2015

Beyond tenured: analysis of the influence of department chair role conflict, stress, job satisfaction and their likelihood to serve for another term

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Beyond tenured: Analysis of the influence of department chair role conflict, stress, job satisfaction and their likelihood to serve for another term

by

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A dissertation submitted to the graduate faculty

in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Education (Educational Leadership)

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2015

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ABSTRACT

This study examines the influence of job stress, role conflict, and job satisfaction on department chairs' likelihood to serve for another term. Analyzing factors that affect department chairs' decisions to serve for another term is important. The results of this analysis not only revealed the struggles faced by the department chairs, but they also provided university central administrators with the feedback to address the department chairs' needs and to attract faculty members for this middle manager position.

The participants of this study were the department chairs of seventy land grant universities, specifically those who serve in the fields of agriculture, engineering, and science. Four research questions guided the study, they are: (1) According to the department chair what are the factors that cause significant stress? (2) How do the factors that cause stress vary among department chairs at different disciplines, i.e., Agriculture, Science, and Engineering? (3) How do gender differences affect the issues surrounding department chairs role, i.e., stress, role conflict, and job satisfaction? (4) Are there any relationships between department chair's perceived stress, job satisfaction, and likelihood to serve for another term? In order to answer the research questions I used factor analysis, MANOVA, Pearson correlation, and multiple regressions as the statistical methods.

This study found increased workload and insufficient time for scholarship and/or research were two factors that ranked as the highest with regard to factors that cause stress to department chairs in all three fields (i.e., agriculture, engineering, and science). In addition, this finding indicated that department chair's work is similar, regardless of the disciplines. The tasks of department chairs are not discipline-dependent. However, unlike the disciplines variable, gender variable shows significant difference in terms of its

impact towards stress variable. On the contrary, when it comes to job satisfaction, gender does not significantly make a difference. The independent variables, namely job stress, job satisfaction, as well as other predictors, i.e., disciplines, gender, and age, contributed to the variance in the dependent variable, that is, department chairs' likelihood to serve for another term. Age variable shows that the older the department chairs' age, the less likely they will serve for another term. Another predicting variable, stress, is related to workload, proven to significantly influence the department chairs' likelihood to serve for another term. Likewise, another stress variable pertinent to the availability of support, also significantly predicted the department chairs' likelihood to serve for another term. Finally, job satisfaction, as anticipated, significantly predicts the department chairs' likelihood to serve for another term. The higher their score on job satisfaction, the more likely they will serve for another term as department chairs.

CHAPTER I

INTRODUCTION

Previous studies on department chairs found an overarching theme of faculty's

reluctance to become the chair of their departments (Williams, Blackwell, & Bailey,

2010). The demanding duties of department chairs and the inadequate power that

accompanies the duties are usually the main reason this leadership position is difficult to

fill. Department chairs assume their positions through different ways; some are elected by

the faculty in the department, others are appointed by the dean, and sometimes

assignment is by a system of rotation. Though being the person in charge of the

department allows the department chair to have more direct access to deans and other

higher administrators, which may make this leadership, appear prestigious (Misra,

Lundquist, Holmes, & Agiomavritis, 2011); few faculty members are interested in

assuming this responsibility.

While there have been empirical studies on department chairs, none have

attempted to analyze the impact of job stress and role conflict towards department chairs'

job satisfaction and likelihood to serve for another term. Therefore, this study seeks to

identify causes of job stress, role-conflict, and to understand how these factors influence

department chairs' job satisfaction and likelihood to serve for another term. This

dissertation study was conducted through a survey that was administered to all land-grant

universities across the nation. More specifically, the research setting focused on the

agriculture, sciences, and engineering disciplines at 70 land-grant institutions. Those four

disciplines were selected because they are the original fields of study as part of the land-grant mission (Morril Act, 1862).

Statement of Problem

Eighty percent of the university administrative work is done at the departmental level (Roach, 1976); consequently, 'academic departments are the central building of universities' (Trow, 1977, p. 12), not to mention that a department chair position is typically an entry point into the hierarchy of academic administration (McDade, 1987). Hence, department chairs hold one of the most significant roles at a university. Despite the seemingly prestigious position as a midlevel manager, department chair is not a position that is desired, let alone highly sought. The opportunity to have a connection with deans, and central administrators appears insufficient to attract faculty members to chair a department.

Significance of the Study

Department chairs have an important role in mediating faculty and the university central administrators, and yet most chairs assume their position without preparation (Seagren, Creswell, & Wheeler, 1993). The absence of training for academic department chairs could be one of the reasons this middle manager position is difficult to fill. Those who assume the department chair position for the first time, generally receive no training that prepares them for the expectations of the job (Bragg, 1981). Caught between faculty's and higher administrators' interests, chairs often struggle with their roles both as

faculty members and as administrators. Once a faculty member becomes a department chair, his/her loyalty is shifted from the department to university (Bennett, 1988), while working with people in his/her department. This role shifting can create role conflict, which in turn influences the chair's relationship with faculty and staff, as well as with the Dean. Despite the importance of the department chair's job in a university and the need to understand chair's struggles, there are not many studies that can be found that analyze the university department chairs' role conflict, from the chairs' point of view. In addition, there are few studies that analyze the influence of disciplines on department chairs' perceptions of their roles, job stress, job satisfaction, and likelihood to serve for another term.

Need for Study

Descriptive research discussing department chair's duties and responsibilities is plentiful, but there are only a few research studies exploring the department chair's own perceptions. Most literature on university department chair is centered around advice on becoming a successful chairperson (Leaming, 1998). Others present motivations or reasons for serving as chairperson. However, department chairs' opinion is often missing from the literature. Such an oversight could lead to the exclusion of many findings that could have been beneficial. Department chairs' perception on issues pertinent to their position, such as role conflict, job stress, job satisfaction, and likelihood to serve for another term is an area where the research falls short. Moreover, there is currently no research available that tries to examine how the issues mentioned earlier influence

department chairs at different universities across the nation and across different disciplines. Understanding and analyzing department chairs' perceptions would help university central administrator to provide a more effective training to prepare chairs before and during their assignments, to give the support they need during their service, to reduce the high rate of chair turnover, and to make the position of a department chair a more rewarding experience. The purpose of this study is to identify factors that cause stress to department chairs, measure the impact of role conflict, job stress, job satisfaction, on likelihood to serve for another term among department chairs at land grant universities. Specifically, this study addressed the following research questions:

1. According to the department chair what are the factors that cause significant stress?

2. How do the factors that cause stress vary among department chairs at different disciplines, i.e., Agriculture, Science, and Engineering?

3. How do gender differences affect the issues surrounding department chairs role, i.e., stress, role conflict, and job satisfaction?

4. Are there any relationships between department chair's perceived stress, job satisfaction, and likelihood to serve for another term?

Conceptual Framework

In order to guide the analyses of the variables pertaining to department chairs role conflict, role ambiguity, stress, job satisfaction this study I used a combination of Walter Gmelch's model on department chair's role conflict and role ambiguity (1991) in

conjunction with Seagren, Creswell, and Wheeler's framework on chair's demand and expectation (1993). In examining department chair stress, I employed Karasek's model of demand-control (1979). Then, Locke's theory on job satisfaction was used to examine factors that contribute to the department chair job satisfaction or lack thereof.

