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Factors that Motivate Faculty to Pursue External Funding at a 4-Year Public Institution

of Higher Education

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A dissertation

presented to

the faculty of the Department of Educational Leadership and Policy Analysis

East Tennessee State University

In partial fulfillment

of the requirements for the degree

Doctor of Education in Educational Leadership

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by

Sharon D. Smith

May 2016

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Dr. Catherine Glascock, Chair

Dr. Donald Good

Dr. Susan French-Graybeal

Dr. Jasmine Renner

ABSTRACT

Factors that Motivate Faculty to Pursue External Funding at a 4-Year Public Institution

of Higher Education

by

Sharon D. Smith

The purpose of this quantitative nonexperimental study was to indicate a better understanding of factors that motivate faculty at a 4-year public institution of higher education to pursue external funding. The study is focused on examining the relationship between characteristics of individual faculty members, productivity related to external funding, and faculty perception of intrinsic and extrinsic motivational factors related to pursuing external funding. External funding is a major source of support for research at institutions of higher education. For universities to increase external funding for research along with increasing research productivity, it is essential that university faculty members are motivated to engage in research and seeking funding to support it (Chval & Nossaman, 2014). In order to provide adequate support universities need a clearer understanding of factors that may contribute to faculty's motivation to pursue external funding.

This study was conducted at a 4-year public university in the Southeastern region of the United States. One hundred sixty-seven full-time tenure-track and tenured faculty participated in the study using the web-based anonymous Motivating Factors to Pursuing External Funding Faculty Survey developed by the researcher. The quantitative data were analyzed using a series of single sample t-test, independent t-test, and chi-squared test.

This study revealed that the gender and tenure status of full-time tenure-track and tenured faculty at the participating institution does not significantly affect their productivity as it relates to grant submissions or awards. The findings also indicated that the full-time tenure-track and tenured faculty perceive autonomy and self-actualization as significant intrinsic positive motivators and financial rewards as a significant extrinsic positive motivator to pursuing external funding. Additionally, the study found that the full-time tenure-track and tenured faculty did not perceive institutional support services as an extrinsic motivator to pursuing external funding.

DEDICATION

I would like to dedicate this dissertation to God, my wonderful and loving parents, husband, children, and siblings. For without all of them, my success of reaching this goal would not have been possible.

First and foremost, I dedicate this dissertation to God. Without Him the successful completion of this dissertation would not have been possible. He is the ultimate source of my strength and peace. Thank you Lord for keeping me in perfect peace and always hearing and answering my prayers.

To my parents Cleotis and LouAlice Pritchett, I dedicate this dissertation to you. I thank you for giving me life and for instilling in me the value of hard work and desire to be successful. You gave so much love and support to each and every one of your 11 children. We are all so very grateful to you for your many sacrifices, unwavering love, and commitment to keeping us close as a family. Although you are no longer with us, the memories of your love, strength, support, and laughter will remain in our lives and hearts forever. Without the solid foundation you laid for me, I would not be the person I am today. Thank you momma and daddy!

To my other parents, Fred and Josephine Smith, I dedicate this dissertation to you. I thank you for accepting me into your family as your daughter-in-law/daughter and providing me with unconditional love and support. The many phone calls and pep talks gave me strength to continue on my journey to completing my dissertation. You will never know how much your love and support have meant to me. In the absence of my parents, you were there to motivate me and inspire me to be successful. Fred, there were many nights when I would feel like giving up and I would hear your voice saying "you only get what you put in" and I would instantly regain

the motivation to continue. For all that you all have given me, I say thank you Poppy and Granny!!

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I sincerely thank the ELPA faculty and staff for their encouragement, patience, and assistance throughout this journey. Thank you for understanding my fears and helping to keep me focused. There were many times when I felt like giving up but you encouraged me to stick with the program and see it through. I especially want to acknowledge and sincerely thank Dr. Lampley for always being available to talk with me and offer great advice. Additionally, I owe a huge thank you to Dr. Good for understanding my fear of statistics and helping me conquer my fears while making the learning experience truly enjoyable and memorable.

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program and supported beyond my own expectations. I shall never forget you and thank you all for

the memories.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER 1

INTRODUCTION

According to Chval and Nossaman (2014) external funding can be described as specified funds that are restricted to the purposes identified in a formal and legally-binding, written agreement between an institution and the funder. It is obtained from outside the institution from sources such as federal, state, or local governments, business, private foundations, or individuals and primarily used to support programs or projects geared toward research or scholarly activity, instruction, training, public service, academic support, student services, institutional support, scholarships and fellowships, and other services. External funding is a major source of support for research at institutions of higher education.

The roles and responsibilities of faculty have always been central to the academic functioning of colleges and universities (Marsh & Hattie, 2002). Additionally, the research culture on college campuses has been enhanced through the many scholarly endeavors of faculty (Bai, Hudson, & Millwater, 2012). According to Walden and Bryan (2010) producing scholarly work could be viewed as engaging in research, writing articles for publication, and sharing research findings with students. Similarly, Hemmings and Kay (2010) stated that scholarly works may also include the pursuit of external funding to support research in academia. Gitlin and Lyons (2004) noted that institutions of higher education were encouraging faculty to engage in grant writing because external funding could not only enhance faculty scholarly work and career but bring prestige to the institution.

For universities to increase external funding for research along with increasing research productivity, it is essential that university faculty members are motivated to engage in research and seeking funding to support it (Chval & Nossaman, 2014). Hatfield (2012) proposed that the

process of applying for and securing external funding not only affects institutions of higher education but it also affects faculty development. Ultimately, the pursuit of external funding could impact the process of faculty becoming better educators, researchers, scholars, and practitioners who contribute new knowledge to their disciplines and bring greater visibility and prestige to the institution.

Therefore, to provide adequate support universities need a clearer understanding of factors that may contribute to faculty motivation to pursue external funding. Similarly, this knowledge could be important for the development of organizational support to encourage faculty to write grants for funding, conduct research with funding, and publish the results of research from funding. Historically, efforts to understand faculty perceptions regarding external funding have varied from institution to institution according to variables such as institutional size, mission, type, resources available, and culture regarding research, and there has been consistent findings indicating a definite need for support for faculty in pursuing external funding (Boyer & Cockriel, 1998; Grant & Shin, 2011; Walden & Bryan, 2010).

Statement of the Problem

External funding has become a major source of support for higher education institutions primarily due to fiscal pressures and escalating costs (Prince, Brent, & Felder, 2007). This funding is often needed to support new faculty in starting their labs, purchasing materials and supplies, and hiring staff to work on faculty research. However, many faculty view the process as challenging because the competition for grant funding is intense. Although institutions of higher education can be financially impacted from active grant writers, many institutions fail to motivate

faculty to pursue grants or provide adequate support for the pursuit of grant funding (Easter & Shultz, 1998).

Beginning in the 1990s research related to external funding in higher education institutions primarily focused on examining the variables that hindered or induced professionals in their efforts to pursue funding (Boyer & Cockriel, 1998; Sterner, 1999). Many of these studies identified factors that motivate faculty within research institutions to engage in grant writing activities (Bai et al., 2012; Boyer & Cockriel, 1998; Keogh, 2013; Sterner, 1999). Likewise, further evaluations of those studies have also revealed that motivating faculty to pursue external funding is a complex problem of that brings about opportunities and challenges for higher education institutions. These opportunities and challenges can include strengthening relationships with internal and external stakeholders, adequate allocation and use of resources or support services, restructuring of faculty teaching schedules, and improvements in research productivity of faculty. According to Wimsatt, Langley, and Trice (2009) due to the increased complexity and scope of research funding, institutions of higher education have had to make changes to help faculty win and manage funding. Consequently these changes created a unique opportunity for universities to reassess their research interest and resources to better realign services to support and potentially motivate faculty to pursue external funding. As research infrastructure resources have become limited, it is crucial for colleges and universities to focus on the activities that are most likely to contribute to funded scholarship (McGill & Settle, 2012; Monroe & Kumar, 2011).

Even though research has been conducted to expand the knowledge on the factors that contribute to faculty motivation to pursue external funding, there has been less research to increase the understanding of those factors in 4-year public institutions of higher education.

Therefore, the purpose of this quantitative nonexperimental study was to indicate a better understanding of the factors that motivate faculty to pursue external funding at a 4-year public institution of higher education. By examining the relationship between the independent variables (individual characteristics of faculty, intrinsic and extrinsic motivational factors, and productivity related to external funding) and the dependent variable (interest in pursuing external funding to support scholarly activity), opportunities to enhance the external funding of faculty could potentially be revealed.

This study is focused on the characteristic data and survey responses of faculty employed at a 4-year public institution of higher education.   For the purposes of studying the relationship between motivational factors and faculty motivation to pursuing external funding, motivation was divided into two domains: intrinsic motivation and extrinsic motivation. The intrinsic motivation domain is comprised of the factors of self-actualization and autonomy (Authayarat & Umemuro, 2012; Monroe & Kumar, 2011). The extrinsic motivation domain is comprised of the factors of institutional support services and financial rewards (McGill & Settle, 2012; Monroe & Kumar, 2011).

Research Questions

The study is guided by four groups of research questions. The first group of research questions involves the relationships between individual characteristics and faculty motivation toward pursuing external funding. The second group of research questions involves on the relationship between faculty productivity related to grant submissions and awards and individual characteristics (gender, tenure status). The third group of research questions involves on the relationships between intrinsic motivation factors and faculty motivation toward pursuing

external funding. The fourth group of research questions involves on the relationships between extrinsic motivation factors and faculty motivation toward pursuing external funding.

Individual Characteristics

RQ1: Is there a significant difference in faculty motivation in terms of autonomy, self-actualization, institutional support services, and financial rewards toward pursuing external funding between males and females?

RQ2: Is there a significant difference in faculty motivation in terms of autonomy, self-actualization, institutional support services, and financial rewards toward pursuing external funding between tenured and tenure-track faculty?

Faculty Productivity Related to Grant Submissions and Awards

RQ3: Is there a significant difference in the number of external grant submissions within the previous 3 years between males and females?

RQ4: Is there a significant difference in the number of external grants awarded within the previous 3 years received between males and females?

RQ5: Is there a significant difference in the number of external grant submissions within the previous 3 years between tenured and tenure-track faculty?

RQ6: Is there a significant difference in the number of external grants awarded within the previous 3 years between tenured and tenure-track faculty?

Intrinsic Motivation Factors

RQ7: Is autonomy perceived as a significantly positive or negative motivator to pursuing external funding?

RQ8: Is self-actualization perceived as a significantly positive or negative motivator to pursuing external funding?

Extrinsic Motivation Factors

RQ9: Are institutional support services perceived as a significantly positive or negative motivator to pursuing external funding?

RQ10: Are financial rewards perceived as a significantly positively positive or negative motivator to pursuing external funding?

Significance of the Study

As 4-year public institutions of higher education endeavor to increase funded scholarly activity, it is important to determine that characteristics and institutional influences contribute to funded scholarly activity. According to Deloitte (2013) with external funding, publications, and a clear view of future research goals, the number of options for obtaining funding will undoubtedly increase. As such, this study adds to the body of knowledge to aid higher education administrators such as presidents, chief academic officers, and sponsored program officers in implementing focused and specific interventions that could lead to an overall increase in funded scholarly activity while judiciously managing the limited resources often available to public institutions of higher education. Research focused on 4-year public institutions of higher education could potentially provide important information on faculty motivation trends and institutional supports necessary for faculty to succeed in an increasingly competitive funding environment (Hainline, Feather, Gaines, Padilla, & Terry, 2010).

Definition of Terms

To provide clarification and a better understanding of the terms used in this study, the following definitions are presented:

Autonomy- The degree to that an employer allows employees to exercise choice and discretion in
the work environment (Arigil, Genckaya, & Inan, 2008).

Carnegie Tenure Status- A framework developed by the Carnegie Foundation for classifying
colleges and universities in the United States according to institutional size, institutional
characteristics, number of students enrolled, student population, academic programs,
number and type of degrees awarded, and research funding. It provides a bird's eye view
of the higher education system; a means of recognizing, describing, and organizing
institutional diversity; used to determine colleges' eligibility for grant money (Zhao,
2011)

Collegiality - Shared ideas and responsibility among colleagues for the pursuit of common goals
(Freedman, 2009).

External grant submissions- Written documents that an individual or institution prepares and
submits as a means of requesting or applying for money from a funding agency that is
external to the requesting person or institution (Work Group for Community Health and
Development, 2014).

External awards – Funding that a person or institution receives from a funding agency external to
the person or institution (Work Group for Community Health and Development, 2014).

External funding - Specified funds that are restricted to the purposes identified in a formal and
legally-binding, written agreement between an institution and the funder. These funds
are obtained outside the institution from sources such as federal, state, or local
governments; business; private foundations; or individuals. The funds are used to
support programs or projects geared toward research or scholarly activity, instruction,
training, public service, academic support, student services, institutional support,

scholarships and fellowships, and other services (Chval & Nossaman, 2014).

Extrinsic motivation- Behavior that is driven by factors that are outside of a person or external to the person such as rewards of money, fame, recognition, and praise (Cherry, 2015)

Financial rewards - Summer stipends, bonus pay, raises in pay, indirect costs, and supplemental compensation (Backes-Gellner & Schlinghoff, 2008).

*Institutional support serv*ices - Any resources provided to enhance a faculty member's engagement in scholarly activity such as travel resources, laboratory resources, physical space, equipment, clerical staff, release time, mentors, graduate student support, technical support, library services, grant writing support and seminars, tenure and promotion seminars, and other professional workshops (McGill & Settle, 2012; Wimsatt et al., 2009).

Intrinsic motivation- The internal desire to achieve or obtain new knowledge or a challenge that is driven by internal interest or enjoyment (Oudeyer & Kaplan, 2007).

Motivation- The force that drives an individual to accomplish personal and organizational goals conditioned by the ability to satisfy some individual need (Center on Education Policy, 2012)

Productivity – The number of grants submitted and awards received by an individual faculty member within the past 3 years (Jacoba & Lefgren, 2011).

Public institutions of higher education- Universities and community colleges that are governed by states and receive a portion of their funding from public sources (Douglas, 2006).

*Scholarly activit*y- Any creative work that is externally funded, peer reviewed, publicly disseminated and can include discovery of new knowledge; development of new technologies, methods, materials, or uses; and integration of knowledge leading to new

20

understanding (Lechuga, 2012).

Self-actualization - The motivation that a person uses to maximize his or her individual

possibilities and potential (Black, 2015); realizing personal potential, self-fulfillment,

and seeking personal growth (McLeod, 2007).

TBR- The governing body of the State University and Community College System of Tennessee

that establishes, governs, manages, and controls those institutions (Tennessee Board of

Regents, 2015).

Tenure– A contractual arrangement between an institution of higher education and a faculty

member that is received after the faculty member has completed a probationary period of

performance and whereby the faculty member can only be dismissed for adequate cause

or other possible circumstances (American Association of University Professors, 2015).

Tenure-track- An appointment at an institution of higher education for a probationary period that

may not exceed 6 years of time for developing a substantial record in teaching, research,

and service (Tennessee Board of Regents, 2004).

Limitations and Delimitations

The primary delimitation of this study is that the research was conducted at a single
public institution of higher education. Also, this study was delimited to tenured and tenure-track
faculty at a 4-year public institution of higher education in the Southeastern United States. No
attempt was made to examine the external validity of the study for the purpose of determining
the extent to that the findings could be generalized to other institutions of higher education.
Additionally, limits are acknowledged in that the study relied upon self-reported data, and the
use of multiple choice survey items limiting the options of the participants' responses.

Overview of Study

Chapter 1 presents an introduction to the study, the statement of the problem, research questions, definitions of the terms used in this study, and limitations as well as delimitations of the study. Chapter 2 presents an overview of the literature pertaining to the focus of the study including findings from previous studies pertaining to factors that motivate faculty to pursue external funding. Chapter 3 focuses on the methods and procedures used in the study to determine the relationships between characteristics of the individual faculty members, intrinsic and extrinsic motivational factors, productivity related to external funding, and interest in pursuing external funding to support scholarly activity. Chapter 4 presents a discussion of the findings evaluated from the study. Chapter 5 contains a summary of findings of the research questions, conclusions and key findings, implications for practice, and recommendations for further research.

CHAPTER 2

REVIEW OF LITERATURE

According to Mullen, Murthy, and Teague (2008), the amount and level of external

funding received by a college or university can be used as a way to measure and facilitate

faculty productivity. External funding can support costs associated with promoting faculty

research efforts such as graduate students, equipment, lab supplies, release time or travel.

However, as 4-year public institutions of higher education endeavor to increase external

funding, it is vitally important for them to determine that characteristics and motivational

factors of faculty contribute to funded scholarly activity. Likewise, while considering the

financial benefits, it is also important to understand the variables that may impact faculty

productivity as it relates to pursuing external funding such as the findings of Hardré, Beesley,

Miller, and Pace (2011) that revealed research time and effort, rank, institutional support, self-

efficacy, the level of grant writing knowledge, competencies, and motivation as well as other

factors that were directly related to faculty productivity.

This study can be beneficial to higher education administrators such as presidents, chief

academic officers, and sponsored program administrators as they implement focused and

specific interventions that will lead to an overall increase in funded scholarly activity while

judiciously managing the limited resources often available to small to mid-size institutions.

Research focused on 4-year public institutions of higher education will provide important

information on faculty motivation trends and institutional supports necessary for faculty to

succeed in an increasingly competitive funding environment.

The Higher Education Environment

Prior to 1990 an academic career in higher education was considered by many to be a desirable career goal. Having a faculty appointment meant that an individual would have the opportunity to be involved in teaching, advising students, serving on committees, engaging in research and scholarship, participating in professional societies, and collaborating with colleagues. While these opportunities still exist, the role of faculty has transformed into one where individuals are pressured to secure funding to support research, advance their career, and produce scholarly works all while receiving less administrative support, autonomy, and pay (Adebiyi, 2013; Barkhuizen, & Rathmann, 2008; Catano, Francis, Haines, Kipalani, Lozanski, Shannon, & Stringer, 2010; Winefield, Dua, Gillespie, Hapuararchchi, & Stough, 2002). Additionally, faculty experience longer work hours, pressure to conduct research, and difficulty in obtaining a healthy work-life balance that may have an overall impact on productivity, research vitality, and overall well-being within the work environment (Archibong, Bassey, & Efiom, 2010; Gillespie, Stough, Walsh, & Winefeld, 2001). Moreover, faculty who are employed at 4-year public universities experience additonal challenges in working in a hybrid environment that is inclusive of both the academic and business or regulatory arenas (Katsapis, 2012). They endure heavy workloads, long work hours, inadequate pay, lack of resources, lack of career advancement opportunities, and pressue to obtain external funding (Walden & Bryan, 2010). In fact, Katsapis (2012) described these faculty as crucial employees of public universities who were responsible for the administration of grants and contracts and facilitating the institution's research and extramural funding agenda while working under constant deadlines, intense competition, and strict accountability.

24

External Grant Funding

There is much to be known about faculty interest in pursuing external funding. Anderson and Slade (2015) revealed that as a prerequisite to career advancement faculty must engage in research that is primarily funded from external grants. Universities that are focusing more on research are also pressuring faculty to pursue funding to support the research. Furthermore, according to Ali, Bhattacharyya and Olejniczak (2010) not only are these institutions expecting faculty to produce new knowledge through research, they are encouraging faculty to increase research productivity through external funding activities. For these reasons, a clearer understanding of motivation as it relates to faculty pursuing external funding is needed.

