needed to be done.</td>
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<tr>
<td>8. My department colleagues would show me how to do something if I didn’t know how.</td>
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</tr>
<tr>
<td>9. My department colleagues provide me with useful advice and guidance for my work life.</td>
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</tr>
<tr>
<td>10. My department colleagues provide me with useful information when I really need it most.</td>
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<tr>
<td>11. My department colleagues provide me with useful suggestions that help me avoid making mistakes.</td>
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<tr>
<td>12. My department colleagues provide me with useful directives about making career plans.</td>
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<tr>
<td>13. My department colleagues often provide me with useful feedback about my work.</td>
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<tr>
<td>14. My department colleagues make me feel better about myself after talking with them.</td>
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</tr>
</tbody>
</table>
15. My department colleagues are overly critical of me.  
16. My department colleagues regularly put down my efforts.

### III. Perceived Social Support from Department Head

Instructions: The section below asks you to rate your level of disagreement or agreement with the following statements about your Department Head or immediate supervisor. Please click the bottom that best represents your response to each statement. 

(If you work in more than one department, please focus on the department in which you spend the majority of your time.) Please respond to these questions from your own point of view while considering your Department Head or immediate supervisor.

Perceived Social Support from Department Head  
(The following Department Head Social Support instrument was created by C. Moeller (2009). The instrument was based on prior social support instruments from MacDonald (1990), and Greenhaus, Burke and Kramers's (1997). This instrument is copyrighted. Special permission to use this instrument herein was received from C. Moeller.)

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My Department Head shows that he/she cares about me.</td>
<td></td>
<td></td>
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<tr>
<td>2. My Department Head is sensitive to my personal problems.</td>
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</tr>
<tr>
<td>3. My Department Head is willing to listen to my work-related problems.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4. My Department Head is easy to confide in.</td>
<td></td>
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<tr>
<td>5. My Department Head provides me with any practical assistance needed to get the job done.</td>
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<td></td>
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</tr>
<tr>
<td>6. My Department Head goes out of his/her way to do things that make my work life easier for me.</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>7. My Department Head would grant a reasonable request for a change in my working conditions.</td>
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<td></td>
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</tr>
<tr>
<td>8. My Department Head would show me how to do something, if I didn’t know how.</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>9. My Department Head provides me with useful advice and guidance for my work life.</td>
<td></td>
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<td></td>
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<tr>
<td>10. My Department Head provides me with useful information when I really need it most.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>11. My Department Head provides me with useful suggestions that help me avoid making mistakes.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. My Department Head provides me with useful directives about making career plans.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. My Department Head does not provide useful feedback about my work.</td>
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<td></td>
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</tr>
<tr>
<td>14. My Department Head values my skills and abilities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
15. My Department Head regularly puts down my efforts.
16. My Department Head gives me credit for the things I do well.

Section IV. Global Job Satisfaction

The section below asks you to rate your level of disagreement or agreement with the following questions regarding your job satisfaction. Please click the button that best represents your response to each statement. Please respond to these questions from your own point of view.

(The Global Job Satisfaction instrument was created by Quinn & Shepard (1974), and subsequently modified by Pond & Geyer (1991). This instrument is copyrighted. Special permission to use this instrument was obtained from Dr. Pond.)

<table>
<thead>
<tr>
<th>Global Job Satisfaction</th>
<th>Definitely not take the job</th>
<th>Probably not take the job</th>
<th>Not sure if I would take the job or not</th>
<th>Probably take the job</th>
<th>Definitely take the job</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. If you had to decide all over again whether to take the job you now have, what would you decide?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Global Job Satisfaction</th>
<th>Not recommend at all</th>
<th>Not recommend</th>
<th>Would neither recommend nor recommend</th>
<th>Recommend</th>
<th>Recommend strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. If a friend asked if he/she should apply for a job like yours with your employer, what would you recommend?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Global Job Satisfaction</th>
<th>Very far from ideal</th>
<th>Somewhat far from ideal</th>
<th>Neutral</th>
<th>Somewhat close to ideal</th>
<th>Very close to Ideal</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. How does this job compare with your ideal job?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Global Job Satisfaction</th>
<th>Not at all like I wanted</th>
<th>Somewhat not like I wanted</th>
<th>Neutral</th>
<th>Somewhat like I wanted</th>
<th>Just like I wanted</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. How does your job measure up to the sort of job you wanted when you took it?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Global Job Satisfaction**

<table>
<thead>
<tr>
<th></th>
<th>Not at all satisfied</th>
<th>Somewhat dissatisfied</th>
<th>Neutral</th>
<th>Somewhat satisfied</th>
<th>Completely satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. All things considered, how satisfied are you with your current job?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Global Job Satisfaction**

<table>
<thead>
<tr>
<th></th>
<th>Not at all Disslike</th>
<th>Neither like nor dislike</th>
<th>Somewhat like</th>
<th>A great deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. In general, how much do you like your job?</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Section V. Demographics**

**What is your gender?**
- Male
- Female

**What is your approximate age range?**
- Below 25
- Between 25 and 29
- Between 30 and 34
- Between 55 and 39
- Between 40 and 44
- Between 45 and 49
- Between 50 and 54
- Between 55 and 59
- Between 60 and 64
- Over 65

**What is your approximate salary?**
- Less than $30,000
- Between $30,000 and $39,000
- Between $40,000 and $49,000
- Between $50,000 and $59,000
- Between $60,000 and $69,000
-
Between $70,000 and $79,000
- Between $80,000 and $89,000
- Between $90,000 and $99,000
- $100,000 or more
- Decline to answer

What is your work status?
- U.S. Citizen
- Naturalized Citizen
- Permanent Resident
- Authorized to Work Temporarily in the U.S. (F-1, F-10P, F-H, J, Y, J/D, etc.)