Definition of Terms

Department Chair

Department chair is the person who is the leader of an academic department or school at a university. Though some studies distinguished between the term chair and head, in this study, department chair includes department head or director of school. When faculty members becomes department chairs, they are still a part of the department, their focus is to serve the department, and they still see themselves as a part of the faculty in the department. Whereas, when academics moved into a dean position, they shift their view, and they were no longer serving an individual department but the whole college. Not only that, but deans are now serving for the whole university, and therefore, their main duties are to serve the university constituencies, as well as the external constituencies (Gmelch, Hopkins, & Damico, 2011).

Role Conflict

As used in this dissertation, role conflict occurs when the department chair experiences conflicting demands and expectations in relation to the expectations of the position (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964).

<u>Job satisfaction</u>

Job satisfaction is the extent to which an individual feel the fulfillment by doing his/her job (Spector, 1997, p.2). Job satisfaction is often contingent upon factors such as relationships with colleagues, salary, job conditions, supervision, nature of the work and benefits (Williams, 2004).

<u>Stress</u>

Stress is defined as a state of emotional strain or tension resulting from adverse or very demanding circumstances. In this study, the measurement and analysis on stress is specifically related to the department chair's job and responsibilities.

<div align="center">Delimitation of the Study</div>

This dissertation focuses on the department chairs at 70 land-grant universities, specifically those who currently serve at the departments in the three areas that are closely related to land-grant mission. They are agriculture, engineering, and sciences. Though military science is a part of the original land grant mission, after obtaining the survey responses, I decided not to include the military science field due to small percentage of responses from the military science field. Since a low response rate could lead to sampling bias, hence, the military field is omitted from the analysis.

As previously mentioned this dissertation study focuses on the three disciplines: Agriculture, Engineering, and Science; as such, the results of this study will not reflect the experience of department chairs outside of those areas. However, the land-grant institutions as a research setting will serve as a way to safeguard the reliability of the

research. Similar if not uniform characteristics of land-grant institutions across the nation

will enable the results to be generalized through different land-grant universities.

CHAPTER 2

REVIEW OF LITERATURE

The review of literature in this chapter summarizes the knowledge base and previous research related to department chair role conflict, stress, and job satisfaction. For the purpose of this study, the following topics will be reviewed in detail:

1. Department chair duties and responsibilities

2. Gender and the department chair

3. The Dilemma and dual roles of the department chair

4. Role conflict and role ambiguity

5. Job stress as a construct and a domain

6. Job satisfaction and motivation

7. The history of land-grant universities

8. An overview of the history of academic department

Each section in this chapter presents the topics that are related to the research variables. In addition, the discussions will also include the interrelations and interactions among variables.

Department Chair Duties and Responsibilities

The terms leader and manager have both been used to describe a department chair's role. Some literature preferred to designate a department chair as a leader, as he or she is leading the department and not simply managing resources in the department.

However, most of the department chairs' tasks require them to become a manager (Smith, 1996; Gmelch & Miskin, 1993). It would thus be of interest to see what kind of tasks or duties that department chairs are expected to do. Smith (1996) made a long list of department chair duties, that include: Advocating for the department; managing, reviewing, and supervising the department budget resources; scheduling classes; meeting with deans and other representative of upper administration, mediating faculty disputes, etc. (Smith 1993). Consequently, Gmelch and Miskin (1993) argued that the department chair is not only a leader and a manager but also a faculty developer and a scholar. In the same way, Graham (2004) identified four categories of department chair roles: administrative, leadership, interpersonal, and resource development. Within each category, there is a set of roles, and within those roles there are responsibilities.

A more detailed list of department chair's responsibilities is offered by Tucker (1993). An astonishing variety of duties, as he called it, Tucker (1993, p. 28) provided a long list of a department chair tasks, and classified them into eight categories: Department governance, instruction, faculty affairs, student affairs, external communication, budget and resources, office management, and professional development One of the categories, faculty affairs, for example, consists of tasks such as, assign faculty responsibilities; initiate promotion and tenure, evaluate faculty performance, maintain morale, etc. (1993).

The fact that previous studies on department chair roles did not to agree on the department chair roles or how to categorize the roles, this could be a signal that defining department chair's roles might be an impossible task. Defining means to make something

clear of. Hence, it is understandable that if we cannot define nor put a clear distinction on department chair's roles, that is because there is no description that is able to make a clear rule on what roles a department chair takes.

<u>Department Chair Challenges</u>

Once a faculty becomes a department chair, he or she needs to 'create' a new identity; from a colleague to a supervisor and from a member of the department to a leader. Being the decision maker of the department, one might find it easier to motivate people when the decision is made by consensus. However, in a process of trying to reach a consensus, there is a possibility that consensus could stall the decision making (Hecht, 2006).

In his reflection after being a department chair for 25 years, Pinto, stated that the job as an academic department chair is neither a relaxing nor a peaceful one. Having been through the different and changing climate in those 25 years of service, he noticed the evolving role of a department chair. Utilizing a collection of anonymous quotes from department chairs from various universities from <u>The Chronicle of Higher Education</u> and based on his own experience as a department chair, he found that not every faculty has the capacity to become an effective chair. The nature of the job requires a department chair to not only able to have an organizational ability, leadership and management capability, but also the capacity to not take everything too seriously (Pinto, 2013).

Becoming a Department Chair

One of the most interesting claims found through a review of articles on department chairs is about who is able and who should be a department chair. A faculty who wants to be a chair is not always a person who will be a good department chair. To put it differently, just because someone wants to be a department chair, does not mean he or she will be an effective leader (Hoppe, 2003). In a hypothetical story of Abilene paradox, Harvey (1988) explained how an individual who tends to always agree with any ideas might not be an effective leader. The Abilene paradox tells a story of a family member who suddenly came up with an idea of going to Abilene, a city thirty-five miles-away city from Coleman, Texas, where the whole family lived. In the spirit of agreeableness, each family member took turns to say that going to the city of Abilene is a great idea, without considering the fact that they would have to drive for several hours in the heat and dust in a car without an air conditioning. Four hours later, exhausted and covered with perspiration, they arrived at a cafeteria in Abilene. Later it was revealed that everyone was just agreeing to someone else's idea. Once it was revealed that no one was actually enjoying the trip to Abilene, they started to blame each other (Harvey, 1988).

The Abilene paradox above was an example of how a faculty member, who tends to always agree on anyone's idea, might not make an effective department chair. Instead of stating what he or she thinks about such kind of idea, an individual with this kind of character will be more likely to agree even when he or she knows that the idea is not beneficial for the department.

It is important for faculty who aspire to become a department chair as St. Marthen (2012) noted, to have prior significant leadership experience. As such, the credentials required do not have to include an impressive research experience. That is to say, they may need to have a certain amount of research experience, but they do not have to be the best researcher in his or her discipline. By the same token, these aspiring faculty members do not have to be a chair of every committee. What a faculty need if he or she is interested in the leadership position as a department chair is to serve as a member of different committees in the department. By doing so, they would have the knowledge of how the department is being managed (St. Marthen, 2012).

Another important characteristic of an academic leader is to be astute to the politics of education. Being a leader, one must be able to deal with situations as they happen and take the necessary actions. However, this may put the leader in an unfavorable position (Glatter, 1996). There is prestige in becoming a department chair, because of the high interaction with the university central administrator. Nonetheless, a department chair has to accept the fact that he or she may not be a popular faculty member (Davis & Harden, 2002).

In like manner, Tucker (1992) offered a list of skills that should be developed by sitting department chairs or the faculty members who aspire to become a department chair. Using the term both leader and facilitator, Tucker identified six criteria for an effective department chair; Interpersonal skill; ability to identify problems and solve them in a way that can be accepted by the faculty members; ability to adjust his or her

leadership style in different situations; ability to set the departmental goals; ability to achieve the goals; and ability to respect the colleagues within the department.