Since the early 1990s higher education has become an increasingly more stressful work environment. Trends in student enrollment, decreases in external funding, lack of career advancement opportunities, inadequate salaries, increases in pressure to conduct research, and heavy workloads all contributed to a rise in work stress (Webber, 2011). Consequently, as funding becomes more of an issue within academia, there will most certainly be more concerns of work related stress that could lead to decreases in faculty and staff productivity. Likewise, studies have reported that academic staff perceived their work as becoming increasing stressful primarily due to heavy workloads and pressure to perform (Katsapis, 2012; Shambook, 2007).

Webber (2008) suggested that colleges and universities would shift priorities to show greater emphasis on research productivity for the primary purpose of gaining more prestige and funding. This notion of placing research productivity at the forefront and changing institutional policies to encourage the shift in enhancing faculty productivity has been supported by findings from other studies such as Billot and Codling (2013) that focused on the New Zealand

performance-based research funding model for higher education institutions and unveiled that the changes made to the process for funding of higher education in New Zealand affected the academic research culture due to the majority of funding being based on employee productivity. This change in policy has resulted in universities in New Zealand placing priority on the activities or tasks that increase productivity and generate additional funding. Likewise, Townsend and Rosser (2007) showed that, although , pursuing external funding and enhancing scholarly efforts did not necessarily impact enrollment numbers or course offerings, they did aid in enhancing faculty research productivity. Further studies revealed that "New scientific discoveries and knowledge are critical to the economic and social improvement of our society, and academic research serves as a vehicle for knowledge production, contributes to economic growth, and can guide public policy" (Webber, 2011, p. 40). Sampson, Carroll, Driscoll, and Foulk (2010) suggested that a good indicator of the quality of a faculty members scholarly work was the number and amount of external grants and contracts received by the faculty member. Likewise, internal financial support provided by a university or college can be another indicator of the quality of a faculty member's research. Similarly, Danchisko and Thomas (2012) revealed the level of grant award funding to be the primary measurement of faculty scholarly productivity.

For many higher education institutions the challenges of maintaining and increasing external funding are real and thus reliance on faculty to produce externally funded scholarship has steadily increased (Jacoba & Lefgren, 2011). Through the pursuit of external funding a university or college can expand its impact in the areas of academic, research, and service as well as further support its mission. As institutions endeavor to increase expectations of faculty to engage in externally funded research, they may also need to ensure that those expectations align with their mission. Studies suggested that this kind of pressure negatively affected an

institution as well as the job performance of its faculty and staff as they struggled with changes in job responsibilities, funding challenges, lack of administrative support, and other stressors (Roberts & House, 2006; Shambrook & Cooper, 2007; Shambrook & Roberts, 2010). Therefore, understanding the factors that motivate faculty to actively pursue external funding may provide information that will be useful for leaders of institutions of higher education when considering increasing their external funding base, improving their infrastructure for research support, developing professional development opportunities for faculty, reassessing tenure and promotion policies, assessing faculty career paths, developing mentoring programs for faculty, and restructuring the workloads for faculty (Anderson & Slade, 2015; Hardré et al., 2011; Srivastava & Barmola, 2011).

Tenure. In higher education two of the primary faculty positions are considered tenured and tenure-track. According to the American Association of University Professors (2015) tenure is considered a contractual arrangement between an institution of higher education and a faculty member that is received after the faculty member has completed a probationary period of performance and whereby the faculty member can only be dismissed for adequate cause or other possible circumstances. Many faculty strive to achieve the tenured position because of the prestige and job security it holds. According to Sampson et al. (2010) upon receiving tenure a faculty member could not be terminated without just cause. For many universities, tenure-track positions consisted of a 5 to 6 year probationary period in that a faculty member worked to establish a strong record of scholarship, teaching, and service to support the goal of achieving tenure. According to Sampson et al. (2010) both tenured and tenure-track faculty allocated a certain percentage of their time for teaching, research, advising, and service. The research

component of their job included participating in basic research, publishing articles in professional journals, pursuing external funding, writing books, book chapters, or technical reports, or disseminating the results of their research at conferences. Additionally, faculty may participate in research by managing research centers supported by external funds. As such, he or she primarily focuses on securing external funding to sustain the research and managing the current resources efficiently. For example, Harris and Sullivan (2012) found that in the role of center director, a faculty member spent time primarily in preparing large grant proposals and supervising the execution of funded projects with minimal teaching, advising, and service responsibilities. However, whether tenured or tenure-track the allocation of time depended on institutional and departmental policies as well as expectations. According to Anderson and Slade (2015) in many universities research productivity received higher priority than other items with the institution providing research support in the form of additional personnel, travel funding, equipment, or release time. This emphasis on research was seen in the tenure process and faculty productivity was evaluated accordingly.

The challenge of achieving tenure includes successful participation in research that guides faculty to strategically consider their area of research in terms of institutional resources, funding, and dissemination. Sampson et al. (2010) suggested strategies that are measurable, can impact the tenure process, and lead to highly regarded scholarly work and external funding. These strategies are publications in professional and prestigious journals, collaboration with well-known experts in the field, pursuing and receiving external grants, or presenting at prestigious conferences. Other literature has revealed that strategies or efforts such as participation on professional committees and editing or reviewing articles or books for others did not heavily affect tenure and promotion reviews (Harley & Acord, 2011). Chen, Kuo, and Zanskas (2014) and Street, Braunack-Mayer,

Israel, and Rogers, (2010) proposed that in order for higher education faculty to advance in their field, they had to engage in externally funded research because their productivity would have an impact on tenure and promotion and recognition among their peers. Therefore, the time and effort allocated for research that could lead to tenure and promotion, additional funding, as well as enhanced reputation for the faculty and institution would very well be important, especially if it supported the mission and increased scholarship.

Research. Traditionally, the primary responsibilities of university faculty were teaching and service (Marsh & Hattie, 2002). However, many colleges and universities are increasingly working to develop a research culture on their campuses to support the scholarly endeavors of faculty. According to Walden and Bryan (2010) producing scholarly work could be viewed as engaging in research, writing articles for publication, and sharing research findings with students. Similarly, Hemmings and Kay (2010) stated that scholarly works also included the pursuit of extramural funding to support research in academia. Gitlin and Lyons (2004) warned that institutions of higher education were encouraging faculty to engage in grant writing because extramural funding could not only enhance faculty scholarly work and career but bring prestige to the institution.

According to Sampson et al. (2010) "quality research involves making a substantive contribution to one or more fields of study" (p.1). Often times in academia the quality of scholarly work is determined by a faculty members peers that are internal and external to the institution. Danchisko and Thomas (2012) suggested that if colleges and universities sought to focus more on research by providing supportive services and programs that were research oriented and consistent with the university's mission or research agenda, they could better support

29

faculty in improving research productivity and bringing further recognition and funding to the institution. Similarly, Hanover Research (2014) suggested that more productive faculty who had experience in conducting externally funded research to support scholarly work often tended to be more collegial and require less institutional support. As the scholarly productivity increased, the opportunity for greater visibility for the faculty member among their peers as well as in professional journals and associations increased. However, due to the funding challenges and limited resources available to support research, the scholarly work of faculty employed at public universities was often not as visible or highly recognized especially among state officials and citizens who fund higher education (Danchisko & Thomas, 2012). Likewise, further challenges exist for public institutions of higher education in maintaining and sustaining funding, status as a prestigious institution and research oriented faculty who produce high quality scholarly work and bring in external funding. Livingston (2011) produced findings that suggested evidence of productivity correlated to the ability of faculty to conduct high quality research that could be published in referred journals or disseminated at conferences or professional meetings. Additionally, Danchisko and Thomas (2012) found that the primary measures of successful research productivity were the amount of scholarly work and funding produced by faculty.

Productivity. In higher education faculty productivity could mean many things. Lertputtarak (2008) suggested that "it enables faculty members to share insights, demonstrate academic scholarship, gain recognition for creative thinking, and finally to develop a reputation for expertise in a specialty area" (p.20). Broadening the definition, Sampson et al. (2010) referred to research productivity as refereed articles in professional journals, book publications, conducting research, mentoring graduate students, obtaining external funding, editing or

consulting on research articles or publications, developing inventions, and other scholarly work. However, for the purpose of this study research productivity refers to Jacoba and Lefgren's (2011) definition that related to the number of research oriented external grants submitted and awards received by an individual faculty member.

Productivity and Motivation. As it relates to productivity motivation could refer to everything that an institution knows or can use to influence the direction and rate of individual's behavior towards commitment to a task or a goal. In reviewing the literature productivity was often linked to financial rewards. In fact, studies showed that financial incentives were often used in private institutions to encourage competition among employees, but such rewards were not applicable to the public institutions because resources were often limited, and money was not used as the primary source of motivation (Clark, 2003). Kuvaas and Dysvik (2009) revealed key findings that suggested base pay and not bonus pay was positively related to self-reported work performance and job commitment, and that these relationships were partly supported by intrinsic motivation. Ellerslie and Oppenheim (2008) examined the effect of motivation on publication productivity of faculty at a university in the United Kingdom and found significant differences in motivational levels and publication counts of faculty by age, gender, responsibilities, and time spent on research. Dysvik and Bard (2008) found intrinsic motivation to be the most influential factor in determining the relationship between perceived training opportunities, work motivation, and employee productivity. Ramdhani (2008) revealed a positive correlation between motivation and productivity in a study of motivation and perceived productivity at a merged higher education institution. Likewise, Lertputtarak (2008) found that faculty productivity was linked to the faculty's willingness to succeed and his or her ability to conduct research as well as the

31

institutional services provided to support research. Hemmings and Kay (2010) supported these findings in showing that high self-actualization was positively correlated with high levels of productivity. Further research suggested that individuals were motivated to perform well when the work was meaningful and individuals believed they had responsibility for the outcomes of their assigned tasks (Dever & Morrison, 2009). A study conducted by Catano et al. (2010) on stress perception of academic faculty and staff in a Canadian Universities yielded results that indicated staff between the ages of 39 and 59 perceived the highest levels of stress and highest levels of job dissatisfaction. Similarly, other studies related to productivity in academia supported those claims (Roberts & House, 2006; Shambrook & Cooper, 2007; Shambook & Roberts, 2010). Srivastava and Barmola (2011) and Sun et al. (2011) reported that productivity amongst older workers decreased considerably as age increased. Thus, it is important to realize that the research identified age as a factor in productivity.

According to Clark (2003), motivation initiates the cognitive ability that pushes an individual to use knowledge, experience, expertise, and skills and without it productivity is lessened. Also, motivation supports an individual's decisions to be persistent in achieving a goal even if challenges exist. As such, the level of mental effort exerted on a task can determine the quality and quantity of work performance or level of productivity. Additionally, Clark (2003) suggested that "successful performance always involves the cooperation of motivation and knowledge in supportive work environments" (p. 2). Due to increasing need to enhance scholarly productivity among faculty that leads to additional external funding, more institutions of higher education are changing their cultures, operations, policies, and processes inclusive of consideration for personal and professional characteristic factors such as age, gender, work schedules, experience, and positions (Chval & Nossaman, 2014). For instance, research on

32

occupational productivity in higher education institutions in the UK, Canada, Australia, and Africa supported the idea of prioritizing research agendas in consideration of personal and professional characteristic factors playing a role in the level of productivity experienced by employees. Although in general these studies implied that characteristic factors influenced productivity the results indicated the primary factors of age, gender, position, and years of work experience as the most prevalent indicators (Archibong et al, 2010.; Tytherleigh et al., 2005; Winefield et al., 2002).

Individual Characteristics and Motivation

Further studies have shown that factors such as age, gender, marital status, education, and work experience may influence productivity among employees in academia (Frey, 2007; Kataoka, King, Ozawa, Tanioka, Tomotake, 2014; Sun et al., 2011). The results from those studies indicated that the psychological well-being, physical well-being, job performance, and productivity of faculty and staff were impacted by the characteristic factors. In relation to the literature review on faculty research productivity in institutions of higher education, the general consensus showed a positive trend toward characteristic factors playing a role in productivity.

For the purpose of this study, gender was identified as male and female. Additionally, in reference to rank or tenure status, faculty was identified as either tenured or tenure-track and only full-time faculty was considered.

Job Rank or Experience and Motivation

Another characteristic factor that has been found throughout the literature to influence motivation is an individual's years of experience on the job. For example, having little experience

in completing job assignments could negatively influence motivation. Likewise, having ample experience in working a particular job could positively influence motivation. In fact, research conducted by Mahmood, Zahoor, and Zamir (2013) supported the theory that fewer years of experience related to lower levels of motivation. The findings from their research indicated that individuals with 0-5 years of work experience in a particular job experienced significantly less motivation and job satisfaction than their counterparts and individuals with 11-15 years of work experience reported higher levels of motivation. Additional review of the literature revealed other relevant research that indicated years of experience is related to motivation such as the research of Darmody and Smyth (2010) that showed recently hired primary school teachers with 0-5 years of experience reported greater levels of job satisfaction and less occupational stress. Rahmani, Ahmadnezhad, Gharagozlou, Karchani, Khodaei, Mahmodkhani, Moslemi, and Vatani (2013) indicated workers with 0-10 years of employment reported medium levels of job satisfaction that decreased after 10 years. These findings could infer that as academic staff are newer to the university setting they may experience greater motivation to become familiar with the instituional policies and structure, job expectations, career advancement and balancing there time or that the more season faculty have established careers that enable them to be less motivated to achieve more. As a matter of fact, Shambrook and Cooper (2007) research indicated that employees in academia overwhelming perceived their work to be demanding as it relates to productivity and over 45% of the research administrators reported having less than 10 years of experience. Therefore, in view of the evidence provided in the literature, it may well be the case that less experienced workers are more motivated to achieve success.

Danchisko and Thomas (2012) professed that faculty members are central to the functioning of higher education institutions due to their scholarly contributions. For nearly 50 years, researchers have attempted to find ways to understand the factors that motivate faculty to work and ways to help them remain productive and contributing members of the academic community (Chen, Gupta, & Hoshwer, 2006; Cherwin, 2013; DesRoches, Campbell, Iezzoni, Sowmya, & Zinner, 2010). Additionally, throughout the literature various descriptions of motivation related to the productivity of faculty indicated some confusion as to a distinct definition of motivation. For example, Grant and Shin (2011) described motivation as the psychological processes that guides, energizes, and influences action toward a task, role, job, or a goal. Pearson (2011) suggested that motivation relates to behavior that is characterized by a willingness and volition to produce and involves a combination of closely related beliefs, perceptions, values, interests, and actions. Other research (e.g. Ryan, Deci, Lynch, & Vansteenkriste, 2011) revealed that motivation could be manipulated through certain practices or actions other findings have shown this to produce both positive and negative effects. Similarly, Egberi (2015) concluded that people who feel motivated to act are likely to be persistent, creative, and productive and willing to produce high quality work. The general theme that appeared throughout the literature suggested that an individual's motivation could be related to age. Although, the development of motivation often starts in childhood and can change throughout life, it is likely to remain stagnant if not addressed before the time an individual becomes an adult. According to Middlebrooks and Audage (2008) subjection to experiences that do not foster or enhance motivation may have implications for impacting long-term well-being, quality of life, and job performance in early adulthood. Similarly, the National Scientific Council on the

35

Developing Child suggested that the long term impacts of decreased motivation could affect the health of our nation by "reducing the productivity of the workforce" (Center on the Developing Child at Harvard University, 2010, p. 2). In particular, young adults between the ages of 21-30 may experience a need to establish a career, develop financial stability, or balance work and family demands indicating the motivation may be influenced more by intrinsic factors. However, according to Authayarat and Umemuro (2012) older adults over the age of 60 may experience a need to maintain their health, prepare for retirement, and maintain job security and financial stability, that could reflect that motivation is influenced by extrinsic factors.

As seen throughout the literature motivation has been referred to or discussed in many forms even as stimuli that triggers or spurs action. However, for the purposes of this study motivation is operationally defined as the force that drives an individual to accomplish personal and organizational goals (Cherwin, 2013). As such, in considering external funding as it relates to higher education public institutions, this study investigates the motivation of faculty to pursue external funding at a 4-year public institution of higher education.

In reviewing the literature it is apparent that different sources of motivation exist that can produce both positive and negative results. However, two of the primary sources of motivation setting the frame for this study are intrinsic and extrinsic motivation. Both have been known to influence goal achievement and productivity of faculty in higher education institutions.

Gender and Motivation

In reviewing the literature related to gender and motivation the consensus appeared to be that females reported greater levels of job dissatisfaction than males. The perception could have

stemmed from the increase of more females entering the workforce in fields that were

traditionally considered male dominated occupations. Dating as far back as the 1940s the number

of women entering the workforce has consistently risen possibly due to such occurrences as the

feminist movement, economic necessity, equal rights movement, increase in service occupations,

and increase in educational opportunities (Koenigsknecht, 2013). However, the research

confirmed this change has not occurred without difficulty. As the primary caregivers of family

members along with playing other domestic roles, women are finding it difficult to obtain a

healthy work-life balance. For example, several studies of work related productivity in academia

in Africa, the Middle East, and United Kingdom supportted the perception of women reporting

issues with work-life balance, lower rates of job satisfaction, and lower rates of satisfaction/trust

in organizational administration (Adebiyi, 2013; Kinman & Wray, 2013; Safari, Othman, &

Wahab, 2012; Slišković & Seršić, 2011). Simiarly, a 2007 Canadian health study (Park, 2007)

that focused on examining motivation among Canadian workers reported findings that indicated

when all other characteristic factors were controlled, women workers were 1.2 times more likely

than men to experience higher levels of dissatisfaction. Also, further research by Roberts and

House (2006) and Shambrook and Cooper (2007) reported that research administrators in higher

education perceived their work to be less satisfying and over 80% of people employed in the

profession of research administration were women. However, in contrast, a study conducted by

Sun et al. (2011) that focused on academic employees in universities in China reported findings

that were not consistent with similar studies done in Africa, Middle Eastern Countries, United

States, Canada, and the U.K. Sun et al, reported that women academic staff had higher levels of

motivation than men. Similarly, Chen and Zhao (2013) found that tenured female faculty

reported higher motivation, especially intrinsic motivation than male faculty. Additionally,

Wimsatt et al. (2009) suggested that in regards to motivation women experienced a greater need for support services (extrinsic motivators) related to administration of research than men. Furthermore, previous research has shown that other extrinsic motivational factors such as work schedules, pay, and appreciation is perceived as significant factors influencing motivation in men along with job security and institutional support as motivators for women (DesRoches et al., 2010). Thus, it seems to be more accurate that gender does play a role in determining motivation.

Intrinsic Motivation

Motivation is what drives an individual to take action (Symbiont Performance Group, Inc., 2014). It is one's inspiration for doing something. Intrinsic motivation reflects an individual's desire to accomplish something because it is enjoyable (Grant & Shin, 2011). This inner desire is not fueled by external rewards but rather by internal needs. According to the Center on Education Policy (2012) if an individual is intrinsically motivated, he or she will experience less worry or anxiety about receiving external rewards such as praise or incentives because the individual will receive internal enjoyment in performing activities that is experienced not only in the present but also in the future. Examples of intrinsic motivation are self-determination, enjoyment, excitement, spontaneous experiences, autonomy, and self-esteem. Throughout the literature intrinsic motivations for research were often referred to as consumption (Chen et al., 2006). According to Cherwin (2013) colleges and universities that have more intrinsically motivated employees generally experience less turnover and a higher degree of job satisfaction among employees. Although, there are various factors that may influence an individual's motivation, studies showed that two of the most prevalent intrinsic

factors are autonomy and self-actualization (Hemmings, Rushbrook, & Smith, 2007; Ryan et al., 2011).