If you are a foreign national, how long have you lived in the U.S.?
- 0 to 1 year
- Between 1 and 3 years
- Between 3 to 5 years
- Between 5 and 7 years
- Between 7 and 9 years
- 9+ years or more

What is your title?
- Professor
- Associate Professor
- Assistant Professor
- Instructor
- Other

What is the classification of your position?
- Full time
- Part-time

How many years of teaching experience do you have currently?
- 0 to 2 years
- 2+ to 4 years
- 4+ to 6 years
- 6+ to 8 years
- 8+ to 10 years
- 10+ to 15 years
- 15+ to 20 years
- more than 20 years

How many years have you worked for WKU?
- 0 to 2 years
- 2+ to 4 years
- 4+ to 6 years
- 6+ to 8 years
- 8+ to 10 years
- 10+ to 15 years
- 15+ to 20 years
- more than 20 years

What is your current relationship status?
- Single
- In a committed relationship
- Married
- Divorced
- Widowed
APPENDIX D: E-mail from Dr. Gmelch

From: Walter H. Gmelch
To: Lisa [Redacted]
Subject: RE: Request for Educational use and publication of the Faculty Stress Index in dissertation research
Date: Friday, April 18, 2014 9:38:43 PM

Dear Lisa:

I hereby give permission to publish the FSI in the appendix of your dissertation with the expressed copyright as Walter H. Gmelch, University of San Francisco. Thank you and if you could provide me a copy a summary of the results that would be most appreciated.

Best regards,

Walt

Walt Gmelch
Professor of Organization and Leadership
School of Education
University of San Francisco
(415) 422-5434
APPENDIX E: E-mail from Moeller

Owen, Lisa

From: Christin Moeller <moellerc@uwindsor.ca>
Sent: Monday, April 21, 2014 9:36 AM
To: Owen, Lisa
Cc: gcy@UWindsor.ca
Subject: Re: Request for educational use of Social Support survey questions for dissertation
Importance: Low

Dear Lisa,

Thank you for your email and your interest in those social support measures.

You have my permission to use both the Colleague Support and Department Head Support measures in your dissertation research. Please be sure to also credit the original authors of the scales I had modified/adapted.

Please let me know if you have any questions.

Best of luck for your dissertation research!

Christin

Christin Moeller, M.A. (Ph.D. Candidate)
Operations Director & Lab Manager - Occupational Health & Well-Being Research Group
Department of Psychology
University of Windsor
Windsor, ON Canada N9B 3P4
Email: moellerc@uwindsor.ca
Website: www.christinmoeller.com
APPENDIX F: E-mail from Dr. Pond

Hi Lisa,
Sure. OK with me. --sbp

On Thu, Apr 17, 2014 at 3:05 PM, Owen, Lisa <lisa.owen@wkue.edu> wrote:

Dear Dr. Pond,

I am a doctoral student in the Educational Leadership doctoral program at Western Kentucky University. I am planning on conducting my dissertation research on the correlation of faculty occupational stress and perceived department social support on faculty members' job satisfaction. I am specifically interested in exploring if there are any difference between U.S. faculty and foreign-national faculty within this dynamic. I would like to request permission to use the Global Job Satisfaction Questionnaire that you developed with Dr. Geyer, in Employee age as a moderator of the relation between perceived work alternatives and job satisfaction and Differences in the relation between job satisfaction and perceived work alternatives among older and younger blue collar workers for the job satisfaction instrument my research project. I would great appreciate your consideration of this request.

My dissertation chair for this research is Dr. Randy Capps, Interim Department Head for Psychology at Western Kentucky University. Dr. Capps can be reached at randy.capps@WKU.edu or by phone at 270-745-4160.

Please let me know if I need to seek permission to use this instrument from either a different source or additional sources.

Thank you,

Lisa Owen

EdD Doctoral Student

Western Kentucky University

1906 College Heights Blvd. #11001

Bowling Green, KY 42101-1066

Phone: 270-745-6398
Confidentiality Notice: This message, including any attachments, is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure, or distribution is strictly prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy all copies of the original message.

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Samuel R. Pond, III, Ph.D.
N C State University  Associate Professor
Director of Undergraduate Program
Box 7650, Department of Psychology
NC State University  Raleigh, NC 27695-7650

Phone: 919.515.1720  Fax: 919.515.1716