A Great Responsibility without Great Power

Contrary to the fact that department chairs carry great responsibilities, they possess low levels of authority and power (Hartwig, 2004). Being a middle manager, and 'caught' between the dean and the faculty and other constituents within their department, a department chair can only do so much and typically does not fulfil the expectations of both those who supervise him or her and those whom he or she supervised.

Findings from a study on Science, Technology, Engineering, and Mathematics (STEM) department chairs, showed that rotating department chairs, i.e., existing faculty members who take a turn to become a department chair, are more likely to have less power compared to a department chair who is hired from outside the university. Further, the research also indicated that a female department chairs often are less powerful (Bozeman, Fay, & Gaughan, 2013). However, as stated in the article, their study may not specifically define the different dimensions of department chairs' power. While department chair may not able to make an autonomous decision for the department, due to his or her responsibility to the dean; a department chair is able to speak on behalf of his or her department in a university-wide meeting; to create a committee; and to appoint a faculty or other individual to an administrative position within the department (p. 306).

Gender and Department Chair

Despite the increasing number of women pursuing careers in higher education, the barriers to women remain. In academe, women may be perceived as outsiders (Aisenberg & Harrington, 1988; Hagedorn & Laden, 2002). While women and men may have equal opportunity in pursuing tenure; women, balancing academe with parenthood face an additional challenge (Armenti, 2004; Marshall et al., 2012). Taking care of children is usually seen as an obligation for females. Hence, achieving tenure may be difficult for women, and assuming a position of a leader of a department even more so. Nonetheless, some do manage to become a department chair. Of course there are stories of women who had to face very difficult situations. In her studies of female department chairs, St. Marthe (2006) reported two deans that she interviewed acknowledged the fact that female department chairs must deal with more resistance than their male counterparts.

The Dilemma and the Dual Roles of Department Chair

Department chairs hold a position as an administrator and as a faculty member (Gmelch & Burns, 1991). The administrator's role can be divided into administrative, leadership, interpersonal, and resource development (Graham, 2004; Watson, 1986). Having these two roles, the department chair is caught between fulfilling the expectation as a faculty member and as an administrator. Department chairs have to switch between two different and often conflicting views. Chairs are supervisors to their colleagues, while at the same time still a part of the faculty in the department. They are expected to

fulfill the expectation of the dean and the university higher administrator that may not be in favor of the faculty or staff in their department. The dichotomous nature of the department chair job: as an administrator and as a faculty member at his/her department often poses a dilemma.

  The following figure illustrates the internal conflict within the department chair position; the demand and expectation as a department chair is represented by the top circle, i.e., the administrative view that often collides with the demand and expectation of chair as a faculty member (the lower circle).
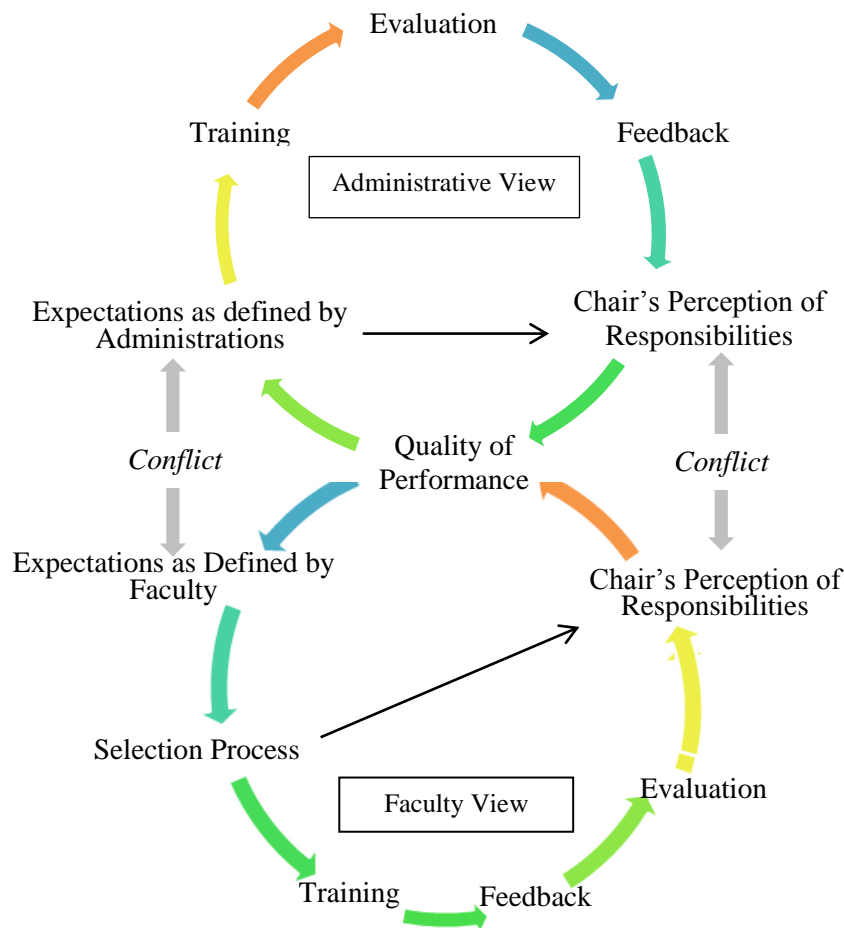
Figure 1.   *Department chair's dilemma. From the Department chair: New roles, responsibilities, and challenges (p.13), by Seagren Creswell, & Wheeler, 1993, Washington, DC: The George Washington University. Copyright by George Washington University. Used with the permission.*

Department Chair Identities

Despite the dual role that they possess, most department chairs see themselves as a faculty member and not as an administrator. Although some considered themselves as both, only a few identify as an administrator (Carroll & Wolverton, 2004). How the department chairs view their role influences the way they deal with their tasks, their priorities, and their ability to fulfill the expectations from the different stakeholders, i.e., faculty, staff, student, deans, and the university upper administrator.

Role Conflict and Role Ambiguity

Researchers have long been interested in studying role conflict and its impact on an individual's ability to perform tasks. Every role is accompanied by a set of demands or expectations. As such, there is a chance that the expectations of one role may not be aligned with the demands of another role (Settles, Sellers, & Damas, 2002). More often than not, in the effort to fulfill the expectations of one role, a person has to disregard the expectations of another role. Although different roles expectations can be negotiated (Kahn, et al., 1964); one also needs to be able to make distinction and to compartmentalize the self. However, not everyone perceives his/her different roles as separate from each other and therefore may face more difficulties in coping with the different expectations as a result (Allison, 1991). Studies have found that two individuals who have similar roles may organize the relationships between roles in very different

ways (Linville, 1985); which in turn has different effects on psychological functioning (Showers, 1992).

Department chairs are expected to fulfil the expectations of the Dean while also trying to fulfill the demands of faculty members of his or her department. Role conflict is definitely something that a department chair needs to recognize, cope with and live with. Where there are two or more differing demands from different parties, there is a potential for role conflict. For in trying to fulfill one expectation a chair might have to deviate from fulfilling another expectation (Bacharach, Bamberger, & Conley, 1990; Cooper, et al., 1998; Kahn et al., 1964). In addition to the expectations from external parties, a department chair's role conflict could also be due to the demands that collide with his or her own values and sense of obligations to others (Beehr, 1995; Copper et al., 1988; Rizzo et al., 1970). Having to deal with role conflict on a day to day basis could lead to stress.