Autonomy. Pintrich (2003) and Choi (2013) suggested that one way of increasing intrinsic motivation was by allowing individuals to have greater autonomy within the workplace or by encouraging creativity. Likewise, Bell (2007) stated **"**Greater autonomy may allow us to get tasks done in a manner that is more consistent with our values" (p.57). Having greater freedom to make decisions on how to accomplish a task may be important for developing a sense of purpose. According to Geller and Eodice (2013) obtaining support with grant writing and development may help to increase faculty sense of autonomy. The faculty may feel intrinsically motivated to write grants because it is an important part of their academic identity and they may receive enjoyment in advancing their scholarship. If a person feels that his or her job is more meaningful, he or she may be more motivated. While greater autonomy at work may involve being able to determine work schedules, it could also potentially improve work-life balance or lessen the chance for conflicts between one's personal life and work. Jang, Park, and Zippay (2011) found that scheduling control was positively associated with job satisfaction. Likewise, Nauert (2011) suggested that although autonomy may have different meanings, it generally leads to improved productivity, commitment and job performance. In 2012 Authayarat and Umemuro conducted a study focusing on the relationship of workplace environments to employee well-being, and the findings revealed autonomy to be a primary factor in decreasing conflict within the work environment and increasing employees motivation and willingness to accomplish job related tasks.   Additional results of the study suggested that employees felt more at ease and energized to work at their own pace and in their own way. As

such, in considering research productivity among faculty, there are various reasons that support the need for autonomy within higher education institutions. For example, Leisyte and Dee (2012) stated that "the priorities of external funding agencies influence the types of research performed in the U.S. and Europe, leading faculty to use diverse strategies to preserve their autonomy and address externally-defined research agendas" (p. 1) .

  Self-Actualization. Another intrinsic motivation variable that is important for understanding achievement is self-actualization, or the belief that one is capable of successfully performing a particular task. Individuals with a greater level of self-actualization are more motivated to achieve to the extent that they feel they are in control of their own successes and failures (Eccles & Wigfield, 2002). Research has demonstrated that individuals who are more self-actualized are much more likely to seek challenges, persist in the face of those challenges, and adopt effective strategies to mediate those challenges when compared to others who are less self-actualized (Choi, 2013; Eccles & Wigfield, 2002). Cherian and Jacob (2013) further supported those findings in explaining that self-actualization proved to be a successful measure of productivity when compared to other motivational factors especially in psychology and education. Chen et al. (2006) found that researchers that were intrinsically motivated displayed greater psychological satisfaction and self-actualization from solving research problems and making contributions to their discipline. Similarly, according to Levin and Stephan (1991) and Levitan and Ray (1992) conducting research and solving problems were more of a personal mission, and viewed as self-rewarding. Additional research indicated a positive correlation between job commitment and motivation (DeDonno & Demaree, 2008). For example, Cherian and Jacob (2013) maintained that "any individual who has the ability to show commitment to

40

his career always is found to make an attempt to improve his skills and motivate himself to perform well" (p. 81). As such, an individual should be more apt to make efforts to develop needed skills in support of advancing his or her career. However, Hemmings and Kay (2010) further extrapolated this notion in revealing that tenure-track or pretenured faculty experienced lower levels of self-actualization primarily due to heavy teaching loads, lack of institutional resources and collegial support, pressure to perform, job security, and role overload. In consideration of the findings unveiled in the literature review, it is proven that self-actualization is an important intrinsic motivator that influences behavior change.

Extrinsic Motivation

Extrinsic motivation refers to performing an action or behavior in order to receive an external reward or outcome (Cherry, 2015). When an individual is extrinsically motivated to do something, he or she isn't concerned with whether or not the action is enjoyable but rather the individual is more focused on the outcomes associated with the action. According to Lai (2011) extrinsic motivation is guided by reinforcement contingencies. Throughout the literature extrinsic motivations for research productivity were also referred to as investment motivators that were externally driven by such things as promotion, salary increases, bonuses, and tenure (Chen et al., 2006; Tien, 2000). Faculty motivated by these external factors was doing research that was more instrumental in nature, whereby the focus of the research was more likely to be known in advance. Other variables of extrinsic motivation were financial rewards, incentives, promotions, professional reputation, institutional support services, and collegiality.

Financial Rewards. According to Lee, El-Ibiary, and Hudmon (2010), "an individual's ability to be successful can be affected by his or her institution's financial resources" (p. 123). For example, professional or career achievement in academia can be affected dramatically by whether faculty receive seed money for research as part of their hiring package, by whether departmental and institutional resources are focused on promoting research, or by whether the institution has funding. Colleges and universities can provide incentives for faculty in the form of appointments, promotions, tenure, and bonuses or raises. In a research study conducted on a Taiwan university's tenure and promotion system, Tien (2007) findings revealed a significant positive correlation between scholarly publications and faculty promotion. The more productive faculty received promotions at a greater rate than the less productive ones regardless of their academic ranks indicating a strong relationship between research productivity and promotion and tenure. Chen et al. (2006) suggested that tenure-track faculty were motivated by extrinsic rewards and tenured faculty by intrinsic rewards. Additionally, further research by Tien (2008) and Chen et al. (2014) also supported these findings.   Monroe and Kumar (2011) presented similar findings that showed faculty perceived early promotion and financial support for research as the primary incentives for pursuing external funding. Abraham, Cunningham, Decatur, Dehn, and Osborn (2010) suggested that in an effort to encourage grant-writing among faculty, colleges, and universities should develop supportive institutional policies relating to financial incentives such as allowing the use of indirect-cost or unrestricted funds to support research.

Institutional Support Services. According to Abraham et al. (2010), "administrators also need to be vigilant in their efforts to provide faculty members with key resources for grant-

writing" (p. 76). Additionally, studies have shown that institutional and departmental research environments can provide supportive services such as time for faculty to conduct research, personnel to assist in the development and management of the external funding process, opportunities for collaboration and professional development, establishing a research supportive culture, and incentives for research that could enhance research productivity (Abraham et al., 2010; Hemmings et al., 2007; Milem, Berger, & Dey, 2000). The time faculty have allocated to conduct research is often competing with other requirements such as teaching, advising students, and participating in civic engagement activities. Therefore, providing adequate time for research have become a necessity for increasing scholarly productivity (Hemmings et al., 2007). Mullen et al. (2008) found that faculty reported a lack of support in scheduling of teaching responsibilities to allow time for research. Faculty was concerned that the heavy teaching load would interfere with their desire to conduct research. Other studies focusing on research productivity revealed the demands on faculty time for research as one of the most frequently reported factors that negatively impact their research engagement and scholarly works (Borg, 2007; Hemmings et al., 2007). Levitan and Ray (1992) found that productive researchers spent more of their time on research than their less productive peers.

The literature review also unveiled the need for professional development related grant writing and development for faculty to support their efforts in pursuing external funding. Smeltzer, Cantrell, Heverly, Jenkinson, Nthenge, Sharts-Hopko, and Wise (2014) advised that "In order to be retained by their institution, faculty may be expected to quickly institute a program of research that may require acquiring external funding as well as the generation of a stream of peer-reviewed publications" (p. 269). However, the challenge remains for faculty to have grant writing skills necessary to produce successful proposals and obtain needed funding. Walden and

Bryan (2010) suggested that effective grant writing is not a skill that is innately possessed by all faculty and can be intimidating especially to new faculty members. Similarly, studies have shown that mentoring faculty in the area of grantsmanship increases the research productivity and self-confidence needed for them to be successful in writing grant (Burkhardt et al., 2011; Lee et al., 2010; Reid et al., 2012). Schor, Guillet, and McAnarnery (2011) revealed that without professional development training in grantsmanship, faculty experienced difficulty in obtaining external funding. Additionally, Feldman et al. (2012) revealed that 47% of faculty reported administrative burdens as a barrier to pursuing external funding.

According to Decker, Konstan, Trice, and Wimsatt (2007) faculty spend a significant amount of time managing administrative burdens related to grants with less time dedicated to research. Faculty reported experiencing burdens in having to manage reporting requirements, inventory and paperwork related to purchasing products, hiring and supervising staff, and complying with rules and regulations. Decker et al. (2007) found that 95% of the faculty reported a need for institutional assistance in managing these tasks so they could devote more time to their research. Additionally, Feldman et al. (2012) revealed that 87% of faculty preferred grant writing assistance as a resource.

The literature revealed further research that indicated positive interaction and collaboration with peers internal and external to the institution enhances faculty satisfaction and productivity (Huit, Callister, & Sullivan, 2005; Wimsatt et al., 2009). Huston, Ambrose, and Norman (2007) and Bland et al. (2004) substantially indicated that collegiality and a sense of community are primary sources of satisfaction in academic life. Salaran (2010) and Chen et al. (2014) found that as faculty collaborated with other productive researchers in their profession their chances to build collegial relationships with top researchers increased and so

did their opportunities to produce scholarly works. Bland et al. (2004) found that collaboration

with colleagues external to the institution was significantly correlated with faculty level of

research productivity while collaboration with colleagues internal to the institution negatively

impacted productivity. Additionally, Bland et al. (2004) revealed that external research

collaboration provided a measure for faculty to compare themselves to other productive experts

in the field. Webber (2011) proved that although personal characteristics of faculty did

influence research productivity, collaboration with other faculty in the same discipline, other

disciplines, or even other institutions also greatly influenced productivity. This type of collegial

networking among faculty members is highly important not only to the faculty members' career

but also in helping to build consensus and increasing research productivity. As such, the

research shows that providing opportunities for faculty to collaborate fosters productivity.

Further review of the literature unveiled findings from studies that showed fostering a

supportive research culture was perceived as critical to faculty research productivity (Hemmings

et al., 2007; Hiep, 2006). According to Webber (2011) as universities allocated more funding

towards research the productivity of its faculty significantly increased in particular disciplines

such as life sciences where successful research required special equipment, lab space, and

additional personnel to support and manage activities funded by external grants. Moreover, Nivet

(2009) purports that minority faculty often report feeling excluded from networking opportunities

with peers internal and external to the institution resulting in perceptions of isolation and less

opportunities for scholarly productivity. Additional studies have noted that providing supportive

services and programs such as mentorships has had a positive impact on the career choice,

research productivity and grant funding success of minority faculty (Bai et al., 2012). Thus, an

extensive review of the literature supports the notion that there likely are multiple reasons for these disparities.

Chapter Summary

In conclusion, much of the literature has identified certain characteristic factors (age, gender, race, work experience, and position or title), intrinsic motivation factors (autonomy, self-actualization), and extrinsic motivation factors (financial rewards and institutional support services) as having a definite influence on motivation. However, the vast majority of the research was done in occupational environments other than 4-year public institutions of higher education. With this in mind, the extent to that relevant research was found in the literature on faculty motivation in academic environments appears to have been done primarily in research intensive private or public universities. Therefore, it seems plausible that a gap exists in the literature indicating a significant need for further research on understanding the factors that motivate faculty to pursue external funding in 4-year public institutions of higher education.

CHAPTER 3

RESEARCH METHODOLOGY

The purpose of this quantitative nonexperimental study was to indicate a better understanding of factors that motivate faculty to pursue external funding at a 4-year public institution of higher education. The study is focused on examining the relationship between characteristics of individual faculty members, productivity related to external funding, and perception of intrinsic and extrinsic motivational factors related to pursuing external funding. The potential benefits of this study include extending the knowledge base of faculty motivational trends and institutional support services related to external funding to higher education administrators. These administrators may include presidents, chief academic officers, and sponsored program officers that endeavor to implement focused and specific interventions that will lead to an overall increase in funded scholarly activity while judiciously managing the limited resources often available to nonresearch public institutions of higher education.

There were multiple independent variables investigated in this study. The primary variables were faculty individual characteristics and productivity related to external grants submitted and received. Additional variables were autonomy in setting schedules, conducting research, or allocating time; faculty self-actualization in achieving career goals; institutional support services for faculty professional development, grant development, and grant management; and financial rewards in the form of additional pay, indirect costs, money for equipment or travel or materials and supplies, or student or staff support.

A nonexperimental quantitative research design was chosen for the primary purpose of explaining relationships between the variables. Also quantitative research can generate knowledge that allows the researcher to focus on measuring and describing phenomenon while maximizing objectivity. Additionally, this design included nonexperimental research that further examined the relationship between different phenomena without any direct manipulation of conditions that are experienced or identifying cause and effects (McMillian & Schumacher, 2010). There was no random assignment of participants and no control groups. In summary, participants' motivation based on their responses to the survey was assessed.

Research Hypotheses and Null Hypotheses

The following research hypotheses and corresponding null hypotheses were used in this study:

H_a 1. There is a significant difference in faculty motivation in terms of self-actualization, autonomy, support services, and financial rewards toward pursuing external funding between males and females as measured by the Motivating Factors to Pursuing External Funding Faculty Survey.

Ho1. There is no significant difference in faculty motivation in terms of self-actualization, autonomy, support services, and financial rewards toward pursuing external funding between males and females as measured by the Motivating Factors to Pursuing External Funding Faculty Survey.

H_a 2. There is a significant difference in faculty motivation in terms of autonomy, self-actualization, institutional support services, and financial rewards toward pursuing external funding between tenured and tenure-track faculty as measured by the Motivating Factors to

Pursuing External Funding Faculty Survey.

Ho2. There is no significant difference in faculty motivation in terms of autonomy, self-actualization, institutional support services, and financial rewards toward pursuing external funding between tenured and tenure-track faculty as measured by the Motivating Factors to Pursuing External Funding Faculty Survey.

H_a 3. There is a significant difference in the number of external grant submissions within the previous 3 years between males and females.

Ho3. There is no significant difference in the number of external grants submissions within the previous 3 years between males and females.

H_a 4. There is a significant difference in the number of external grants awarded within the previous 3 years between males and females.

Ho4. There is no significant difference in the number of external grants awarded within the previous 3 years between males and females.

H_a 5. There is a significant difference in the number of external grant submissions within the previous 3 years between tenured and tenure-track faculty.

Ho5. There is no significant difference in the number of external grant submissions within the previous 3 years between tenured and tenure-track faculty.

H_a 6. There is a significant difference in the number of external grants awarded within the previous 3 years between tenured and tenure-track faculty.

Ho6. There is no significant difference in the number of external grants awarded within the previous 3 years between tenured and tenure-track faculty.

H_a 7. Autonomy is perceived as a significantly positive or negative motivator to pursuing

external funding.

Ho7. Autonomy is not perceived as a significantly positive or negative motivator to pursuing external funding.

H_a 8. Self-actualization is perceived as a significantly positive or negative motivator to pursuing external funding.

Ho8. Self-actualization is not perceived as a significantly positive or negative motivator to pursuing external funding.

H_a 9. Institutional support services are perceived as a significantly positive or negative motivator to pursuing external funding.

Ho9. Institutional support services are not perceived as a significantly positive or negative motivator to pursuing external funding.

H_a 10. Financial rewards are perceived as a significantly positive or negative motivator to pursuing external funding.

Ho10. Financial rewards are not perceived as a significantly positive or negative motivator to pursuing external funding.

Instrumentation

According to McMillan and Schumacher (2010) surveys are appropriate to use in research relevant to understanding attitudes, beliefs, values, characteristics, opinions, ideas, and desires of individuals or groups. Likewise, Schutt (2011) suggested using surveys in research for probability sampling from a large population and when the goal is to generalize the results to the population. Therefore, the web-based anonymous Motivating Factors to Pursuing External Funding Faculty Survey was used to collect the quantitative data to measure faculty attitude toward pursuing

external funding. The Motivating Factors to Pursuing External Funding Faculty Survey was produced on-line via Survey Monkey and a pilot-test was completed by a small group of staff at the participating institution to enhance reliability and validity. Specific items in the survey appropriately reflected individual characteristics, intrinsic motivation, extrinsic motivation, and productivity related to external grant submissions and awards of faculty required for analysis in the study.

The survey instrument consisted of 20 items. Items 1-2 contained information related to characteristics of participants; 3-4, productivity related to grant submissions and awards, 5-12, intrinsic motivation; and 13-20, extrinsic motivation. The first 2 items on the survey were used to collect characteristic data about the subjects. Items 3-4 of the survey focused on the productivity of faculty as it related to external grant submissions and awards received within the previous 3 years. Additionally, a Likert scale was used for items 5-20. According to McCleod (2015) the purpose of using a Likert Scale format is to gather data in order to measure attitudes. The scale allowed participants to indicate the level of importance of the variables and the answers were coded as not important (1), somewhat important (2), important (3) and extremely important (4). The items were designed to measure faculty motivation toward pursuing external funding. To minimize bias in the design of the survey instrument careful attention was given to the wording, structure, and style of the survey questions. To enhance reliability and validity the survey was guided by the professional literature. Also, comments and suggestions from the pilot survey were taken into account and the final survey was revised accordingly. A copy of the survey instrument is available in Appendix D.

Population and Sample

This study is focused on a 4-year public institution of higher education in the Southeastern United States. It is a comprehensive regional university offering academic programs at the bachelor, master, and doctoral levels. The programs are divided among 5 academic colleges: Basic and Applied Sciences, Business, Education, Behavioral and Health Sciences, Liberal Arts, Mass Communication, Graduate Studies, and Honors College. Additionally, 36 academic departments offer undergraduate degrees in 63 areas of study, master's degrees in 32 areas, and doctoral degrees in 6 fields. According to the Institution's Factbook (2015), as of fall 2015, there were 20,140 undergraduate and 2,371 graduate students enrolled.

The institution is a public institution of higher education that has a long history of obtaining and administering external funding from state, federal, and private agencies. According to the Office of Research Services Report for 2014 in fiscal year 2014 the institution received $12,769,979 in external funding with 48% for public service projects, 26% for instruction, .07% for scholarships, and 26% for research. As funding decreased for fiscal year 2015, the total amount of external funding received was $8,519,364 with 48% for public service projects, 26% for instruction, .07% for scholarships, and 26% for research. Similarly, a total of 193 proposals were submitted by faculty to external agencies requesting funding in fiscal year 2014 as compared to 157 in fiscal year 2015 (Office of Research Services, 2015).

The institution's Office of Institutional Effective, Planning and Research (2015) reported that the institution has 752 full-time tenured (592) and tenure-track (160) faculty of that 431 were male and 321 were female. The racial composition of the full-time faculty was 8% Asian, 6% Black, 79% White, 2% Hispanic, and 5% other. As of Fall 2015, 33 of the faculty were younger than age 35, 150 were between the ages of 35-44, 199 were between the ages of 45-54, 259

between the ages of 55-64, and 111 were 65 or older. Additionally, the institution is made of 5 different academic colleges. The population was the institution's 752 full-time tenured and tenure–track faculty of that 167 self-selected to participate in study.