Job Stress

It is not uncommon for an employee to experience stress related to workload or work demand. Such is also the case for a department chair as someone who not only has to perform a number of duties but also faces the dilemma of conflicting roles. Literature on organizational behavior has noted a number of studies on work-related stress. Among the studies are the impact of stress on performance (McGrath, 1976); or the occupational stress, that is, how the combination of an individual's characteristics, the situation, and the nature of the organization or workplace, triggers and affects stress (Beehr &Newman,

1978). Further, researchers were also interested in examining the external environments that trigger stress among employees, such as Spector's Frustration Model, which highlights frustrating job conditions (e.g., interruptions, lack of resources) that may lead to counterproductive and often aggressive workplace behavior (Barling, Kelloway, & Frone, 2005, p.582; Spector, 1975). Lastly, Karasek's demands-control model, in which he proposed an interaction between work demands and job control (or discretion) by which the stressful situations are those where high demands are placed on employees, yet the employees have little control over decisions that influence their jobs. Consequently, these interaction cause job strain, that is, 'the complex measure of the interaction of job demand and job control' (Karasek, 1979, p. 287).

An academic institution, just like any other organization, is a workplace; and in a workplace, stress happens and is experienced by its employees. Past studies have noted that among faculty, there are at least ten significant sources of job stress (Gmelch, Lovrich, & Wilke, 1984). If an individual who works as a faculty member experienced at least ten things that caused stressed, then department chairs would experience more stressors due to their dual role as chair and as faculty. Though for some people, stress is considered as a challenge that comes with the position, for others, stress can be devastating and might take its toll on health (Tucker, 1993).

Job Satisfaction

One of the most studied topics in organizational and industrial psychology is job satisfaction (McFarlin, 1995). Briefly defined, job satisfaction is how people feel about

their job. Though measuring job satisfaction is not an easy task, researchers have tried to examine the factors that contribute to job satisfaction. Various researchers have attempted to study the causes of job satisfaction. Ryan and Deci (2000) used the term extrinsic and intrinsic reward to explain the root of job satisfaction. On the other hand, Frederick Herzberg (1959), viewed motivation may not necessarily cause or even correlate with satisfaction; for motivation and satisfaction are not in the same continuum (Herzberg, 1959; Furnham, Eracleous, & Chamorro-Premuzic, 2009).

Motivation-Hygiene Theory

In 1959, Herzberg proposed a motivation-hygiene theory; a theory on job satisfaction that claims an employee's satisfaction or dissatisfaction s not a consequence of the same work factors. Employees' satisfaction, he argued, is determined by the content of the work, namely, achievement, recognition, interesting work, and increased advancement. Whereas, their dissatisfaction or unhappiness is not caused by the content or what they do (i.e., achievement, recognition, advancement, etc.), but by the work context, that is, how they are treated by the company, and that includes things like company policy, administration, salary, status, and security. Further, the factors that lead to satisfaction are those factors that create work motivation (Herzberg, 1974, p. 18).

Intrinsic Versus Extrinsic Motivations

In the field of psychology, researchers considered both intrinsic motivation and extrinsic motivation as variables that influence employees' job satisfaction. Studies found

that self-motivation or the intrinsic motivation is just as important as the extrinsic

motivation, i.e., the external factors, such as, salary, promotion, and recognition (Ryan &

Deci, 2000). Although this may be true, as Bozeman and Gaughan (2011) argued, one

should define what can be classified as intrinsic motivations and what should be

categorized as extrinsic motivation. In their study of faculty satisfaction, they gave

further explanation on how intrinsic and extrinsic motivations, each, could actually cause

the other to occur. By the same token, the differentiation between intrinsic and extrinsic

motivation are not straightforward. For instance, 'a faculty member reports high job

satisfaction due to a grant that he or she is getting which is a realization of an intrinsic

value, i.e., fulfilling one's own expectation. But at the same time, it could also mean that

getting the grant means a chance for the faculty to get an increased salary, which; in that

case is an external motivation' (Bozeman and Gaughan, 2011, p. 156).

Job Satisfaction and Motivation among Higher Education Administrators

Volkwein and Parmley's (2000) study on higher education administrators' job

satisfaction showed that intrinsic motivation was the determining factor for

administrators both at public and private higher education institutions.

In like manner, McPhillips, Stanton, Zuckerman, and Stapleton (2007) studies on

pediatric department chairs, found a number of factors that caused burnout among chairs;

administrative workload, lack of control over one's own work, less satisfying work

duties, and stress due to difficulty in fulfilling the expectations of deans. Burnout, as

McPhillips et al. (2007) stated, is a work-related syndrome that is evident in occupations

that require a high-level of interpersonal interactions and personal investment, and it is not a clinical depression. Further explanation and discussions on land-grant institutions history and mission will be presented in the next section.

Departmental typology

Previous research has found that the nature or characteristics of a discipline could contribute to the differences in how individuals function (Seagren, Creswell, Wheeler, 1993). In his study on faculty review and advancement, Roskens (1983) revealed that faculty productivity and work habits were significantly influenced by the characteristics of the disciplines. Consequently, scholarly activities of a faculty in one area cannot be interpreted in the same way as the scholarly activities of a faculty in another area. For instance, in the education department, which is a soft-applied science field, faculty members are more likely to spend a large amount of time on teaching and service. The faculty members at the physics department, by contrast, would be expected to do more research and are more likely to attract federal grant and money compared to the faculty in education (Roskens, 1983, p.294).

Findings from previous studies also suggested that academic disciplines could determine the department chair's perception on the kind of training that he or she needs in order to do the job well. In a survey on 120 chairs, it was revealed that department chairs in hard science perceive the need for training in personnel-related issues. Whereas, the department chairs in soft sciences indicated the need for training in soliciting external research grants (Creswell, Seagren, Henry, 1980).

The History of Land-Grant Universities

In the early 19th century colleges only offered classical and professional programs. A Yale graduate, Jonathan Baldwin Turner, who had been a farmer, a newspaper editor, and a professor, proposed an idea of creating colleges that met the needs of the agricultural states. Accompanied by the demand of the agricultural societies in different states across the country, Turner defended the cause of the laboring class (Association of Public and Land-Grant University, 2012). Turner's 1850 "Plan for a State University for the Industrial Classes" contained ideas on experimental research in agriculture believed to be fundamental to the land grant system establishment. Even though a connection between his plan and land-grant legislation was not clear, Turner found that his ideas were realized 20 years later, through the establishment of the University of Illinois under the provision of the Morrill Act (APLU, 2012, p.3).

A representative of Vermont, Justin Smith Morrill first introduced the land-grant bill to Congress in 1857, which was passed in 1859. However, it was vetoed by President Buchanan because he felt it could violate the control of the federal government. After making some revisions on the bill, and including the need for institutions to teach military tactics, Morrill proposed the bill again in 1861. The occurrence of the Civil War along with the lack of legislators in the Southern areas who previously opposed the bill, the land-grant act encountered a less challenging atmosphere. The Morrill Act was passed and signed by President Lincoln on July 2, 1862. In the same year, Iowa was brought to honor to become the first state to accept the endowment of the Morrill Act (Ross, 1958).

The support from the federal government for the Morrill Act initially included the income from public lands (30,000 acres or equivalent) made available to each state (APLU, 2012, p. 4). In its development, the federal government had considerably increased its contributions to the land-grant universities and colleges. In 1887 the Hatch Act was approved to authorize federal funding for agricultural experiments located within each land-grant institution.

Twenty-eight years after the Morrill Act was signed by President Lincoln, eighteen Historically Black Colleges and Universities become part of the land-grant mission (Esters & Strayhorn, 2013). In an effort to accommodate the additional U.S. jurisdictions, the University of the District of Columbia, along with Guam, Micronesia, American Samoa, Northern Marianas, and the Virgin Islands territories were approved to also have land-grant status in 1972. Nearly 22 years later, in 1994, after a campaign by American Indian Higher Education Consortium, 29 tribal colleges and universities were conferred with land-grant status, and several other tribal colleges soon followed.

For the purpose of this study I will focus on 70 land-grant colleges across the fifty states. The complete listing and locations of land-grant colleges and universities including the timeline when the land grant status was bestowed upon those colleges can be found in Appendix B.

The Creation of University Academic Departments

Despite the lack of information on the history of academic departments (Banner, 2013); some researchers managed to track the historical traces of academic departments.

From the Civil War era to the establishment of land-grant status, academic departments were founded to help university presidents manage the increasing number of students and to organize the disciplines within colleges (McArthur, 2002). Before there were academic departments, university presidents oversaw and personally managed the colleges including the faculty. Later in its development, three major occurrences prompted the creation of departments. The first one was the use of the title of dean at Columbia University. When Samuel Bard was elected to lead Columbia (King's College) Medical School, the university realized that they could not have more than one president. At the time, Columbia was led by William Samuel Johnson, so when they hired Samuel Bard, the school decided to appoint him as a dean, instead of a president for that medical school. The second event involved Thomas Jefferson, the president of University of Virginia, who in 1825 founded the university with only eight professors arranged into the six colleges with a professor as the head of each. While, they had only 68 students, by the end of the same year, more than a hundred students were enrolled (University of Virginia, 2010). The third event was due to the establishment of modern languages into the curriculum at Harvard, which then prompted it to establish various schools. Further, both Harvard's and Yale's reinforced the structure of two newly founded schools of natural science, which changed and strengthened the structure of academic disciplines (Bennett, 1983).

CHAPTER 3

METHODOLOGY

The purpose of this study is to examine the impact of role conflict, stress, job satisfaction toward department chairs' likelihood to serve for another term. In the following sections, I present the research participants, research setting, instrumentation, procedure, design and data analysis that were used in order to answer the research questions.

Research Participants and Research Setting

Department chairs in the fields of agriculture, engineering, and science at 70 land grant universities across the 50 states were the research participants of this study.

Research Instrument

In order to investigate the participants' opinions, I have developed a questionnaire that included items to measure department chair's job stress, job satisfaction, likelihood to serve for another term, and role-conflict (please see Appendix A). The items in the questionnaire are constructed based on previous studies on job stress, job satisfaction, and since this study is specifically focused on the experience of department chairs in higher education setting, the research questionnaire also adapted items from the National Survey of Department Chairs by Walter Gmelch and the Center for the Study of the Department Chair, (1991). In addition to items that are relevant to the research variables, I also

included the demographic items to discover how the characteristics of the participants uniquely interact with the sample

Research Variables

Three independent variables that will be examined in this study are: role conflict, job stress, and job satisfaction. These three variables are the predictors that will determine the likelihood to serve for another term (i.e., the dependent variable) as the department chair.

In addition to the independent and dependent variables, I also utilized control variables, such as, gender, race/ethnicity, age, and faculty status (i.e., tenure or non-tenure). The control variables were used to hold constant the influence of independent variables toward the dependent variable.

Research Procedures

After the dissertation proposal was approved, I submitted the IRB packet to the Iowa State University Institutional Research Board (IRB). Though the review process can be expedited according to the federal rule and regulations, due to the number of packets received by the Office of Institutional Review Board, usually it takes from four to six weeks of review process by IRB committee (Office of Responsible Research, n.d., para 6).

Data Collection

As previously stated, the instrument in this study is a set of questionnaires that was administered online using the Qualtrics online survey service. By the end of December 2014 I was able to collect the email addresses of all department chairs at 70 land grant universities in the fields of agriculture, engineering, military science, and science. In total there were 1,740 email addresses of department chairs that I manually collected by browsing through the website of each land grant university from the state of Alabama onwards, in alphabetical order. The complete list of the 70 federal land-grant universities across the fifty states as designated by the state legislature is presented in Appendix C.

The Iowa State Institutional Review Board completed their review process in mid-January, and sent their approval on January 14. Then, on January 21, I administered the online survey by sending it through qualtrics online survey along with a cover letter that explained the purpose of the survey and the consent form.

As I was collecting the responses from the department chairs, within two weeks after the first email sent, I sent a reminder to those who have not responded to the survey and a thank you email to those who have responded to the survey.

Research Design

In order to examine the research variables, I used a quantitative research method. Multiple regression and factor analysis were the two main statistical methods used in this study. After the data collection but before the statistical analysis is conducted, I presented

descriptive statistics to examine the distribution of the data. At the descriptive level, I also displayed the results of the survey particularly for items related to stress, role conflict, gender distribution, ranks, etc.

Data Analysis

Statistical methods that were used to analyze the data among others are: MANOVA, multiple regression, and factor analysis. The following table provides the statistical model that was utilized to answer each research question.

Table 1. Statistical Models

Research Question	Statistical Model
1. According to the department chair what are the factors that cause significant stress?	• Factor Analysis • Reliability Analysis • Means and standard deviations, ranking procedures
2. How do the factors that cause stress vary among department chairs at different disciplines, i.e., Agriculture, Engineering, and Science?	Multivariate Analysis of Variance (MANOVA)

Table 1 continued

Research Question	Statistical Model
3. How do disciplines and gender differences affect the issues surrounding department chairs role, i.e., stress, role conflict, and job satisfaction?	• Factor Analysis • Reliability Analysis • Multivariate Analysis of Variance (MANOVA)
4. Are there any relationships between department chair's perceived stress, job satisfaction, and likelihood to serve for another term?	• Pearson's correlation • Multiple regression analysis

Descriptive Statistics

Descriptive analysis of the data will serve as a means to display the normal distribution of the data, the demographics of the respondents, and the central tendency (mean, median, and mode). Depending on the nature of the data collected, they will be shown using bar graph (to show trends) and pie charts (to show one part in relation to the whole data). Further, the bar graphs will also be utilized to present the rankings of items. For instance, to show which tasks that department chair found most stressful among the list of their tasks.

Further, in order to ensure the confidentiality and to protect the research participants, the descriptive statistics of the data will be presented in aggregate based on the disciplines or field of study. By doing so, there will be no identifier that can connect any respondents with their answers.

CHAPTER 4

RESEARCH FINDINGS

The purpose of this study is to identify the factors that cause job stress as well as to analyze the impact of job stress and job satisfaction of department chairs' likelihood to serve for another term. The data were collected using a survey questionnaire that consists of items related to job stress, job satisfaction, and also adapting items from the National Survey of Department Chairs by Walter Gmelch and the Center for the Study of the Department Chair (1991). The study was approved by the Institutional Review Board on January 16, 2015 and the survey was administered on January 21, 2015 by sending the online survey link to 1,740 department chairs at 70 land grant universities, specifically department chairs in the fields of agriculture, engineering, science, and military. The four fields were chosen based on the mission of land grant institution as stipulated in Morrill Act 1862, namely, to establish institutions in each state that would educate people in agriculture, mechanical arts, and other professions that were practical at the time (Morrill Act of 1862, 7 U.S.C. § 301 et seq). Though initially included as one of the four disciplines to analyze, the military science, however, has to be excluded in the data analysis due to the small number of sample from the military field.