Data Collection

Approval to conduct this study was obtained from the Provost and Institutional Review Board of the participating 4-year public institution of higher education, and the Institutional Review Board of East Tennessee State University (ETSU). A copy of the IRB approval letter from the participating institution was shared with ETSU and a copy of the IRB approval letter from ETSU was shared with the participating institution. To minimize bias in data collection, a self-selected sample was used that aligned well with the survey goals and all potential respondents were given a chance to participate in the survey. Anonymous survey data were collected using the Motivating Factors to Pursuing External Funding Faculty Survey developed on-line that allowed for a customized web-link to be sent to participants. An email was sent to all participants explaining the purpose of the study and providing a hyperlink to the internet address where the survey was located. Two weeks later, a follow-up email was sent encouraging all potential participants who had not participated in the survey to please respond. No incentives were provided to participants and consent was implied when they clicked on the survey link. The information provided by participants was kept confidential. The researcher did not obtain or use participants' individual information for any purposes outside of this research project. Also, the researcher did not obtain or include the names or other identifying information about participants.

Data Analysis

A quantitative nonexperimental design was used in this study to allow for objectivity in in the collection and analysis of the numerical data. Data analysis was conducted using IMB- SPSS Version 21. Descriptive statistics were generated on the sample and inferential statistics including independent samples *t*-tests and single sample *t*-tests were used to identify statistically significant differences in means. Specifically, independent samples *t*-tests were used to address Research Questions 1 and 2 that compare faculty motivation toward pursuing external funding by gender and tenure status. Single sample *t*-tests were used to address Research Questions 7, 8, 9, and 10 to compare calculated means. Statistical significance was determined by comparing the calculated means to a test value of 2.5 that represented neutrality on a 4 point scale. Chi-square tests were used to address Research Questions 3 and 4 to analyze the mean differences in the number of external grants submitted and awarded within the previous 3 years between male and female faculty. Chi-square tests were also used to address Research Questions 5 and 6 to analyze the mean differences in the number of external grants submitted and awarded within the previous 3 years between tenured and tenure-track faculty. All data were analyzed at the .05 level of significance.

Chapter Summary

Chapter 3 presented a detailed description of the methodology used in this study as well as the research design, instrumentation, selection of sample, and the data collection and analysis procedures. The researcher's intent in chapter 3 was to provide data for examining the factors that motivate faculty to pursue external funding. The data obtained provided the researcher with insights into addressing the research questions. Chapter 4 provides a description of the results of

this study. Chapter 5 provides a summary of key findings, conclusions, and recommendations for

further research.

CHAPTER 4

FINDINGS

The purpose of this study was to identify factors that motivate faculty to pursue external funding. The researcher also sought to identify differences in motivational factors for male and female faculty and tenured and tenure-track faculty.

The study population included 752 full-time tenured and tenure-track faculty at a 4-year public institution of higher education in the Southeastern United States. The study included an on-line survey for that an invitation and link to participate was emailed to the faculty through the faculty listserv of the provost office at the participating institution. Of those 752 faculty who were sent an invitation to participate in the study, 171 self-selected to participate in the study. Four of the surveys were incomplete and, thus, were eliminated from the data. Therefore, 167 of the surveys were deemed complete and used in the analyses of the data. This yielded a response rate of 22.20%.

Survey items 1 and 2 gathered individual characteristics about the respondents. Of the 167 faculty who responded to the survey, 84 were male and 83 female. Regarding faculty Tenure Status, 45 of the respondents were tenure-track and 122 were tenured.

Survey items 3 and 4 gathered information relating to the number of grants submitted and awards received, respectively, within the previous 3 years. The choices included 3 options (1- None, 2-Fewer than 3, 3-3 or more). Of the 167 faculty who responded, 32% reported submitting none, 35% fewer than 3, and 33% reported 3 or more. Likewise, 52 % of the respondents reported receiving no awards, 37% fewer than 3, and 11% reported receiving 3 or more.

Independent variables included gender and tenure status. The researcher investigated the

relationships between these independent variables and the dependent variable.   Chapter 4

provides a statistical analysis of the research questions and associated hypothesis as well as a

summary of the findings. Significance in this study was determined at an alpha level of .05.

This chapter addresses the major findings of the study.

<div align="center">**Analysis of Research Questions**</div>

This study was guided by 10 research questions. The research questions, null

hypotheses, and results from each are listed below.

Research Question #1

Is there a significant difference in faculty motivation in terms of self-actualization, autonomy,

support services, and financial rewards toward pursuing external funding between males and

females as measured by the Motivating Factors to Pursuing External Funding Faculty Survey?

H_o 1. There is no significant difference in faculty motivation in terms of autonomy, self-

actualization, institutional support services, and financial rewards toward pursuing

external funding between males and females as measured by the Motivating Factors to

Pursuing External Funding Faculty Survey.

An independent-samples *t*-test was conducted to evaluate whether the mean faculty

motivation in terms of autonomy, self-actualization, institutional support services, and financial

rewards toward pursuing external funding for male faculty differ from the mean faculty

motivation in terms of self-actualization, autonomy, support services, and financial rewards

toward pursuing external funding for female faculty. The mean faculty motivation was the test

variable and the grouping variable was gender. The test was not significant, $t(165) = .044$, $p =$

.965. Therefore, the null hypothesis was retained. Male faculty motivation to pursue external

<div align="center">57</div>

funding ($M = 2.77$, $SD = .59$) was not significantly different from female faculty motivation to pursue external funding ($M = 2.77$, $SD = .62$). The 95% confidence interval for the difference in means was -.188 to .180. The η^2 index was 1.21, that indicated a large effect size. Figure 1 and Table 1 shows the distributions for the two groups.
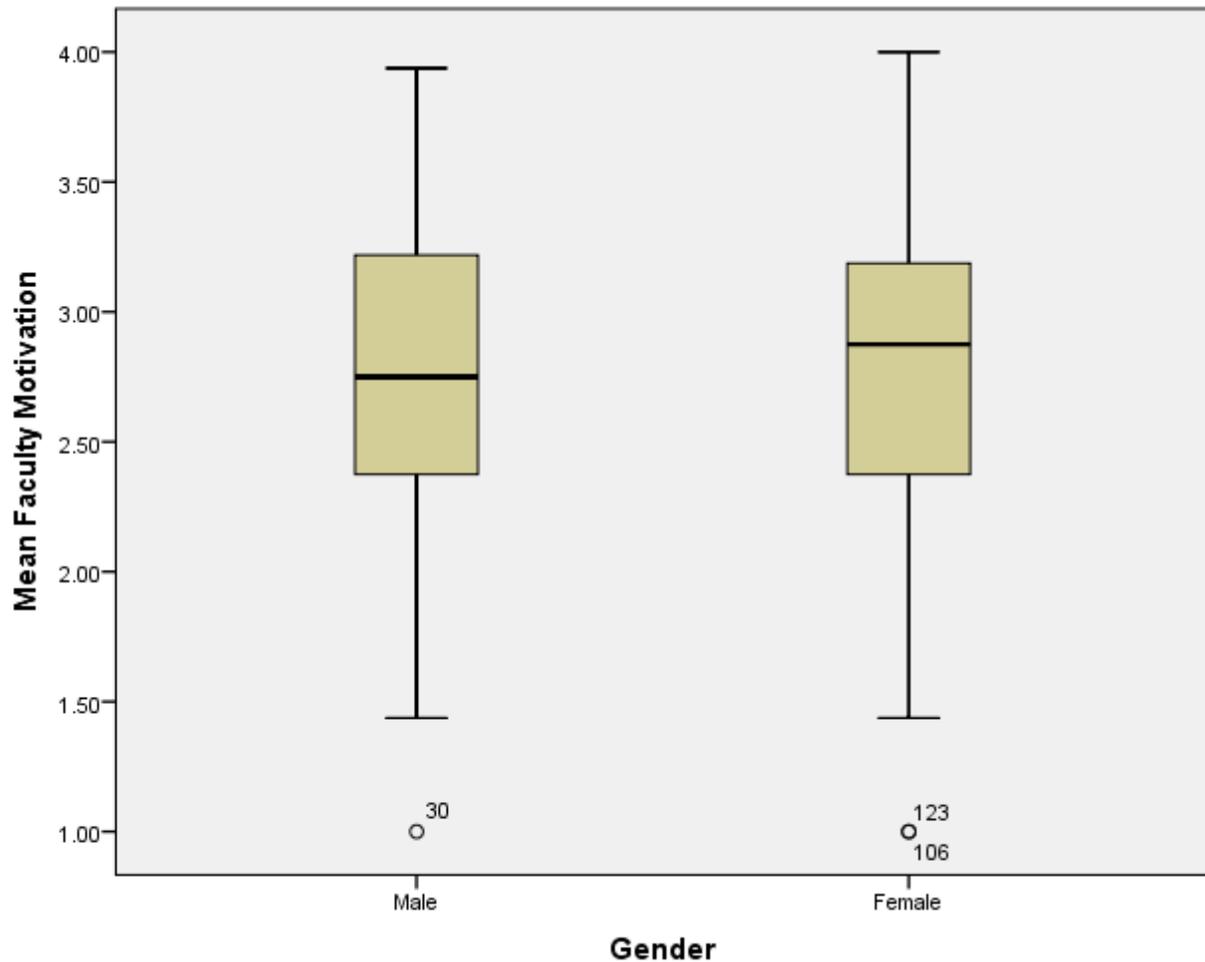

Figure 1. Faculty motivation for pursuing external funding based on gender

Table 1

A Comparison of Faculty Motivation for Pursuing External Funding Based on Gender

Gender	*N*	*M*	*SD*
Male	84	2.77	.59
Female	83	2.78	.62

Research Question #2

Is there a significant difference in faculty motivation in terms of self-actualization, autonomy, support services, and financial rewards toward pursuing external funding between tenure-track and tenured faculty as measured by the Motivating Factors to Pursuing External Funding Faculty Survey?

Ho2. There is no significant difference in faculty motivation in terms of autonomy, self-actualization, institutional support services, and financial rewards toward pursuing external funding between tenure-track and tenured faculty as measured by the Motivating Factors to Pursuing External Funding Faculty Survey.

An independent-samples *t*-test was conducted to evaluate whether the mean faculty motivation in terms of autonomy, self-actualization, institutional support services, and financial rewards toward pursuing external funding for tenure-track faculty differ from the mean faculty motivation in terms of self-actualization, autonomy, support services, and financial rewards toward pursuing external funding for tenured faculty. The mean faculty motivation was the test variable and the grouping variable was faculty tenure status. The test was not significant, $t(165) =$ .522, $p = .602$. Therefore, the null hypothesis was retained. Tenure-track faculty motivation to pursue external funding ($M = 2.81$, $SD = .600$) was not significantly different from tenured faculty

motivation to pursue external funding ($M = 2.76$), $SD = .603$). The 95% confidence interval for

the difference in means was -.153 to -.262. The η^2 index was .002, that indicated a small effect

size. Figure 2 and Table 2 show the distributions for the two groups.
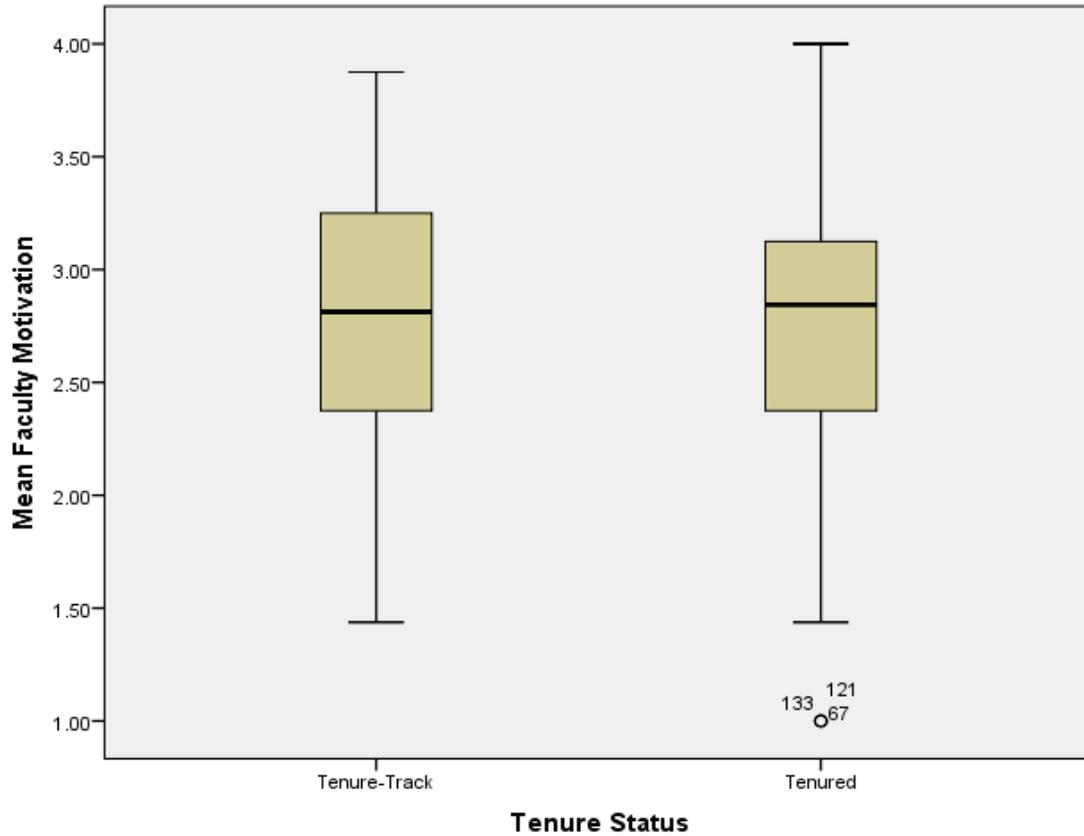

Figure 2. Faculty motivation for pursuing external funding based on tenure status

Table 2

A Comparison of Faculty Motivation for Pursuing External Funding Based on Tenure Status

Tenure Status	N	M	SD
Tenure-Track	45	2.82	.60
Tenured	122	2.76	.60

Research Question #3

Is there a significant difference in the number of external grant submissions within the previous 3 years between males and females?

Ho3. There is no significant difference in the number of external grant submissions within the previous 3 years between males and females.

A chi-square test for independence was conducted to evaluate whether there was a significant difference in the number of grant submissions within the previous 3 years between male and female faculty. The two variables were grant submissions in the previous 3 years with 3 levels (none, fewer than 3, 3 or more) and gender with two levels (male, female). The test was not significant, Pearson χ^2 (2, $N = 167$) = 1.18, $p = .553$, Cramer's V = .08. Therefore, the null hypothesis is retained. No significant difference was found in grants submitted within the previous 3 years between male and female faculty. Figure 3 displays grant submissions within the previous 3 years based on gender.
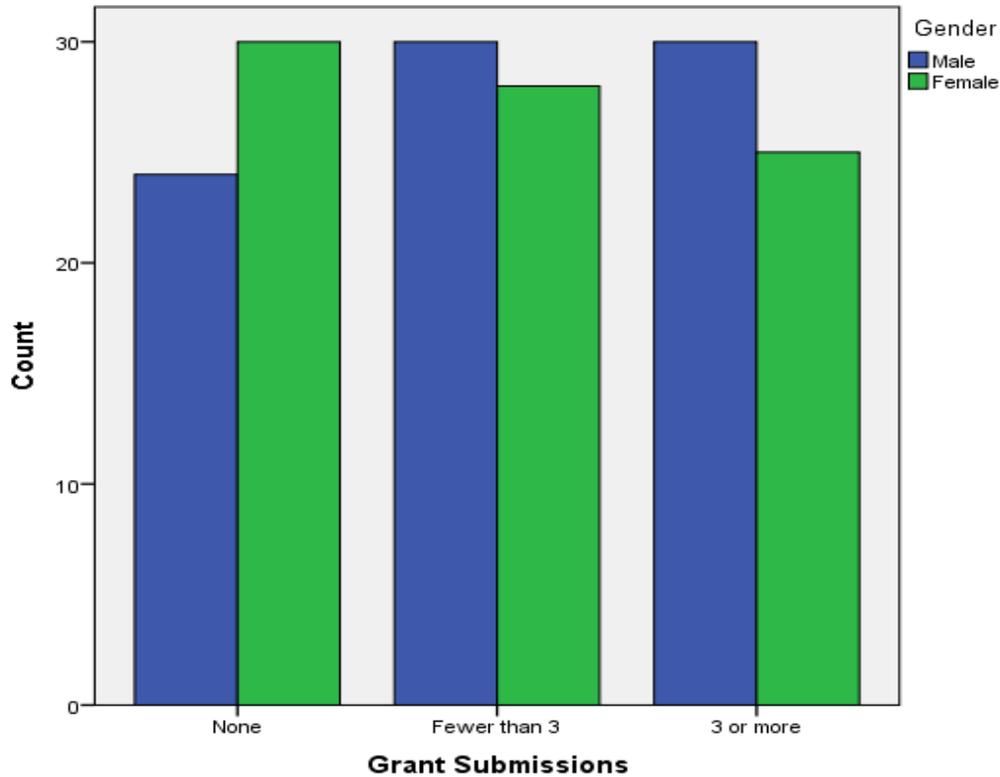
Figure 3. Grant submissions within the previous 3 years based on gender

Research question #4

Is there a significant difference in the number of external grants awarded within the previous 3

years between males and females?

Ho4. There is no significant difference in the number of external grants awarded within

the previous 3 years between males and females.

A chi-square test for independence was conducted to evaluate whether there was a

significant difference in the number of grants awarded within the previous 3 years between male

and female faculty. The two variables were grants awarded in the previous 3 years with 3 levels

(none, fewer than 3, 3 or more) and gender with two levels (male, female). The test was not

significant, Pearson χ^2 (2, $N = 167$) $= 1.82$, $p = .402$, Cramer's V $= .10$. Therefore, the null

hypothesis is retained. No significant difference was found in grants awarded within the previous 3 years between male and female faculty. Figure 4 displays grants awarded within the previous 3 years based on gender.
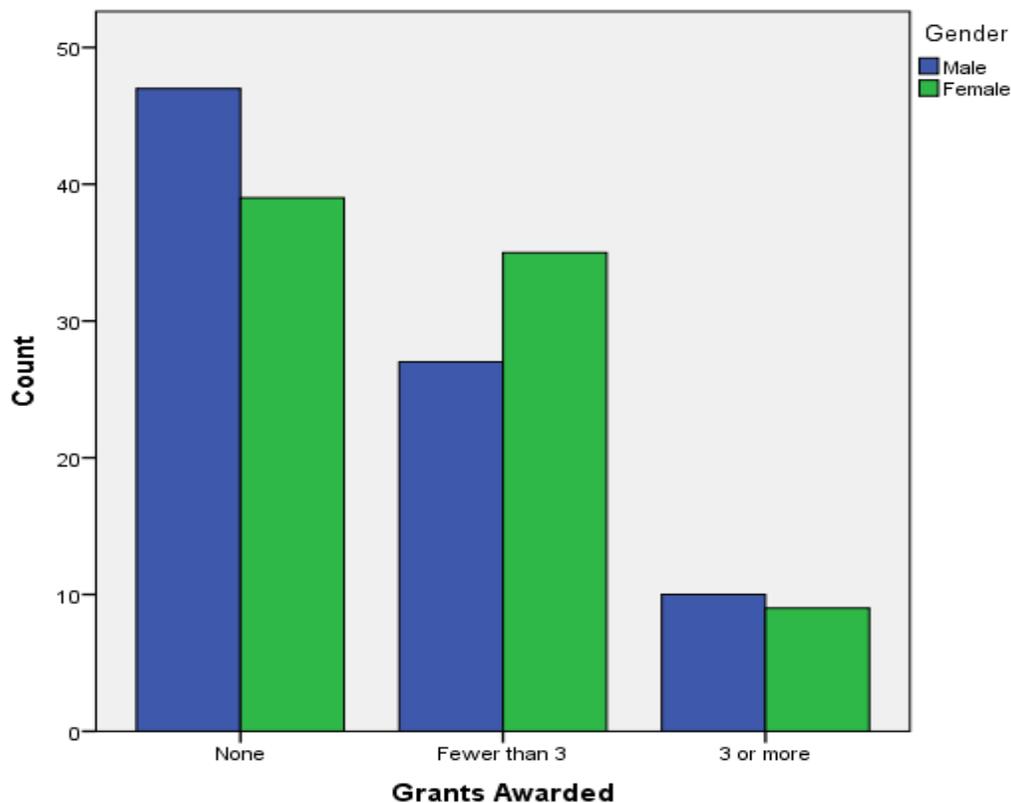

Figure 4. Grants awarded within the previous 3 years based on gender

Research Question #5

Is there a significant difference in the number of external grant submissions within the previous 3 years received between tenure-track and tenured?