This chapter presents the findings of the study on department chairs' stress, role conflict, job satisfaction, and the likelihood to serve for another term. From a total of 1,740 survey links that were emailed, 300 respondents completed the survey, resulting in an 18% response rate. Findings are presented in several ways. First, I will present the overall description of the department chairs' responses. Next, the descriptive results will

be presented based on department chairs' gender and disciplines. Finally, the findings and the analyses are organized by the research questions.

<div align="center">Description of Respondents/Demographics</div>

<u>Gender Composition of Sample Department Chair</u>

Using the responses from question number nine, i.e., gender, this study found that out of a total sample of the 300 department chairs at land grant universities, 56 are females and 244 are males. That is to say that the majority of responding department chairs, 81%, are males and female department chairs made up only 19% of the sample (see figure 2).
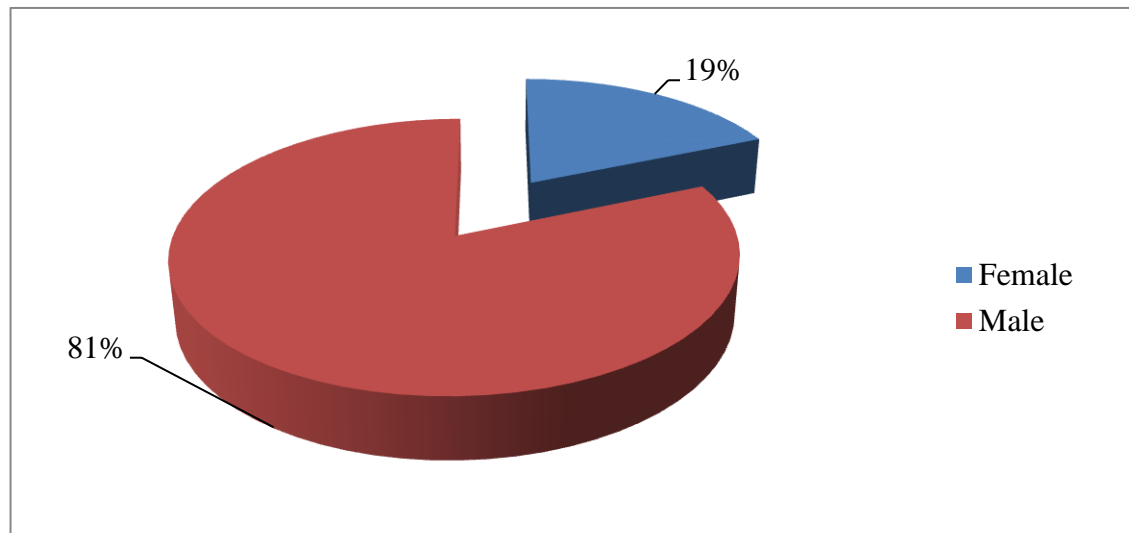
Figure 2. Gender composition of sample department chair at land grant universities

<u>Response Rate per Discipline</u>

The first item in the questionnaire asked the respondents to mark their field from the three options, namely Agriculture, Engineering, and Science. Based on their responses, I found the response rate for each field. The following figure shows the percentage of responses per discipline.
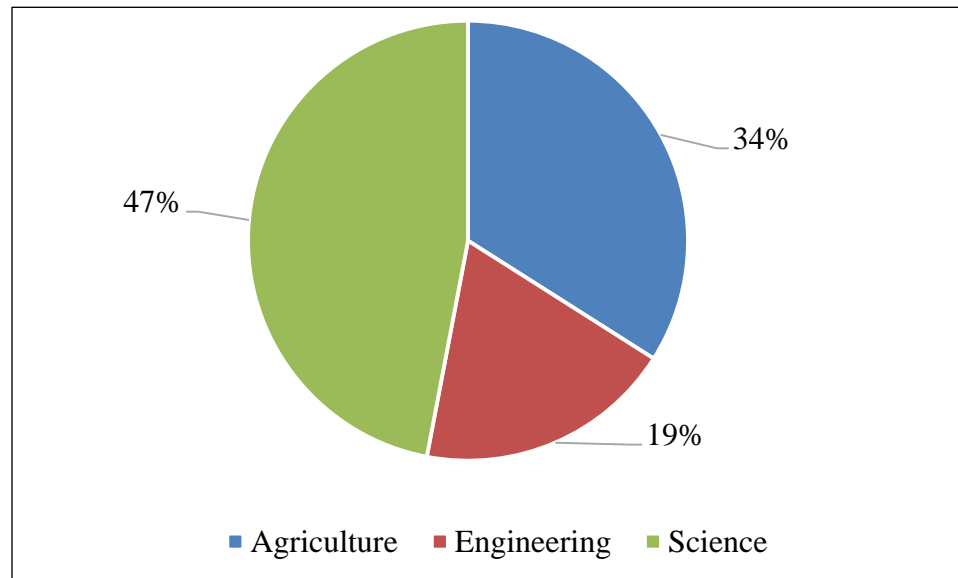
Figure 3. Response rate per discipline

<u>Department Chairs' Academic Ranks</u>

In terms of their academic ranks, this study found that most of department chairs at land grant universities are full professors. More specifically, out of 300 sample respondents, 84% (N=257) are full professors; 15% (N=46) are associate professors; and 1% (N=4) are assistant professors (see Figure 3).
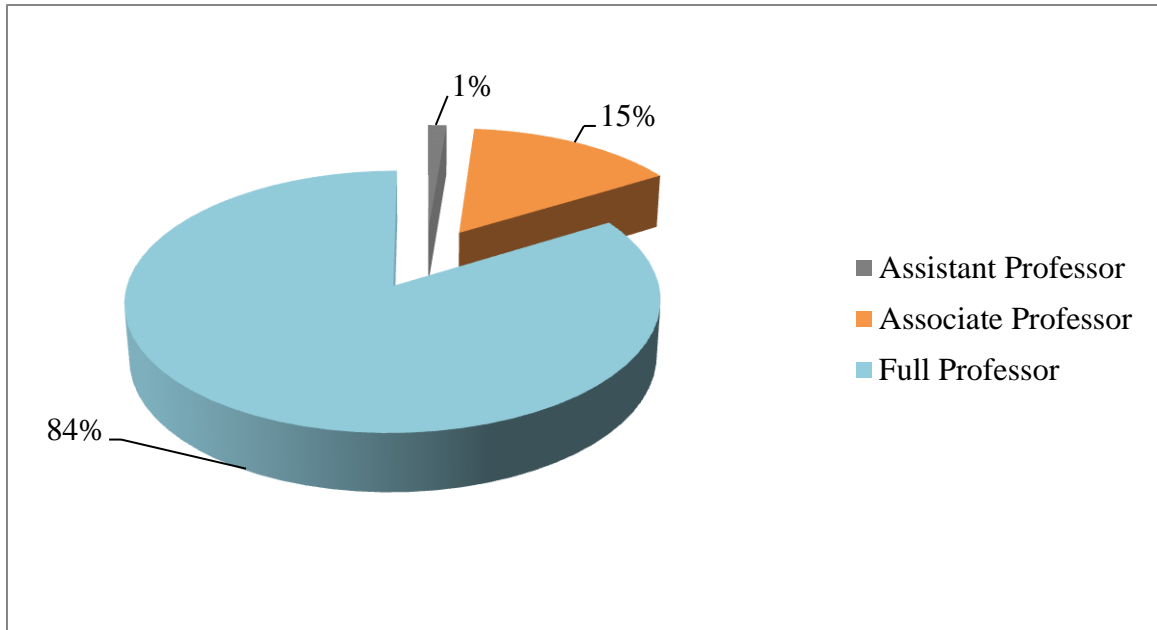
Figure 4. Sample academic ranks of department chairs at land grant universities

Tenure and Non-Tenure Status

      With regard to their tenure status, 99% (N=294) department chairs in this study

have tenure and only 1% (N=4) do not have tenure.