Ho5. There is no significant difference in the number of external grant submissions within the previous 3 years between tenure-track and tenured faculty.

A chi-square test for independence was conducted to evaluate whether there was a significant difference in the number of grant submissions within the previous 3 years between tenure-track and tenured faculty. The two variables were grant submissions in the previous 3 years with 3 levels (none, fewer than 3, 3 or more) and rank with two levels (tenure-track, tenured).The test was not significant, Pearson χ^2 (2, $N = 167$) = 1.17, $p = .556$, Cramer's V = .08. Therefore, the null hypothesis is retained. No significant difference was found in grants submitted within the previous 3 years between tenure-track and tenured faculty. Figure 5 displays grant submissions within the previous 3 years based on tenure status.
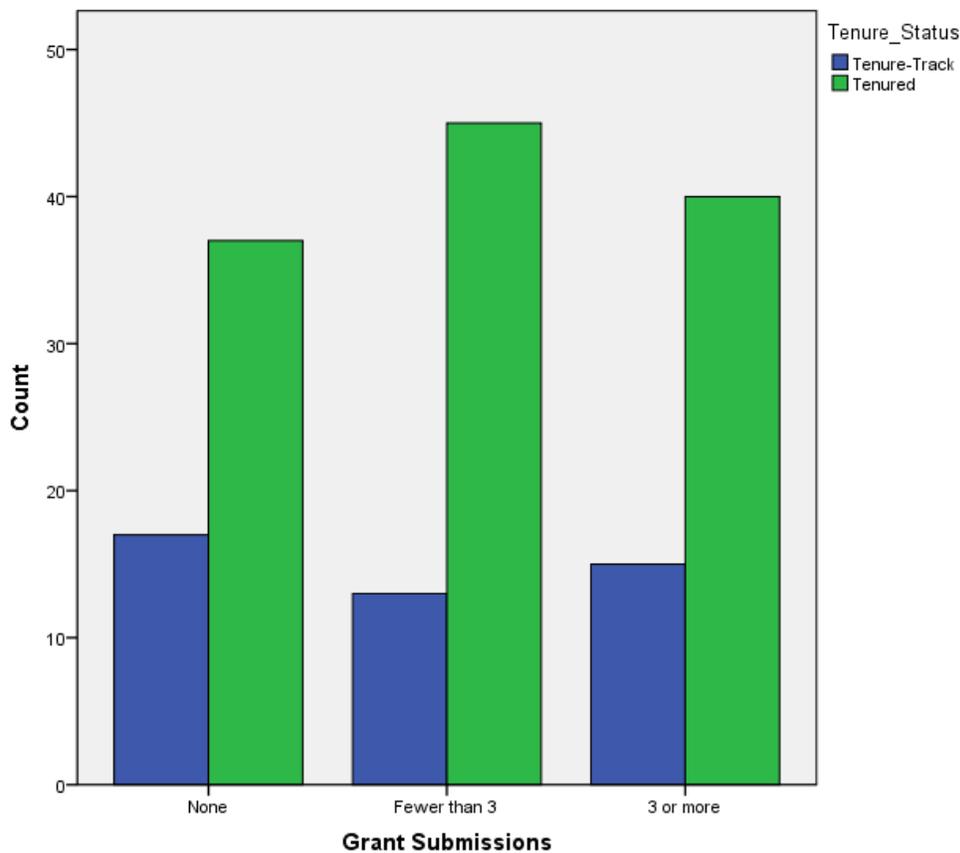
Figure 5. Grant submissions within the previous 3 years based on tenure status

Research Question #6

Is there a significant difference in the number of external grants awarded within the previous 3 years received between tenure-track and tenured faculty?

Ho6. There is no significant difference in the number of external grants awarded within the previous 3 years between tenure-track and tenured faculty.

A chi-square test for independence was conducted to evaluate whether there was a significant difference in the number of grants awarded within the previous 3 years between tenure-track and tenured faculty. The two variables were grants awarded in the previous 3 years with 3 levels (none, fewer than 3, 3 or more) and rank with two levels (tenure-track, tenured).The test was not significant, Pearson χ^2 (2, $N = 167$) = 1.07, $p = .584$, Cramer's V = .08. Therefore, the null hypothesis is retained. No significant difference was found in grants awarded within the previous 3 years between tenure-track and tenured faculty. Figure 6 displays grants awarded within the previous 3 years based on tenure status.
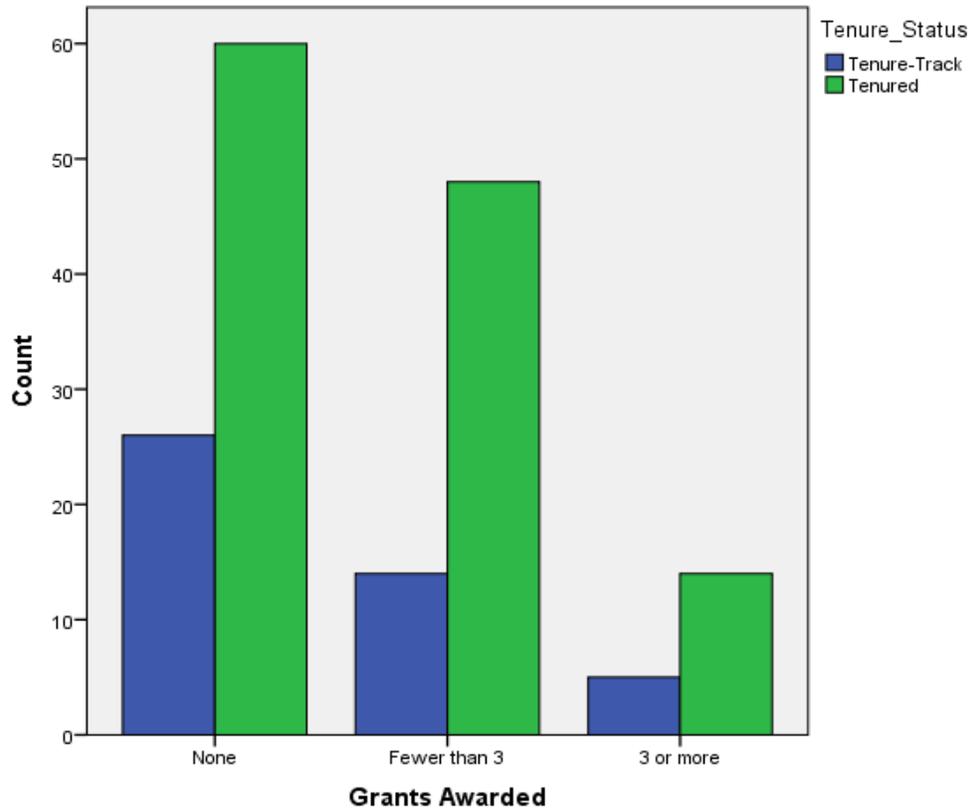
Figure 6. Grants awarded within the previous 3 years based on tenure status

Research Question #7

Is autonomy perceived as a significantly positive or negative motivator to pursuing external funding?

Ho7. Autonomy is not perceived as a significantly positive or negative motivator to pursuing external funding.

A single sample *t*-test was conducted to determine whether autonomy was perceived as a significant motivator to pursuing external funding as defined by a test value of 2.5. The scores for survey items 5-8 were averaged to obtain a mean score of 2.92 used to measure level of importance of autonomy. The mean of 2.92 (see Figure 7 and Table7) was compared to a test

value of 2.5 representing normality. The mean autonomy ($M = 2.92$, $SD = 0.78$) was higher than the mean normal autonomy of 2.5, a statistically significant mean difference of 0.42, 95% CI [0.30 to 0.54], $t(166) = 6.901$, $p = .001$. Therefore, the null hypothesis was rejected. Autonomy was perceived as being a significantly positive intrinsic motivator to pursuing external funding. Figure 7 and Table 3 display faculty perception of autonomy as a motivator for pursuing external funding.
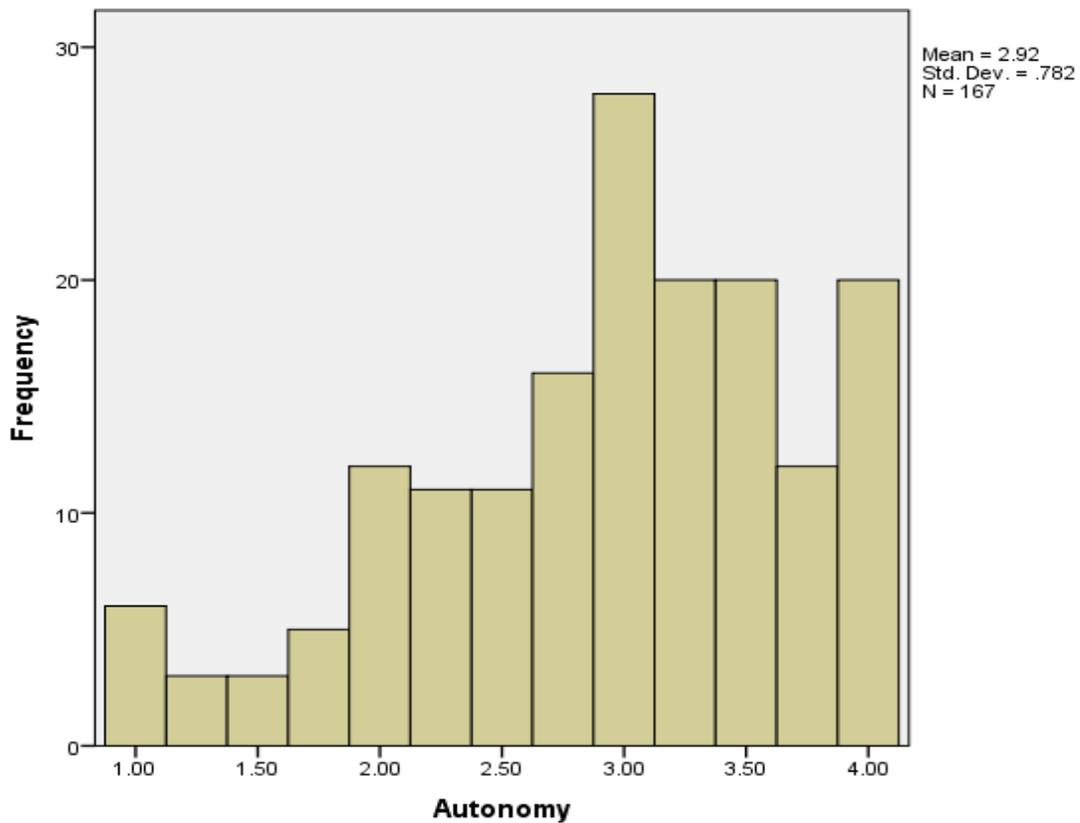
Figure 7. Faculty perception of autonomy as a motivator for pursuing external funding

Table 3

Faculty Perception of Autonomy as a Motivator for Pursuing External Funding

	Not Important	Somewhat Important	Important	Extremely Important
Item 5: Flexibility in allocation of time	26	51	46	44
Item 6: Reduced teaching load	28	42	46	51
Item 7: Freedom of choice in research topics	14	31	52	70
Item 8: Freedom in carrying out research objectives	10	20	57	80

Research question #8

Is self-actualization perceived as a significantly positive or negative motivator to pursuing external funding?

Ho8. Self-actualization is not perceived as a significantly positive or negative motivator to pursuing external funding.

A one-sample *t*-test was conducted to determine whether self-actualization was perceived as a significant motivator to pursuing external funding as defined by a test value of 2.5. The scores for survey items 9-12 were averaged to obtain a mean score of 2.79 used to measure level of importance of self-actualization. The mean of 2.79 (see Figure 8 and Table 8) was compared to a test value of 2.5 representing normality. The mean self-actualization ($M = 2.79$, $SD = 0.76$) was higher than the mean normal self-actualization of 2.5, a statistically significant mean difference of 0.29, 95% CI [0.17 to 0.40], $t(166) = 4.92$, $p = .001$. Therefore, the null hypothesis was rejected. Self-actualization was perceived as being a significantly positive intrinsic motivator to pursuing external funding. Figure 8 and Table 4 illustrate faculty perception of self-actualization as a motivator for pursuing external funding.

68
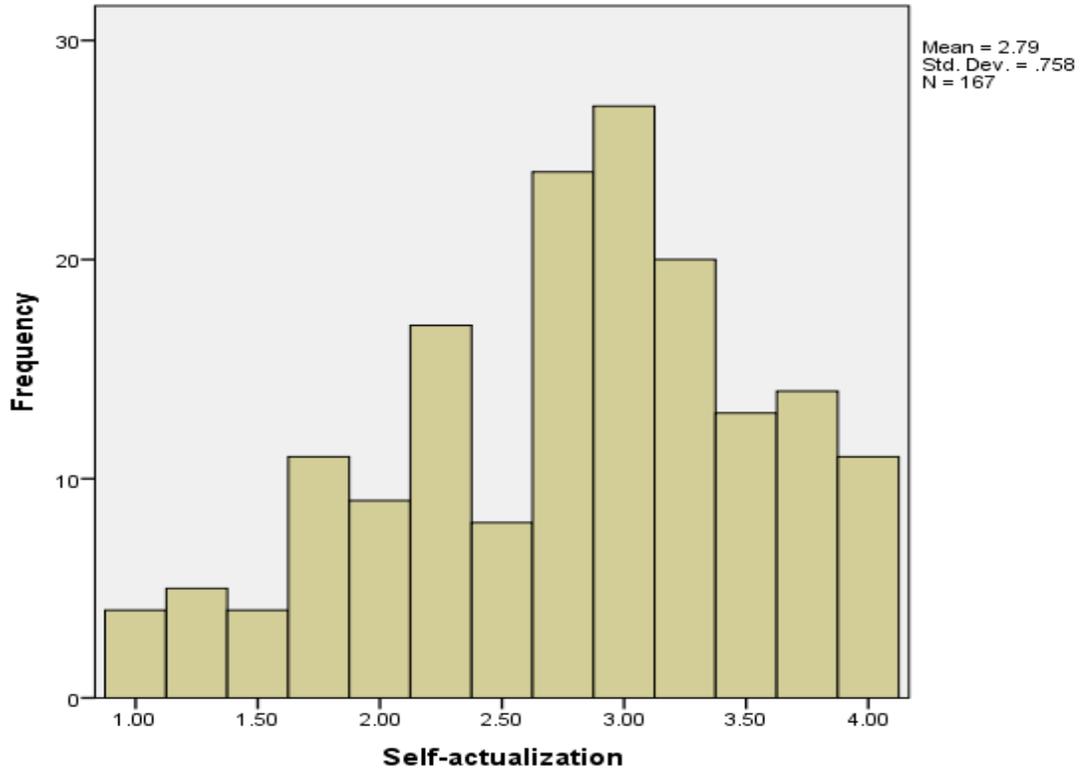
Figure 8. Faculty perception of self-actualization as a motivator for pursuing external funding

Table 4

Faculty Perception of Self-Actualization as a Motivator for Pursuing External Funding

	Not Important	Somewhat Important	Important	Extremely Important
Item 9: Advancing career	18	45	51	53
Item 10: Building professional reputation	15	33	68	51
Item 11: Increasing scholarly works	12	37	55	63
Item 12: Developing experience in obtaining grant funding	39	49	55	24

Research Question #9

Are institutional support services perceived as a significantly positive or negative motivator to

pursuing external funding?

Ho9. Institutional support services are not perceived as a significantly positive or

negative motivator to pursuing external funding.

A one-sample *t*-test was conducted to determine whether institutional support services

was a significant motivator to pursuing external funding as defined by a test value of 2.5. The

scores for survey items 13-16 were averaged to obtain a mean score of 2.44 used to measure

level of importance of institutional support services. The mean of 2.44 (see Figure 9 and Table

9) was compared to a test value of 2.5 representing normality. The mean institutional support

services (*M* = 2.44, *SD* = 0.79) was lower, but not significantly lower, than the mean normal

institutional support services of 2.5, a mean difference of 0.06, 95% CI [-0.18 to 0.07], *t*(166) =

-.91, *p* = .365. Therefore, the null hypothesis was retained. Institutional support services were

not perceived as being a positive or negative extrinsic motivator to pursuing external funding.

Figure 9 and Table 5 depict faculty perception of institutional support services as a motivator

for pursuing external funding.
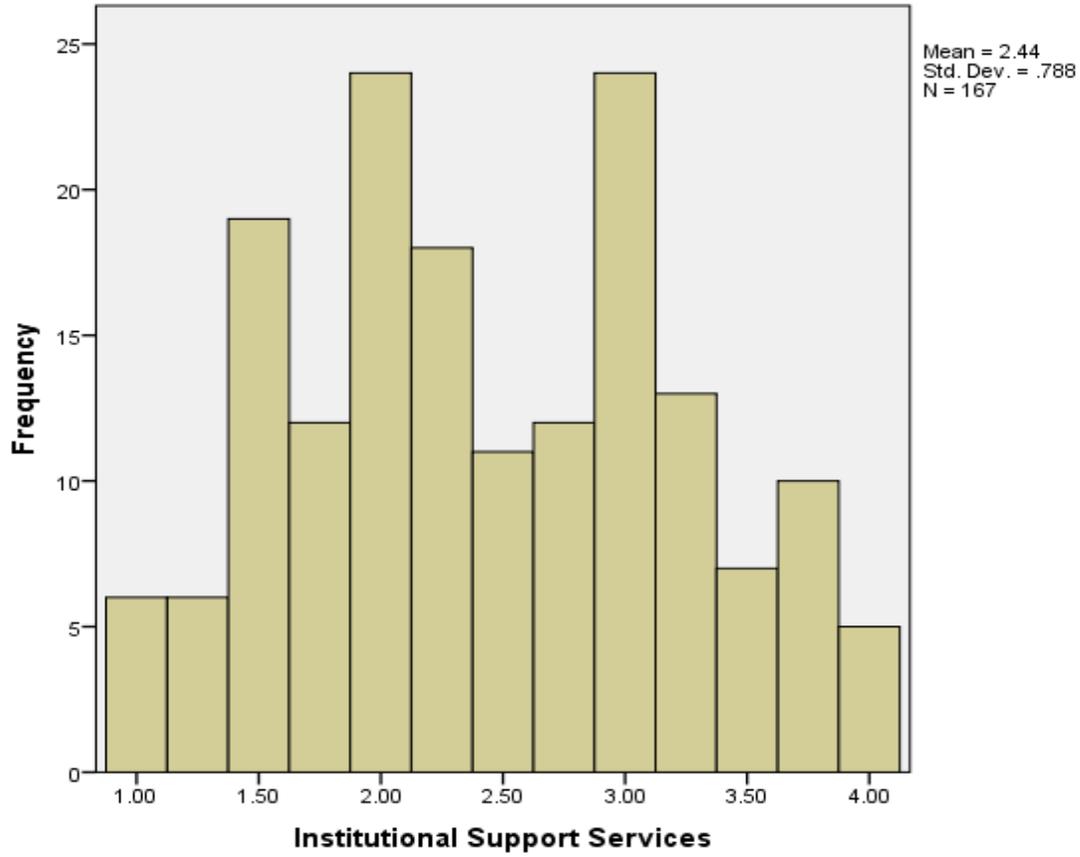
Figure 9. Faculty perception of institutional support services as a motivator for pursuing external funding

Table 5

Faculty Perception of Institutional Support Services as a Motivator for Pursuing External Funding

	Not Important	Somewhat Important	Important	Extremely Important
Item 13: Assistance in grant proposal development	30	57	48	32
Item 14: Assistance in grant award management	32	48	47	40
Item 15: Opportunities to participate in grant writing or development workshops	52	65	36	14
Item 16: Opportunities to network and collaborate with other faculty	18	53	66	30

Research question #10

Are financial rewards perceived as a significantly positive or negative motivator to pursuing external funding?

Ho10. Financial rewards are not perceived as a significantly positive or negative motivator to pursuing external funding.

A one-sample t-test was conducted to determine whether financial rewards was a significant motivator to pursuing external funding as defined by a test value of 2.5. The scores for survey items17-20 were averaged to obtain a mean score of 2.96 used to measure level of importance of financial rewards. The mean of 2.96 (see Figure 10 and Table 10) was compared to a test value of 2.5 representing normality. The mean financial rewards ($M = 2.96$, $SD = 0.73$) was higher than the mean normal financial rewards of 2.5, a statistically significant mean difference of 0.46, 95% CI [0.34 to 0.57], $t(166) = 8.08$, $p = .001$. Therefore, the null hypothesis was rejected. Financial rewards were perceived as being a significantly positive extrinsic motivator to pursuing external funding. Figure 10 and Table 6 present faculty perception of financial rewards as a motivator for pursuing external funding.
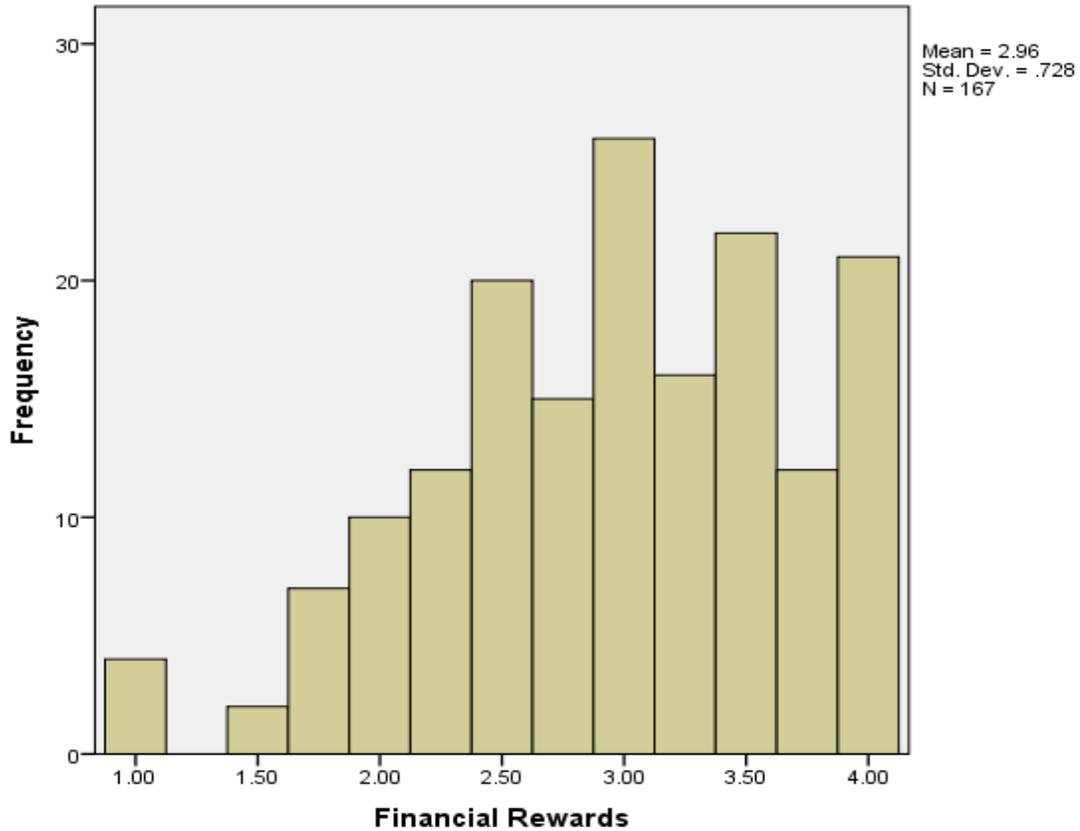
Figure 10. Faculty perception of financial rewards as a motivator for pursuing external funding

Table 6

Faculty Perception of Financial Rewards as a Motivator for Pursuing External Funding

	Not Important	Somewhat Important	Important	Extremely Important
Item 17: Receiving financial support for summer salary	15	40	59	53
Item 18: Receiving financial support for travel, equipment, or materials and supplies	6	25	62	74
Item 19: Receiving a portion of indirect costs	30	42	55	40
Item 20: Receiving financial support for student workers or other staff	12	28	63	64

Chapter Summary

This chapter was a review of the data obtained from an online survey of faculty perceptions of factors that motivate faculty to pursue external funding. There were 10 research questions and 10 null hypotheses. All data were collected through an online survey questionnaire administered to all full-time tenured and tenure-track faculty at a 4-year public institution of higher education Southeastern United States. There were 167 responses from the survey. The data were analyzed using independent *t-test*, single sample *t-test* and chi-square statistical procedures. The results of the tests were presented using figures and tables. Chapter 5 provides a summary of the findings, conclusions and key findings, implications for practice, and recommendations for future research.

CHAPTER 5

SUMMARY, CONCLUSIONS, IMPLICATIONS FOR PRACTICE, AND

RECOMMENDATIONS

The purpose of this chapter was to provide the findings from this study and offer in

comparison to the literature review answers to the research questions that guided the study,

implications for practice, and recommendations for further research.

In comparing the results from this study to findings in the literature review, the data were

consistent with the literature findings in the areas of intrinsic and extrinsic motivation. According

to Ryan et al. (2011) and Hemmings et al.(2007) there are various intrinsic factors that may

influence an individual's motivation such as autonomy and self-actualization. Similarly,

according to Lai (2011) extrinsic motivation can be guided by reinforcement contingencies such

as financial rewards, incentives, promotions, professional reputation, institutional support

services, and collegiality. Although institutions of higher education can be financially impacted

from active grant writers, many institutions fail to motivate faculty to pursue grants or provide

adequate support for the pursuit of grant funding (Easter & Shultz, 1998). Likewise, as research

infrastructure resources have become limited, it is crucial for colleges and universities to focus on

the activities that are most likely to contribute to funded scholarship (McGill & Settle, 2012;

Monroe & Kumar, 2011). These findings in the literature with regard to motivation could be

important to higher education institutions and their understanding of the factors that motivate

faculty to pursue external funding. This study adds to the body of literature by expanding the

understanding of factors that motivate faculty to pursue external funding in public institutions of

higher education.

The purpose of this quantitative nonexperimental study was to gain a better understanding of factors that motivate faculty to pursue external funding at a 4-year public institution of higher education. The study used data collected from an online survey of 167 self-selected full-time tenure-track and tenured faculty members at a 4-year public institution of higher education in the Southeastern United States.

The primary significance of the study was to contribute and disseminate information to higher education administrators such as presidents, chief academic officers and sponsored program officers to aid them in implementing focused and specific interventions that could lead to an overall increase in funded scholarly activity while judiciously managing the limited resources often available to public institutions of higher education. Research focused on 4-year public institutions of higher education could potentially provide important information on faculty motivation trends and institutional supports necessary for faculty to succeed in an increasingly competitive funding environment (Hainline et al., 2010).

A secondary objective of this study was to fill the gap and expand the body of literature concerning research on the factors that motivate faculty to pursue external funding in 4-year public institutions of higher education. Relevant research was found in the literature on faculty motivation in academic environments, but it appeared to have been done primarily in research intensive private or public universities. Therefore, this study was conducted on a public institution of higher education environment.

From professional curiosity and concerns associated with external funding in public higher education institutions, my primary objective was to better understand the factors that motivate faculty to pursue external funding. As such, this study was guided by four groups of research questions and corresponding null hypotheses. The first group of research questions involves the

76

relationships between individual characteristics and faculty motivation toward pursuing external funding. The second group of research questions involves the relationship between faculty productivity related to grant submissions and awards and individual characteristics (gender, tenure status). The third group of research questions involves the relationships between intrinsic motivation factors and faculty motivation toward pursuing external funding. The fourth group of research questions involves the relationships between extrinsic motivation factors and faculty motivation toward pursuing external funding.

Individual Characteristics

RQ1: Is there a significant difference in faculty motivation in terms of autonomy, self-actualization, institutional support services, and financial rewards toward pursuing external funding between males and females?

Ho1. There is no significant difference in faculty motivation in terms of autonomy, self-actualization, institutional support services, and financial rewards toward pursuing external funding between males and females as measured by the Motivating Factors to Pursuing External Funding Faculty Survey.

RQ2: Is there a significant difference in faculty motivation in terms of autonomy, self-actualization, institutional support services, and financial rewards toward pursuing external funding between tenured and tenure-track faculty?

Ho2. There is no significant difference in faculty motivation in terms of autonomy, self-actualization, institutional support services, and financial rewards toward pursuing external funding between tenured and tenure-track faculty as measured by the Motivating Factors to Pursuing External Funding Faculty Survey.

Faculty Productivity Related to Grant Submissions and Awards

RQ3: Is there a significant difference in the number of external grant submissions within the previous 3 years between males and females?

Ho3. There is no significant difference in the number of external grants submissions within the previous 3 years between males and females.

RQ4: Is there a significant difference in the number of external grants awarded within the previous 3 years received between males and females?

Ho4. There is no significant difference in the number of external grants awarded within the previous 3 years between males and females.

RQ5: Is there a significant in the number of external grant submissions within the previous 3 years between tenured and tenure-track faculty?

Ho5. There is no significant difference in the number of external grant submissions within the previous 3 years between tenured and tenure-track faculty.

RQ6: Is there a significant difference in the number of external grants awarded within the previous 3 years between tenured and tenure-track faculty?

Ho6. There is no significant difference in the number of external grants awarded within the previous 3 years between tenured and tenure-track faculty.

Intrinsic Motivation Factors

RQ7: Is autonomy perceived as a significantly positive or negative motivator to pursuing external funding?

Ho7. Autonomy is not perceived as a significantly positive or negative motivator to pursuing external funding.

RQ8: Is self-actualization perceived as a significantly positive or negative motivator to pursuing external funding?

Ho8. Self-actualization is not perceived as a significantly positive or negative motivator to pursuing external funding.

Extrinsic Motivation Factors

RQ9: Are institutional support services perceived as a significantly positive or negative motivator to pursuing external funding?

Ho9. Institutional support services are not perceived as a significantly positive or negative motivator to pursuing external funding.

RQ10: Are financial rewards perceived as a significantly positively positive or negative motivator to pursuing external funding?

Ho10. Financial rewards are not perceived as a significantly positive or negative motivator to pursuing external funding.

Conclusions and Key Findings

A description of knowledge gained from this study as compared to current literature relating to faculty motivation to pursuing external funding at institutions of higher education is presented in this section. Although, the findings from this study are specific to faculty members at a 4-year public institution of higher education in the Southeastern United States, their implications could be relevant for other colleges and universities in other regions.

Individual Characteristics

The general theme that appeared throughout the literature suggested that an individual's

motivation could be related to gender. Sun et al. (2011) reported that women academic staff had higher levels of motivation than men. Similarly, Chen and Zhao (2013) found that tenured female faculty reported higher motivation, especially intrinsic motivation, than male faculty. Additionally, Wimsatt et al. (2009) suggested that in regards to motivation, women experienced a greater need for institutional support services (extrinsic motivators) related to administration of research than men. Furthermore, previous research has shown that other extrinsic motivational factors such as work schedules, pay, and appreciation are perceived as significant factors influencing motivation in men (DesRoches et al., 2010).

This study found no significant difference between male and female motivation to pursue external funding. The data also indicated there was not a significant difference between intrinsic and extrinsic motivation according to gender, with the men and women averaging similar levels of motivation to pursue external funding. These findings indicate that the gender of full-time tenure-track and tenured faculty at the participating 4-year public institution of higher education in the Southeastern region of the United States does not significantly affect their motivation to pursue external funding.

The literature revealed evidence of an association between rank or tenure status and motivation. Mahmood et al. (2013) suggested that fewer years of experience related to lower levels of motivation. The findings from their research indicated that individuals with 0-5 years of work experience in a particular job experienced significantly less motivation and job satisfaction than their counterparts and individuals with 11-15 years of work experience reported higher levels of motivation.

This study also found no significant difference between tenure-track and tenured faculty motivation to pursue external funding. The data also indicated there was not a significant

difference between intrinsic and extrinsic motivation according to faculty tenure status, with the tenure-track and tenured faculty averaging similar levels of motivation to pursue external funding. These findings indicate that the tenure status of full-time tenure-track and tenured faculty at the participating 4-year public institution of higher education in the Southeastern region of the United States does not significantly affect their motivation to pursue external funding.

Faculty Productivity Related to Grant Submissions and Awards

In the literature Sampson et al. (2010) suggested that a good indicator of the quality of a faculty members scholarly work was the number and amount of external grants and contracts received by the faculty member. Similarly, Danchisko and Thomas (2012) revealed the level of grant award funding to be the primary measurement of faculty scholarly productivity. For the purpose of this study, research productivity referred to Jacoba and Lefgren's (2011) definition that related to the number of research oriented external grants submitted and awards received by an individual faculty member.

This study found no significant difference between the number of grant submissions or awards within the previous 3 years between male and female faculty. The data also indicated there was not a significant difference in external funding productivity of faculty according to gender, with the men and women averaging similar productivity in terms of grant submissions and awards. These findings indicate that the gender of full-time tenure-track and tenured faculty at the participating 4-year public institution of higher education in the Southeastern region of the United States does not significantly affect their productivity as it relates grant submissions or awards.   Table 7 presents the faculty grant submissions and awards by gender.

Table 7

Faculty Grant Submissions and Awards by Gender

			Gender		Total
			Male (84)	Female (83)	(167)
Grant Submissions	None	Count	24	30	54
		% within Gender	28.6%	36.1%	32.3%
	Fewer than 3	Count	30	28	58
		% within Gender	35.7%	33.7%	34.7%
	3 or more	Count	30	25	55
		% within Gender	35.7%	30.1%	32.9%
Grants Awarded	None	Count	47	39	86
		% within Gender	56%	47%	51.5%
	Fewer than 3	Count	27	35	62
		% within Gender	32.1%	42.2%	37.1%
	3 or more	Count	10	9	19
		% within Gender	11.9%	10.8%	11.4%

This study found no significant difference between the number of grant submissions or awards within the previous 3 years between tenure-track and tenured faculty. The data also indicated there was not a significant difference in external funding productivity of faculty according to tenure status, with the tenure-track and tenured faculty averaging similar productivity related to grant submissions and awards. These findings indicate that the tenure status of full-time tenure-track and tenured faculty at the participating 4-year public institution of higher education in the Southeastern region of the United States does not significantly affect their productivity as it relates to grant submissions or awards. Table 8 displays the faculty grant submissions and awards by tenure status.

Table 8

Faculty Grant Submissions and Awards by Tenure Status

			Tenure Status		Total
			Tenure-Track (45)	Tenured (122)	(167)
Grant Submissions	None	Count	17	37	54
		% within Gender	37.8%	30.3%	32.3%
	Fewer than 3	Count	13	45	58
		% within Gender	28.9%	36.9%	34.7%
	3 or more	Count	15	40	55
		% within Gender	33.3%	32.8%	32.9%
Grants Awarded	None	Count	26	60	86
		% within Gender	57.8%	49.2%	51.5%
	Fewer than 3	Count	14	48	62
		% within Gender	31.1%	39.3%	37.1%
	3 or more	Count	5	14	19
		% within Gender	11.1%	11.5%	11.4%

Intrinsic Motivation

Throughout the literature, intrinsic motivation was reflected as an individual's desire to accomplish something because it is enjoyable (Grant & Shin, 2011). Although, there are various factors that may influence an individual's motivation, studies showed that two of the most prevalent intrinsic factors are autonomy and self-actualization (Hemmings et al., 2007; Ryan et al., 2011). For the purpose of this study autonomy referred to flexibility in allocation of time, teaching loads or schedules, research topics, and research objectives. Likewise, self-actualization referred to development of career, professional reputation, scholarly works, and external funding experience.

In 2012 Authayarat and Umemuro conducted a study focusing on the relationship of

workplace environments to employee well-being and the findings revealed autonomy to be a primary factor in decreasing conflict within the work environment and increasing employees motivation and willingness to accomplish job related tasks.   Additional results of the study suggested that employees felt more at ease and energized to work at their own pace and in their own way. In regards to self-actualization Chen et al. (2006) found that researchers were intrinsically motivated displayed greater psychological satisfaction and self-actualization from solving research problems and making contributions to their discipline. Similarly, according to Levin and Stephan (1991) and Levitan and Ray (1992) conducting research and solving problems were more of a personal mission and viewed as self-rewarding.

The findings from this study support the literature review. This study found that both autonomy and self-actualization are perceived as significant positive motivators to pursuing external funding. The data also indicated that autonomy in allocation of time, reducing teaching loads, choosing research topics, and choosing research objectives are all perceived as important to faculty motivation to pursuing external funding. Additionally, self-actualization as it relates to career advancement, development of a professional reputation, increasing scholarly works, and developing external funding experience is also perceived as important to faculty motivation to pursuing external funding. These findings indicate that the full-time tenure-track and tenured faculty at the participating 4-year public institution of higher education in the Southeastern region of the United States perceive autonomy and self-actualization as significant positive motivators to pursuing external funding.

Extrinsic Motivation

Extrinsic motivation refers to performing an action or behavior in order to receive an

84

external reward or outcome (Cherry, 2015). Throughout the literature extrinsic motivations for research productivity were referred to as investment motivators that were externally driven by such things as financial rewards and institutional support services (Chen et al., 2006; Tien, 2000). Chen et al. (2006) suggested that tenure-track faculty were motivated by extrinsic rewards and tenured faculty by intrinsic rewards. Additionally, further research by Tien (2008) and Chen et al. (2014) also supported these findings. Monroe and Kumar (2011) presented similar findings that showed faculty perceived early promotion and financial support for research as the primary incentives for pursuing external funding. Further review of the literature unveiled findings from studies that showed that fostering a supportive research culture was perceived as critical to faculty research productivity (Hemmings et al., 2007; Hiep, 2006). According to Webber (2011) as universities allocated more funding towards research the productivity of its faculty significantly increased. For the purposes of this study institutional support services related to support in the areas of grant proposal development, award management, grant writing or development workshops, and professional networking or collaboration. Financial rewards referred to support for summer salary, travel, equipment, materials and supplies, indirect costs, and student workers or other staff.