Department Chairs' Age Ranges

      Unlike their academic ranks or their tenure status, there is quite a varied ranges of

age of the department chairs' at land grant universities (see Figure 4). From a total

sample of 291 respondents that answered the question about their age, 29% (N = 85) are

between 56 to 60 years old; 25% (N = 73) are 51 to 55 years old; and only 0.6% (N = 2)

are between 35 to 40 years old (see Figure 4 and Table 2). In sum, more than 70% of the

department chairs are 50 years old and above, and less than 30% are below 50 years old.
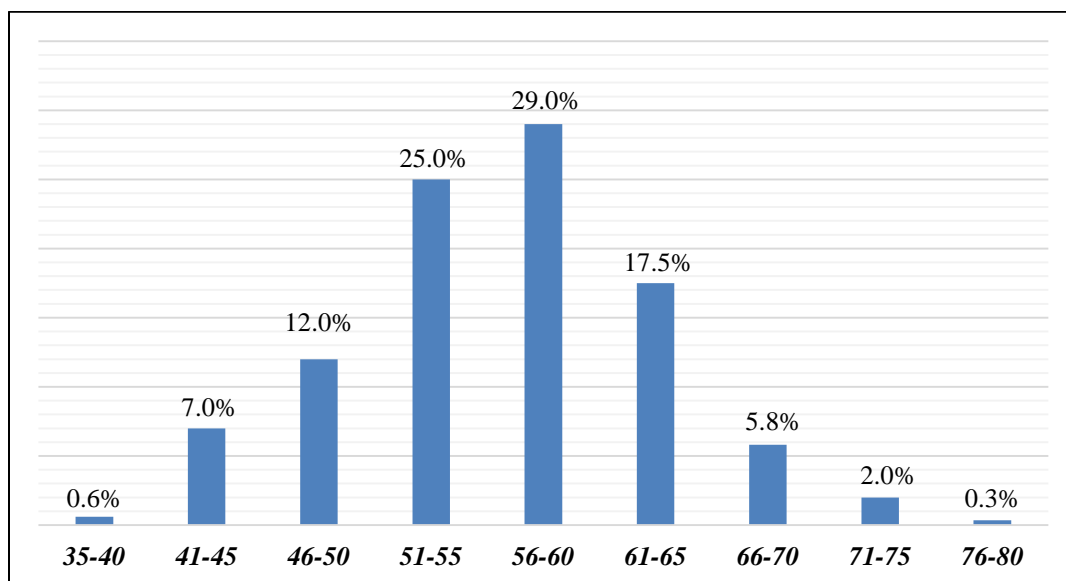
Figure 5. Department Chairs' Age Ranges

Table 2. Department Chairs' Age Ranges

Age	35-40	41-45	46-50	51-55	56-60	61-65	66-70	71-75	76-80
N	2	21	35	73	85	51	17	6	1
Percentage	0.6%	7.0%	12.0%	25.0%	29.0%	17.5%	5.8%	2.0%	0.3%

Time Allocation for Teaching, Research, and Service

An item in the questionnaire asked about the formal percentage of time assigned

to the department chairs for teaching, research, and service. The responses of the

department chairs' in this study show that most of them were assigned about 20% of their

time for teaching responsibility (see Figure 5).
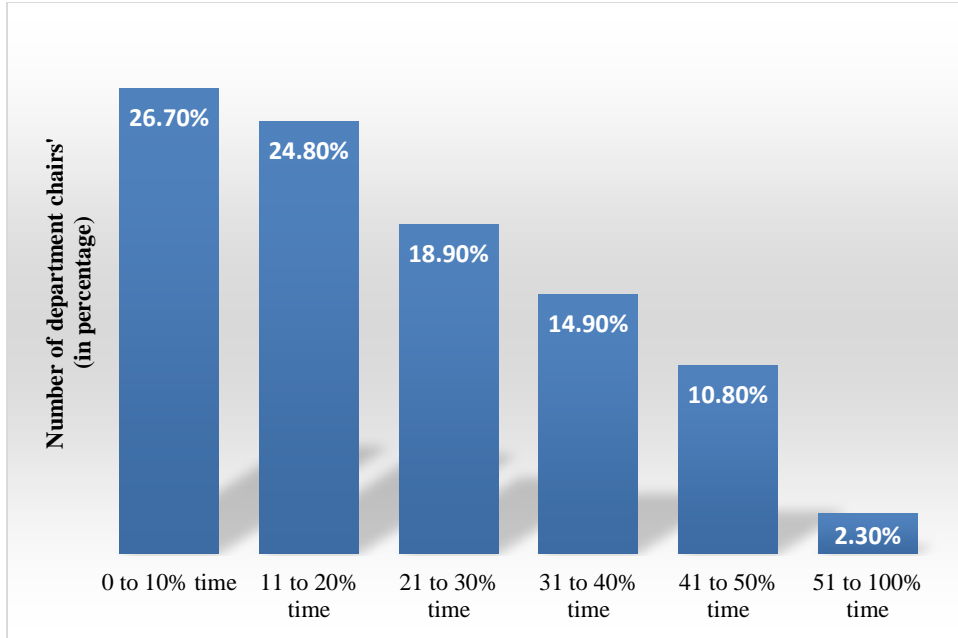
Figure 6. Percentage of Department Chairs' Time Assigned for Teaching

A quarter of the respondents reported that they were assigned 10% of their time for research (see Figure 6).
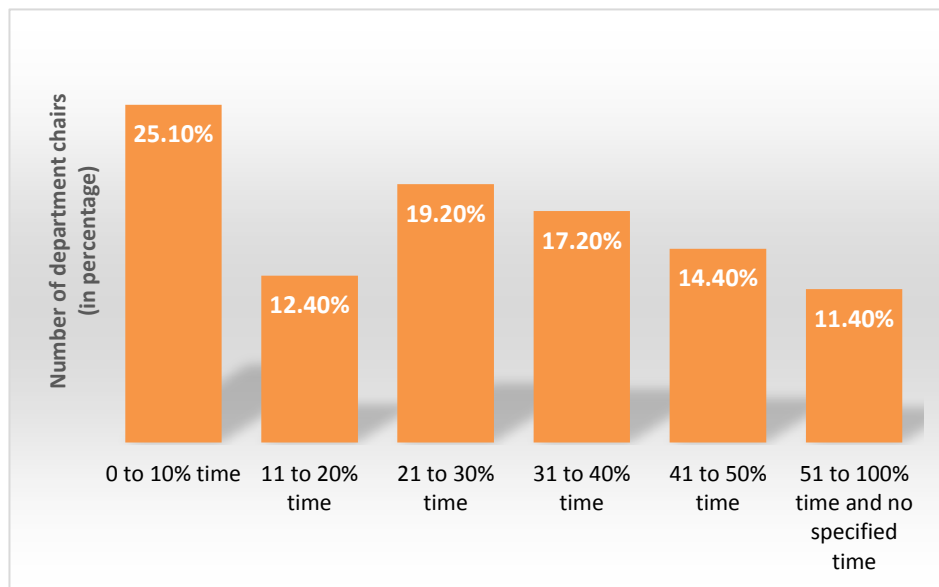
Figure 7. Percentage of Department Chairs' Time Assigned for Research

The third part of the question regarding the time assigned for service, the respondents' answers are quite varied. About 24% of the department chairs stated their service assignment is 0 to 10%, at the same time 23% cited 41 to 50% of their time assignment is for service. Meanwhile, about 20% mentioned that they were assigned 51 to 100% time for service (see Figure 7).