The findings from this study that relate to institutional support services as an extrinsic motivator contradict the findings revealed in the literature review. This study found that institutional support services are not perceived as significantly positive or negative motivator to pursuing external funding. The data indicated that institutional support services relating grant proposal development, award management, grant writing or development workshops, and professional networking or collaboration are not perceived as important to faculty motivation to pursuing external funding. These findings indicate that the full-time tenure-track and tenured

faculty at the participating 4-year public institution of higher education in the Southeastern region of the United States do not perceive institutional support services as a significant motivator to pursuing external funding.

However, the findings from this study that relates to financial rewards as an extrinsic motivator support the findings revealed in the literature review. This study found that financial rewards are perceived as significant positive motivators to pursuing external funding. The data indicated that financial rewards or support relating to summer salary, travel, equipment, materials and supplies, indirect costs, and student workers or other staff are perceived as important to faculty motivation to pursuing external funding. These findings indicate that the full-time tenure-track and tenured faculty at the participating 4-year public institution of higher education in the Southeastern region of the United States perceive financial rewards as significant positive motivators to pursuing external funding.

Implications for Practice

This study provides information that can be useful to the institutional higher education administrators such as president, chief academic officers, and sponsored program officers as they seek to develop interventions to motivate faculty to pursue external funding. The results from this study support the following implications for practice:

- Conduct an institutional needs assessment to identify faculty research needs.
- Offer start-up packages to faculty that include support for travel, equipment, materials and supplies, student workers, and staff.

- Provide opportunities for faculty to disseminate their research and receive feedback from their peers.

- Reduce teaching loads of faculty who are productive in submitting external grants and receiving awards.

- Develop and implement standard sponsored research incentive policies across the institution. Make sure that all faculty are aware of the policies.

Recommendations for Further Research

Considering the findings from this study it is recommended that additional research on the factors that motivate faculty in 4-year public institutions of higher education to pursue external funding be conducted to further enhance this knowledge. Specifically, the following areas may be important for future research:

- Investigation of the relationship between race and faculty motivation to pursue external funding.

- Investigation of the relationship between academic discipline and faculty motivation to pursue external funding.

- Investigation of the relationship between race and faculty productivity related to external grant submissions and awards.

- Investigation of the relationship between academic discipline and faculty productivity related to external grant submissions and awards.

- A longitudinal study to conduct the research over a 3 year period. The survey could be expanded to include open-ended items. Longitudinal research could provide a more comprehensive view of faculty productivity and motivation relating to external funding.

87

REFERENCES

Abraham, N., Cunningham, B., Decatur, S., Dehn, P., Lee, M., & Osborn, J. (2010). Supporting potentially transformative research: The administrator's perspective. In *Council on Undergraduate Research*, *Tranformative Research at Predominantly Undergraduate Institutions* (pp. 71-86). Washington, DC: Council on Undergraduate Research.

Adebiyi, D. (2013). Occupational stress among academic staff of Ekiti State University, Ado-Ekiti. *European Scientific Journal, 9(4)*, 202-208.

Aftab, M., & Khatoon, T. (1995). Demographic differences and occupational stress of secondary school teachers. *European Scientific Journal, 8(5)*, 159-175.

Ali, M., Bhattacharyya, P., & Olejniczak, A. (2010). The effects of scholarly productivity and institutional characteristics on the distribution of federal research grants. *Journal of Higher Education, 81(2)*, 164–178.

American Association of University Professors. (2015, July 1). *Tenure*. Retrieved July 2015, from American Association of University Professors: http://www.aaup.org/issues/tenure.

Anderson, D., & Slade, C. (2015). Managing institutional research advancement: Implications from a university faculty time allocation study. *Research in Higher Education*, 1-23. doi:10.1007/s11162-015-9376-9.

Archibong, I., Bassey, A., & Efiom, D. (2010). Occupational stress sources among academic staff. *European Journal of Educational Studies, 2(3)*, 217-225.

Arigil, C., Genckaya, F., & Inan, E. (2008). Motivation and knowledge work (Master's thesis). Retrieved from http://lup.lub.lu.se/student-papers/record/1349021. Lund University. Retrieved May 21, 2015, from http://lup.lub.lu.se/luur/download?func=downloadFile&recordOId=1349021&fileOId=2435096

Authayarat, W., & Umemuro, H. (2012). Workplace environment characteristics as antecedents of affective well-being in the workplace. *International Journal of Business Research and Management (IJBRM), 3(6)*, 307-324.

Backes-Gellner, U., & Schlinghoff, A. (2008). Monetary rewards and faculty behaviour: How economic incentives drive publish or perish. *Southern Management Association Proceedings (SMA)* (pp. 725-730). Southern Management Association.

Bai, L., Hudson, P., & Millwater, J. (2012). Factors that influence chinese TEFL academics' research capacity building: An institutional case study. *Asia-Pacific Educational Research, 22(2)*, 119-126.

Barkhuizen, N., & Rathmann, S. (2008). Occupational stress of academic staff in South African higher education institutions. *South African Journal of Psychology, 38(2)*, 321-336.

Bell, B. (2007). *Finding meaning (3rd ed.).* Portland, OR: Blue Fox Communication.

Billot, J., & Codling, A. (2013). Voicing the tensions of implementing research strategies: Implications for organizational leaders. *Management in Education. 27(2)*, 75-80.

Black, H. (2015). *Self Actualization*. Retrieved 2015, from The Law Dictionary: http://thelawdictionary.org/self-actualization/

Bland, C., Weber-Main, A., Lund, S., & Findstad, D. (2004). *The Research-Productive Department: Strategies from Departments That Excel.* Jossey-Bass.

Borg, S. (2007). Research engagement in English language teaching. *International Journal of Research and Studies, 23(5)*, 731-747.

Boyer, P., & Cockriel, I. (1998, Spring). Factors influencing grant-writing: Perceptions of tenured and non-tenured faculty. *SRA Journal, 29(3/4)*, 61-68.

Burkhardt, J., Kowalenko, T., & Meurer, W. (2011). Academic career selection in American emergency medicine residents. *Academic Emergency Medicine, 18(s2)*, S48–S53.

Catano, V., Frances, L., Hanes, T., Kirpalani, H., Stringer, B., and Lozanski, L. (2010). Occupational Stress Among Canadian University Academic Staff. *Internal Journal of Stress Management, 17(3),* 232-258.

Center on Education Policy. (2012). *What is motivation and why does it matter?* Washington, DC: George Washington University.

Center on the Developing Child at Harvard University. (2010). *The foundations of lifelong health are built in early childhood.* Cambridge, MA : Center on the Developing Child at Harvard University.

Chen, R., Kuo, H., & Zanskas, S. (2014). Scholarly productivity in rehabilitation counseling: A review of the journal contributors from 2000 to 2009. *Rehabilitation Counseling Bulletin, 57(2)*, 116-123. doi:10.1177/0034355213498776.

Chen, Y., & Zhao, Q. (2013). Gender differences in business faculty's research motivation. *Journal of Education for Business, 88(6)*, 314-324. doi:10.1080/08832323.2012.717121.

Chen, Y., Gupta, A., & Hoshwer, L. (2006). Factors that motivate business faculty to conduct research: An expectancy theory analysis. *Journal of Education for Business, 81(4)*, 179-189.

Cherian, J., & Jacob, J. (2013). Impact of self efficacy on motivation and performance of employees. *Internal Journal of Business Management. 8(14)*, 80-88.

Cherry, K. (2015, May). *What is extrinsic motivation*. Retrieved May 2015, from About Education: http://psychology.about.com/od/eindex/f/extrinsic-motivation.htm.

Cherwin, K. (2013, March). *How to foster motivation in an academic workplace.* Retrieved April 2015, from HigherEdJobs: https://www.higheredjobs.com/Articles/default.cfm?key=How+to+Foster+Motivation+in+an+Academic+Workplace.

Choi, J. (2013, July 10). *The motivation trifecta: Autonomy, mastery, and purpose.* Retrieved May 2015, from Delivering Happiness: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwi3jviV4PfLAhVK4SYKHTJgCgAQFggeMAA&url=http%3A%2F%2Fdeliveringhappiness.com%2Fthe-motivation-trifecta-autonomy-mastery-and-purpose%2F&usg=AFQjCNHLskrqayWnI_yZ7E5CcMBQHafB9A.

Chval, K., & Nossaman, L . (2014). Raising the bar on external research funding: Infrastructure and strategies for enhancing faculty productivity. *Journal of Faculty Development, 28(1)*, 41-48.

Clark, R. (2003). Fostering the work motivation of individuals. *Performance Improvement, 42(3)*, 21-29.

Cross, G., & Carroll, D. (1990). *Goodwill under stress: Morale in UK Universities.* London, UK: Association of University Teachers.

Danchisko, K., & Thomas, A. (2012). *Assessing faculty research productivity at public research institutions.* Washington, DC: Education Advisory Board.

Darmody, M., & Smyth, E. (2010). *Job satisfaction and occupational stress among primary school teachers and school principals in Ireland.* Dublin, Ireland: Economic and Social Research Institute.

Decker, R., Konstan, J., Trice, A., & Wimsatt, L. (2007). *A profile of federal-grant administrative burden among Federal Demonstration Partnership faculty: A report of the faculty standing committee of the Federal Demonstration Partnership.* Washington, D.C.: Federal Demonstration Partnership.

DeDonno, M., & Demaree, H. (2008). Perceived time pressure and the Iowa Gambling Task. *Judgement and Decision Making, 3(8)*, 636-640.

Deloitte. (2013). *Funding the future in challenging times.* Ontario, Canada: Deloitte.

DesRoches, C., Campbell, E., Iezzoni, L., Sowmya, R., & Zinner, D. (2010). Activities, productivity, and compensation of men and women in life sciences. *Academic Medicine, 85(4)*, 631-639.

Dever, M., & Morrison, Z. (2009). Women, research performance, and work context. *Tertiary Education and Management, 15(1)*, 49-62.

Donatelle, R. (2012). *My health: An outcomes approach.* San Francisco, CA: Benjamin Cummings.

Douglas, M. (2006, March). *Public and private: What's the difference?* Retrieved February 2015, from Inside Higher Education: https://www.insidehighered.com/views/2006/03/06/lombardi.

Dua, J. (1994). Job stressors and their effects on physical health, emotional health and job satisfaction in a university. *Journal of Educational Administration, 32(1)*, 59-78.

Dysvik, A., & Bard, K. (2008). The relationship between perceive training opportunities, work motivation and employee outcomes. *International Journal of Training and Development, 12(3)*, 138-157.

Easter, L., & Shultz, E. (1998). Ten heads work better than one: An innovative model. *Research Management Review*, 24-32

Eccles, J., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology, 53*, 109-132.

Egberi, E. (2015). Motivation and employees' productivity in local government system in Nigeria: An evaluation. *Journal for Studies in Management and Planning, 1(3)*, 148-163.

Ellerslie, S., & Oppenheim, C. (2008). The effect of motivation on publication productivity of UK LIS. *Library and Information Research, 32(101)*, 57-90.

Feldman, M., Phil, MKhalili, M., Brown, J., Creasman, J., Huang, L., Kahn, J., Lee, K., & Steinauer, J. (2012). A mentor development program for clinical translational science faculty leads to sustained, improved confidence in mentoring skills. *Clinical and Translational Science, 5(4)*, 362-367.

Freedman, S. (2009). Collegiality matters: How do we work with others? *Charleston Library Conference* (pp. 377-385). Charleston, SC: Purdue University.

Frey, M. (2007). College coaches' experiences with stress "problem solvers" have problems too. *The Sport Psychologist, 21*, 127-151.

Geller, A., & Eodice, M. (2013). *Working with faculty writers.* Boulder, CO: University of Colorado Press .

Gillespie, N., Walsh, M., Winefeld, J., & Stough, C. (2001). Occupational stress in universities: Staff perceptions of the causes, consequences and moderators of stress. *Work & Stress, 15(1)*, 53-72.

Ginther, D., Haak, L., Kington, R., Liu, F., Masimore, B., Schaffer, W., & Schnell, J. (2011). Race, ethnicity, and NIH research awards. *Science, 333(6045)*, 1015-1019.

Gitlin, L. & Lyons, K. (2004). *Successful grant writing: Strategies for health and human service professionals (2nd ed.).* New York: Springer Publication Co.

Grant, A., & Shin, J. (2011). Work motivation: Directing, energizing, and maintaining effort (and reseach). In R. Ryan, *Oxford handbook of motivation* (pp. 2-40). Oxford, UK: University of Oxford Press.

Hainline, L., Gaines, M., Feather, C., Padilla, E., & Terry, E. (2010). Changing students, faculty, and institutions in the twenty-first century. *Peer Review. 12(3)*, 7.

Hanover Research. (2014). *Building a culture of research: Recommended practices.* Washington, D.C.: Hanover Research.

Hardré, P., Beesley, A., Miller, R., & Pace, P. (2011). Faculty motivation to do research: Across disciplines in research-extensive institutions. *The Jouranl of the Professoriate, 5(2)*, 35-69.

Harley, D., & Acord, S. (2011). *Peer review in academic promotion and publishing: Its meaning, locus, and future.* Berkeley, CA: UC Berkeley's Center for Studies in Higher Education.

Harris, B., & Sullivan, A. (2012). Faculty roles: A primer for students and professionals interested in careers in academia. *National Association of School Psychologists, 41(2)*, 20-21.

Hatfield, A. (2012). The Economics of Perception: Potential Effect Regarding Institutional Uses of Recovered Facilities and Administrative Costs Upon a Faculty Member's Decision to Engage in Sponsored Research Activity. *Theses, Dissertations and Capstones*. WV, US: Marshall University.

Hemmings, B., & Kay, R. (2010). Research self-efficacy, publication output, and early career development. *Internal Journal of Educational Management, 24(7)*, 562-574.

Hemmings, B., Rushbrook, P., & Smith, E. (2007). Academics' views on publishing refereed works: A content analysis. *Journal of Higher Education, 54(2)*, 307-332.

Hiep, P. (2006). Researching the research culture in English language education in Vietnam. *TESL-EJ, 10(2)*, 1-20.

Huit, C., Callister, R., & Sullivan, K. (2005). Is there a global warming toward women in academia? *Liberal Education, 9(31)*, 50-57.

Huston, T., Norman, M., & Ambrose, S. (2007). Expanding the Discussion of Faculty Vitality to Include Productive but Disengaged Senior Faculty. *Journal of Higher Education. 78(5)*, 493-522.

Jacoba, B., & Lefgren, L. (2011). The impact of research grant funding on scientific productivity. *Journal of Public Economics, 95(9/10)*, 1168-1177.

Jang, S., Park, R., & Zippay, A. (2011). The interaction effects of scheduling control and work-life balance programs on job satisfaction and mental health. *International journal of Social Welfare, 20(2)*, 135-143.

Kataoka, M., King, B., Ozawa, K., Tanioka, T., & Tomotake, M. (2014). Occupational stress and its related factors among university teachers in Japan. *Scientific Research Health, 6(5)*, 299-305.

Katsapis, C. (2012). The incidence and types of occupational role stress among university research administrators. *Research Management Review, 14(1)*, 1-23.

Keogh, P. (2013). Motivation for grant writing among academic librarians. *ProQuest Education Journals, 114(3/4)*, 151-165.

Kinman, G., & Grant, L. (2011). Exploring stress resilience in trainee social workers: The role of emotional and social competencies. *The British Journal of Social Work, 41(2)*, 261-275.

Kinman, G., & Wray, S. (2013). *A survey of stress and well-being among staff in higher education.* London, UK: University and College Union.

Koenigsknecht, T. (2013, December). *But the half can never be told: The lives of Cannelton's cotton mill women workers (master's thesis).* Retrieved January 2015, from Indiana University-Purdue University Indianapolis, Scholars Work: http://hdl.handle.net/1805/4655.

Kuvaas, B., & Dysvik, A. (2009). The perceived investment in employee development, intrinsic motivation and work performance. *Human Resource Management Journal, 19(3)*, 217-236.

Lai, E. (2011). *Motivation: A Literature Review.* New York, NY: Pearson.

Lee, K., El-Ibiary, S., & Hudmon, K. (2010). Evaluation of research training and productivity among junior pharmacy practice faculty in the United States. *Journal of Pharmacy Practice, 23*, 553–559.

Lechuga, V. (2012). Faculty motivation and scholarly work: Self-determination and self-regulation perspectives. *Journal of the Professoriate, 6(2)*, 59-97.

Leisyte, L., & Dee, J. (2012). Understanding academic work in a changing institutional environment: Faculty autonomy, productivity and identity in Europe and the United States. In *J. A. Smart*, *Higher education: The handbook of theory and research. 10.1007/978-94-007-2950-6* (pp. 123-206). Springer, NY: Springer Sciences + Business Media.

Lertputtarak, S. (2008). *An investigation of factors related to research productivity in a public university in Thailand*: A case study. Melbourne, Australia: Victoria University.

Levin, S., & Stephen, P. (1991). Research productivity over the life cycle: Evidence for academic scientists. *The American Economic Review, 81(1)*, 114-132.

Levitan, A., & Ray, R. (1992). Personal and institutional characteristics affecting research productivity of academic accountants. *Journal of Education for Business, 67(6)*, 335-341.

Livingston, J. (2011). *Defining and measuring faculty engagement: Validation of the faculty engagement survey (Doctoral dissertation).* Available from ProQuest Dissertations and Theses database. (UMI No. 3467979).

Mahmood, A., Zahoor, F., & Zamir, S. (2013). Impact of age and level of experience on occupational stress of academic managers at higher education level. *Mediterranean Journal of Social Science, 4(1)*, 535-541. Doi:10.5901/mjss.2012.v4n1p535.

McCleod, S. (2015). *Likert Scale*. Retrieved April 13, 2015, from SimplyPsychology: http://www.simplypsychology.org/likert-scale.html.

McGill, M., & Settle, A. (2012). Identifying effects of institutional resources and support on computing faculty research productivity, tenure, and promotion. *International Journal of Doctoral Studies. 7*, 167-198.

McLeod, S. (2007). *Maslow's hierarchy of needs.* Retrieved February 2015, from Simple Psychology: http://www.simplypsychology.org/maslow.html.

McMillan, J. & Schumacher, S. (2010). *Research Education (7th ed.).* Upper Saddle River, NJ: Pearson Education, Inc.

Middle Tennessee State University. (2014). *Middle tennessee state university 2014 fact book.* Murfreesboro, TN: MTSU Office of Institutional Effectiveness, Planning and Research.

Middle Tennessee State University. (2015). *Middle tennessee state university 2015 fact book.* Murfreesboro, TN: MTSU Office of Institutional Effectiveness, Planning and Research.

Middlebrooks, J., & Audage, N. (2008). *The effects of childhood stress on health across the lifespan.* Washington, DC: Centers for Disease Control and Prevention.

Milem, J., Berger, J., & Dey, E. (2000). Faculty time allocation: A study of change over twenty years. *Journal of Higher Education, 71(4)*, 454-475.

Monroe, S., & Kumar. R. (2011). Faculties Motivations and Incentives for Academic Research: A Basis for Improvement in Publication Productivity. *International Journal of Management and Strategy. 2(3)*, 1-31.

Mullen, C., Murthy, U., & Teague, G. (2008). Listening to those we serve: Assessing the research needs of university faculty. *Journal of Research Administration, 39(1)*, 10-31.

Nauert, R. (2011, 01 25). *Worker autonomy can lead to greater productivity, satisfaction*. Retrieved May 2015, from Psychcentral.com: http://psychcentral.com/news/2011/01/25/worker-autonomy-can-lead-to-greater-productivity-satisfaction/22885.html.

Nivet, M. (2009). Minorities in academic medicine: Review of the literature. *Journal of Vascular Surgery, 51(4)*, S53–S58.

Office of Research Services. (2015, 02 18). IT works sponsored programs report. *Fiscal year 2014-2015 sponsored programs report*. Murfreesboro, TN, US: MTSU Office of Research Services.

Oudeyer, P., & Kaplan, F. (2007). What is intrinsic motivation? A typology of computational approaches. *Frontiers in Neurorobotics, 1(6)*, doi:10.3389/neuro.12.006.2007.

Park, J. (2007, December 1). Work stress and job performance. *Statistics Canada*, pp. 5-17.

Pearson, C. (2011, 05 7). *Let them play: Video gaming in education*. Retrieved April 2015, from Stretch Your Digital Dollar: https://digitaldollar.edublogs.org/2011/03/07/let-them-play-video-gaming-in-education/.

Pintrich, P. (2003). A motivational science perspective on the role of student motivation in learning and teaching contexts. *Journal of Educational Psychology, 95(4)*, 667-686.

Pratt, M., Coy, D., & Margaritis, D. (1999). Developing a research culture in a university faculty. *Journal of Higher Education, 21(3)*, 43-55.

Prince, M., Brent, R., & Felder, R. (2007). Does faculty research improve undergraduate teaching? An analysis of existing and potential synergies. *Journal of Engineering Education*, 283-294.

Rahmani, A., Ahmadnezhad, I., Gharagozlou, F., Karchani, M., Khodaei, R., Mahmodkhani, S., Moslemi, M., & Vatani, J. (2013). Investigation of occupational stress and its relationship with the demographic characteristics of workers in Ilam, Iran. *Electronic Physicain, 5(1)*, 611-615.

Ramdhani, J. (2008). *Motivation and perceived productivity at a merged higher education institution (master's thesis).* KwaZulu-Natal, South Africa: Available from Durban University of Technology Theses and Dissertations Database. (UMI No. 319688).

Randall, R., Cox, T., & Griffiths, A. (2005). Evaluating organizational stress-management interventions using adapted study designs. *European Journal Of Work and Organizational Psychology, 14(1)*, 23-41.

Reid, M., Auerbach, A., Glasheen, J., Harrison, R., Misky, G., & Sharpe ,B. (2012). Mentorship, productivity, and promotion among academic hospitalists. *Journal of General Internal Medicine, 27(1)*, 23-27.

Roberts, T., & House, J. (2006). Profile of a research administrator. *Research Management Review, 15(1)*, 41–47.

Rok, M. (2011). Stress and stress management in higher education tourism institutions. *Tourism and Hospitality Management, 17(2)*, 279-290.

Ryan, R., Deci, E., Lynch, M., & Vansteenkiste, M. (2011). Motivation and autonomy in counseling, psychotherapy, and behavior change: A look at theory and practice. *The Counseling Psychologist, 49(2)*, 193-260.

Safari, T., Othman, A., & Wahab, M. (2012). Gender, academic rank, employment status, university type and job stress among university academic staff: A comparison between Malaysia and Indonesia context. *International Journal of Humanities and Social Sciences, 1(18)*, 250-261.

Salaran, M. (2010). Research productivity and social capital in Australian higher education. *Higher Education Quarterly, 64(2)*, 133-148.

Sampson, J., Carroll, P., Driscoll, M., & Foulk, D. (2010). *Successful faculty performance in teaching, research and original creative work, and service.* Tallahassee, FL: Florida State University.

Schor, N., Guillet, R., & McAnarney, E. (2011). Anticipatory guidance as a principle of faculty development: Managing transition and change. *Academic Medicine, 86(10)*, 1235-1240.

Schutt, R. (2011). *Investigating the Social World.* Thousand Oaks, CA: SAGE Publications.

Shambrook, J. (2010). *Health Behavior, Occupational Stress, and Stress Resiliency in Research Administrators Working in the Academic Environment (Doctoral dissertation).* Minneapolis: Walden University.

Shambook, J., & Roberts, J. (2010). 2010 profile of a research administrator. *Research Management Review, 18(1)*, 1-12.

Shambrook, J., & Cooper, S. (2007). Research Administration and Management. *Journal of Research Administration*.

Slišković, A., & Seršić, D. (2011). Work stress among university teachers: Gender and position differences. *Archives of Industrial Hygiene and Toxicology, 62(4)*, 299-307. doi:10.2478/10004-1254-62-2011-2135.

Smeltzer, S., Cantrell, M., Heverly, M., Jenkinson, A., Nthenge, S., Sharts-Hopko, N., & Wise, N. (2014). Challenges to research productivity of doctoral program nursing faculty. *Nursing Outlook, 62(4)*, 268-274.

Srivastava, S., & Barmola, K. (2011). Role of motivation in higher productivity. *Journal of Incisive Analysers, 10(2)*, 79-99.

Sterner, A. (1999). Faculty attitudes toward involvement in grant-related activities at a predominantly undergraduate institution. *Journal of the Society of Research Administrators, 31(1)*, 5-21.

Street, J., Braunack-Meyer, A., Israel, M., & Rogers W. (2010). Credit where credit is due? Regulation, research integrity and the attribution of authorship in the health sciences. *Society for Science Medicine. 70(9)*, 1458-65.

Sun, W., Wang, L., & Wu, H. (2011). Occupational stress and its related factors among university teachers in China. *Journal of Occupational Health, 53(4)*, 280-286.

Symbiont Performance Group, Inc. (2014, March). *Dynamics of personal motivation*. Retrieved March 2016, from Insights Newsletter: http://www.symbiontperformance.com/id67.html.

Tennessee Board of Regents. (2004, 07 01). *Academic Tenure for Universities : 5:02:03:60*. Retrieved May 2015, from TBR.org: https://policies.tbr.edu/policies/academic-tenure-universities.

Tennessee Board of Regents. (2015, 01 30). *Board of Regents*. Retrieved May 2015, from TBR.edu: https://www.tbr.edu/board/board-regents.

Tien, F. (2000). To what degree does the desire for promotion motivate faculty to perform research? Testing the expectancy theory. *Journal of Higher Education, 41(6)*, 723-752.

Tien, F. (2007). Faculty research behaviour and career incentives: The case of Taiwan. *International Journal of Education Development, 27(1)*, 4-1.

Tien, F. (2008). What kind of faculty are motivated to perform research by the desire for promotion? *Research in Higher Education, 55(1)*, 17-32.

Townsend, K., & Rosser, V. (2007). Workload issues and measures of faculty productivity. *Tought and Action, 23(1)*, 7-20.

Tytherleigh, M.Y., Webb,C., Cooper, C.L. & Ricketts, C. (2005). Occupational stress in UK higher education institutions: A comparative study of all staff categories. *Higher Education Research & Development, 24*, 41-61.

Ungar, M. (2008). Resilience across cultures. *British Journal of Social Work, 38(2)*, 218-235. doi:10.1093/bjsw/bcl343.

Walden, P., & Bryan, V. (2010). Tenured and non-tenured college of education faculty motivators and barriers in grant writing: A public university in the south. *Journal of Research Administration, 42(3)*, 85-98.

Webber, K. (2011). Factors related to faculty research productivity and implications for academic planners. *Planning for Higher Education, 39(4)*, 32-43.

Wimsatt, L., Trice, A., & Langley, D. (2009). Faculty Perspectives on Academic Work and Administrative Burden: Implications for the Design of Effect Support Services. *Society of Research Administrators*, 71-89.

Winefield, A., Dua, J., Gillespie, N., Hapuararchchi, J., & Stough, C. (2002). *Occupational stress in australian universities.* Australia: National Tertiary Education Union.

Work Group for Community Health and Development. (2014). *Grant writing.* Lawrence, KS: University of Kansas.

Zhao, C. (2011, 01 01). *The carnegie classifications: A brief introduction.* Retrieved April 2015, from Ensino Superior Unicamp: https://www.revistaensinosuperior.gr.unicamp.br/artigos/the-carnegie-classifications-a-brief-introduction.

APPENDICES

Appendix A

Permission from IRB to Conduct the Research

IRB APPROVAL – Initial Expedited Review

November 24, 2015

Sharon Smith

Re: Factors that Motivate Faculty to Pursue External Funding at a 4 Year
Public Institution of Higher Education
IRB#: c1115.1sd
ORSPA #:

The following items were reviewed and approved by an expedited process:
- new protocol submission, literature review, PI CV, adviser COI form, ICD, permission letter to use listserv, survey

The following revisions were received and approved as part of the requested changes:
- MTSU IRB Approval letter

On **November 23, 2015**, a final approval was granted for a period not to exceed 12 months and will expire on **November 22, 2016**. The expedited approval of the study *and* requested changes will be reported to the convened board on the next agenda.

A waiver of requirement for written documentation of informed consent has been granted under category 45 CFR 46.117(c)(2).The research involves no more than minimal risk to the participants as it consists of a benign survey. The research involved no procedures for that written consent is normally required outside of the research context as it is not typical to get a signature for completing a survey. The investigator has provided a script of the consent discussion that meets the requirements for the

consent process and includes all required and appropriate additional elements of disclosure. The IRB has considered whether the investigator is to provide written information to the participant that includes all required and appropriate additional elements of the disclosure

The following **enclosed stamped, approved Informed Consent Documents** have been stamped with the approval and expiration date and these documents must be copied and provided to each participant prior to participant enrollment:
- Informed Consent Document (Email consent (stamped approved 11-23-15); survey attached consent (stamped approved 11-23-15))

Federal regulations require that the original copy of the participant's consent be maintained in the principal investigator's files and that a copy is given to the subject at the time of consent.

Projects involving Mountain States Health Alliance must also be approved by MSHA following IRB approval prior to initiating the study.

Unanticipated Problems Involving Risks to Subjects or Others must be reported to the IRB (and VA R&D if applicable) within 10 working days.

Proposed changes in approved research cannot be initiated without IRB review and approval. The only exception to this rule is that a change can be made prior to IRB approval when necessary to eliminate apparent immediate hazards to the research subjects [21 CFR 56.108 (a)(4)]. In such a case, the IRB must be promptly informed of the change following its implementation (within 10 working days) on Form 109 (www.etsu.edu/irb). The IRB will review the change to determine that it is consistent with ensuring the subject's continued welfare.

Sincerely,
Stacey Williams, Chair ETSU
Campus IRB

Accredited Since December 2005

Appendix B

Email Communication Requesting Participation

Dear Faculty

My name is **Sharon Smith**, and I am a graduate student at East Tennessee State University. I am working on my doctoral degree in Educational Leadership. In order to finish my studies, I need to complete a research project. The name of my research study is "**Factors That Motivate Faculty to Pursue External Funding at a 4-year Institution of Higher Education**".

The purpose of this study is to identify the factors that motivate faculty to pursue external funding. I would like to give a brief survey questionnaire to the tenured and tenure-track faculty. It should only take about 10 minutes to complete. You will be asked questions about factors that motivate you to pursue external funding. Since this project deals with your thoughts and perceptions related to external funding, it might cause some minor stress. However, you may also feel better after you have had the opportunity to express yourselves about factors that motivate you to pursue external funding. This study may provide benefits by providing more information about/into **factors that motivate faculty to pursue external funding.**

Your confidentiality will be maintained to the degree permitted by the technology used. Specifically, no guarantees can be made regarding the interception of data sent via the Internet by any third parties. Although your rights and privacy will be maintained, ETSU IRB (for non-medical research) and personnel particular to this research (Sharon Smith, student, and Catherine Glascock, Faculty Advisor) have access to the study records.

If you do not want to fill out the survey, it will not affect you in any way. There are no alternative procedures except to choose not to participate in the study.

Participation in this research experiment is voluntary. You may refuse to participate. You can quit at any time. If you quit or refuse to participate, the benefits or treatment to that you are otherwise entitled will not be affected.

If you have any research-related questions or problems, you may contact me at **615-898-5894.** I am working on this project under the supervision of **Dr. Catherine Glascock**. You may reach her at 423-439-7509. Also, the chairperson of the Institutional Review Board at East Tennessee State University is available at (423) 439-6054 if you have questions about your rights as a research subject. If you have any questions or concerns about the research and want to talk to someone independent of the research team or you can't reach the study staff, you may call an IRB Coordinator at 423/439-6055 or 423/439/6002.

If you would like to participate in this study, please click on the following link to acknowledge that you have read the consent form and conditions of this project, have had all your questions

answered, and give your voluntary consent to participate:
https://www.surveymonkey.com/r/DissertationSSmith

Sincerely,

Sharon Smith

Sharon Smith
Research Development Specialist
MTSU Office of Research Services
(615) 898-5894 (Office)
(615) 898-5028 (Fax)

Appendix C

Introduction to Survey

Motivating Factors in Pursuing External Funding Survey

Introduction:

The focus of this effort is to identify the factors that motivate faculty to pursue external funding.

This survey is designed to gather input from **ALL** full-time tenured and non-tenured tenure track faculty, not just those currently involved in or interested in sponsored research. Therefore, *I respectfully ask that you participate in this survey, even if you have no plans to engage in externally sponsored research.*

Participating in this survey is voluntary, and refusal to participate or withdrawing from participation at any time during the survey will involve no penalty or loss of benefits to that you might otherwise be entitled. All efforts, within reason, will be made to keep the personal information in your research record private but total privacy cannot be promised, for example, your information may be shared with the East Tennessee State University Institutional Review Board. In the event of questions or difficulties of any kind during or following participation, you may contact the Principal Investigator, Sharon Smith, at (615) 898-5894. For additional information about giving consent or your rights as a participant in this study, please feel free to contact the ETSU Office for the Protection of Human Subjects at (423) 439-6053.

Survey responses are confidential. Respondent data that could result in personal identification of respondents in a particular academic unit (e.g. gender, combinations of rank and years of experience, or type of research) will only be reported in aggregate to ensure anonymity. In addition, the survey is being distributed, collected, and analyzed by Sharon Smith, and individual survey responses will not be made available for review. Thank you for your participation! This survey is estimated to take 10 minutes to complete.

Appendix D

Survey

Motivating Factors in Pursuing External Funding Survey

1. What is your gender? [1] Male [2] Female,

2. What is your faculty Tenure Status status [1] Tenure-Track [2] Tenured

3. How many external grants have you submitted within the previous 3 years?

     [1] None [2] Fewer than 3 [3] 3 or more

4. How many external grants or contracts have you received within the previous 3 years?

     [1] None [2] Fewer than 3 [3] 3 or more

To what extent do you view the following items 5-20 as motivators to pursuing external funding?

5. More flexibility in the allocation of my time

     [1] Not important [2] Somewhat important [3] Important [4] Extremely Important

6. Reduced teaching load

     [1] Not important [2] Somewhat important [3] Important [4] Extremely Important

7. Freedom of choice in research topics

     [1] Not important [2] Somewhat important [3] Important [4] Extremely Important

8. Freedom in carrying out your research objectives

     [1] Not important [2] Somewhat important [3] Important [4] Extremely Important

9. Advancing my career

     [1] Not important [2] Somewhat important [3] Important [4] Extremely Important

10. Building my professional reputation as a capable researcher

     [1] Not important [2] Somewhat important [3] Important [4] Extremely Important

11. Increasing my scholarly works or publication record

     [1] Not important [2] Somewhat important [3] Important [4] Extremely Important

12. Developing experience in obtaining grant funding

    [1] Not important [2] Somewhat important [3] Important [4] Extremely Important

13. Assistance in grant proposal development

    [1] Not important [2] Somewhat important [3] Important [4] Extremely Important

14. Assistance in grant award management

    [1] Not important [2] Somewhat important [3] Important [4] Extremely Important

15. Opportunities to participate in grant writing or development workshops

    [1] Not important [2] Somewhat important [3] Important [4] Extremely Important

16. Opportunities to network or collaborate with other faculty internal and external to the university

    [1] Not important [2] Somewhat important [3] Important [4] Extremely Important

17. Receiving financial support for summer salary

    [1] Not important [2] Somewhat important [3] Important [4] Extremely Important

18. Receiving financial support for travel, equipment, or materials and supplies

    [1] Not important [2] Somewhat important [3] Important [4] Extremely Important

19. Having a portion of indirect costs returned to me

    [1] Not important [2] Somewhat important [3] Important [4] Extremely Important

20. Receiving financial support for student workers or other staff

    [1] Not important [2] Somewhat important [3] Important [4] Extremely Important

VITA

SHARON D. SMITH

Education:	Public Schools, Mobile, Alabama
	B.S. in Business Administration, University of Alabama, Tuscaloosa, Alabama 1992
	M.S.C.E. in Counselor Education, University of West Alabama, Livingston, Alabama 1996
	Ed.D. Educational Leadership, East Tennessee State University, Johnson City, Tennessee 2016
Professional Experience:	Research Development Specialist/Research Administrator, Middle Tennessee State University, Murfreesboro, Tennessee 2008-Present
	Interim CEO, Dearborn YMCA, Mobile, Alabama, 2006-2007
	Director of Operations, Dearborn YMCA, Mobile, Alabama 2004-2007
	Program Coordinator, Dearborn YMCA/Mobile County Health Dept., Mobile, Alabama 2003-2004
	Supervisor, University of South Alabama, Mobile, Alabama 2002-2003
	Instructional Specialist, University of South Alabama, Mobile, Alabama 1996-2002
Publications:	National Council of University Research Administrators, Region III Annual Meeting, Isle of Palms, South Carolina, "Collaborative Projects: Developing Sustainable Partnerships", May 1, 2016
	Austin Peay State University Faculty Workshop, "Architecture of a Winning Grant Proposal", September 22, 2015
	National Council of University Research Administrators, Region III Annual Meeting, Isle of Palms, South Carolina, "Collaborative Projects: Developing Sustainable Partnerships", May 9, 2015
	Society of Research Administrators International Annual Meeting, Concord, North Carolina, "Collaborative Projects: Developing Sustainable Partnerships", March 9, 2015
	National Council of University Research Administrators PRA Conference, Vancouver, BC, "Supplemental Compensation on Federal Awards: Entering the Quagmire." 2012
	National Council of University Research Administrators 53RD Annual Meeting, Washington, D.C., "Supplemental Compensation on Federal Awards: Entering the Quagmire." 2011
Honors and Awards:	Tennessee Board of Regents 2015 Maxine Smith Fellowship

Middle Tennessee State University Office of Equity and Compliance Grant for graduate education/research support, 2011-2015

Dearborn YMCA Safe Transportation Project Grant from the Crampton Trust Fund to provide transportation services to low-income children participating in an after school program, 2006

Dearborn YMCA Pathway to Employment Program Grant under the Workforce Investment Act, U.S. Department of Labor to provide GED services, career counseling services, and soft skills training to children ages 17-21, 2006

Supplemental Education Services Grant to provide supplemental tutoring services to elementary and middle school children, 2005

Senior Activities and Independent Living Grant through the CDBG for Mobile County to provide services for senior citizens, 2005

Bledsole Foundation grant to support the implementation of a research based childcare curriculum for a daycare program, 2005

Financial Literacy Program Grant from Wachovia Bank to provide financial literacy workshops to community residents, 2004

Childcare Worker Training Grant from the Department of Human Resources to provide an early childhood education certification program to low-income students, 2003