As presented by the bar graphs in Figure 7, the department chairs' responses on the question about time assigned for service are mostly distributed between 0 to 10%, 41 to 50%, and 51 to 100% time assignment. This tri-modal type of responses are possibly caused by the different interpretations of what the word 'service' means for each of the department chairs. If they interpreted service as their work as administrators, then they were more likely to report a higher percentage of time assignment, that is within the ranges of 41 to 100% time. By contrast, those who perceived 'service' as something apart from their work as administrators as department chairs, then they were more likely to report a low percentage of time, within the range of only 0 1o 10%.
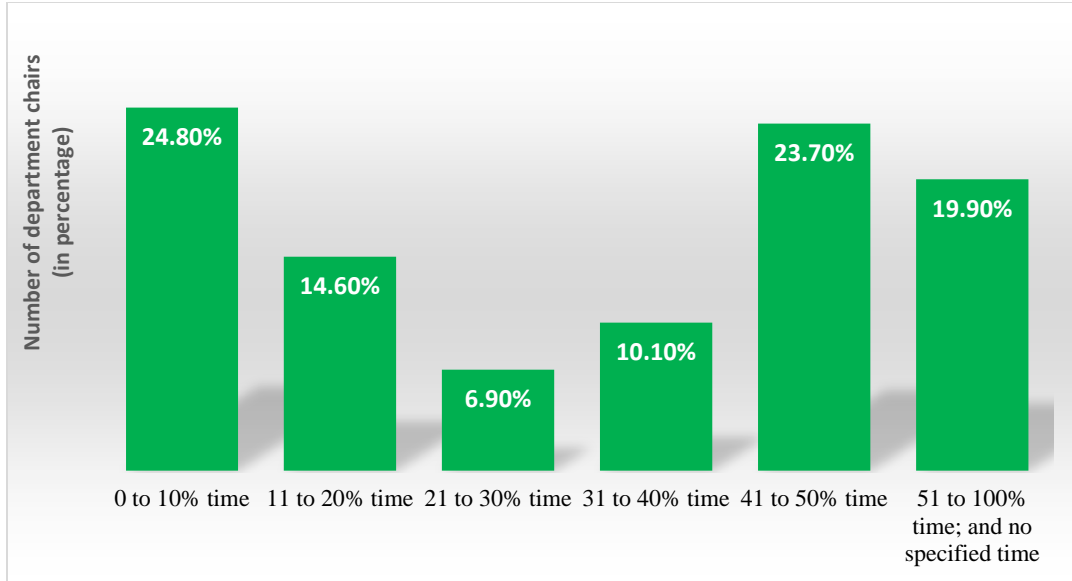
Figure 8. Percentage of Department Chairs' Time Assigned for Service

Research Question 1: According to the Department Chairs What are the Factors that cause Significant Stress?

The first item in the survey (please see Appendix A) asked the department chairs to give rating to each listed statements in relation to the extent to which each creates or causes stress. A Likert type response option with a range from 1 (never), 2 (rarely), 3 (sometimes), 4 (often), and 5 (always) was provided. The list of statements is presented in Table 3. The statements are ranked based on the department chairs' rate of recurrence of stress.

Table 3. Factors that cause stress to department chairs (ranked descending)

In your role as a department chair, to what extent do the following factors create stress?	N	Mean (Std. Dev.)	Rank
Insufficient time for scholarship and/or research.	300	3.78 (1.047)	1
Increased workload.	300	3.66 (0.837)	2
Need to meet targets/deadlines.	300	3.52 (0.811)	3
Dealing with conflicts.	300	3.48 (0.912)	4
Dealing with competing demands.	298	3.46 (0.921)	5
Administrative work.	300	3.43 (0.821)	6
Long working hours.	300	3.39 (0.953)	7
Lack of funds/resources to do the job.	298	3.39 (1.147)	7
Evaluation of faculty.	298	3.32 (1.02)	9
Not able to exert control over demands made.	300	3.24 (0.965)	10
Given responsibility without the authority to make decisions.	299	3.04 (1.15)	11
Conflicting demands in job role.	298	3.03 (0.948)	12
Unable to take time-off.	296	2.91 (1.041)	13
Lack of information about what is going on.	300	2.63 (0.967)	14
Insufficient clerical support.	300	2.59 (1.192)	15
Lack of support from university administrator.	298	2.55 (1.015)	16
Lack of support in job role.	299	2.49 (1.057)	17
Lack of participation in decision making.	300	2.49 (0.913)	17

Table 3 continued

In your role as a department chair, to what extent do the following factors create stress?	N	Mean (Std. Dev.)	Rank
Efforts not valued	299	2.43 (1.058)	19
Working alone.	297	2.4 (0.996)	20
Feeling work not valued.	299	2.39 (1.051)	21
Limited or no access to training.	299	2.19 (0.986)	22
Unclear job description.	300	2.11 (0.924)	23
I feel discriminated because of my gender.	300	1.32 (0.799)	24
I feel discriminated because of my age.	300	1.2 (0.53)	25
I feel discriminated because of my race.	299	1.16 (0.526)	26
I feel discriminated because of my sexual orientation.	299	1.06 (0.357)	27

On average insufficient time for scholarship and/or research was ranked the first as the factor that causes stress. However, the mean for that statement is 3.78 which can be converted as 'often'. The second factor that causes stress has a mean of 3.66, and the third factor's mean is 3.52. There is only a slight different of the means of the items listed as stress factors. To put it another way, there is no one stress factor being overwhelming. However, many stress factors are rated from 'often' to 'sometimes' range. This may indicate that department chairs juggle various stressors a considerable amount of time.

In addition to the listed factors that cause stress, the survey gave an opportunity for the respondents to write down other things that they considered as factors causing stress. The respondents mentioned the following things as the other factors that cause stress in their job as a department chair:

- As a homosexual male I am discriminated against;

- I am Sicilian;

- I was hired from outside the university;

- my area of research;

- my interdisciplinary field;

- national origin;

- vindictive faculty

Research Question 2: How do the factors that cause stress vary among department chairs at different disciplines, i.e., Agriculture, Science, and Engineering?

Factors causing stress based on disciplines

Agriculture

Ninety nine department chairs in Agriculture field marked increased workload as the most stressful factor among the 26 other factors; followed by insufficient time for scholarship and/or research which is only 0.04 point difference from increased workload. The next third rank of factor that causes stress are dealing with conflicts and need to meet targets/deadlines (see Table 4).

Table 4. Factors that cause stress to department chairs in the field of agriculture

In your role as a department chair, to what extent do the following factors create stress?	N	Mean (Std. Dev.)	Rank
Increased workload.	99	3.66 (0.835)	1
Insufficient time for scholarship and/or research.	99	3.62 (1.14)	2
Dealing with conflicts.	99	3.51 (0.93)	3
Need to meet targets/deadlines.	99	3.51 (0.813)	3
Lack of funds/resources to do the job.	99	3.46 (1.146)	5
Dealing with competing demands.	98	3.42 (0.919)	6
Long working hours.	99	3.4 (0.968)	7
Administrative work.	99	3.33 (0.881)	8
Not able to exert control over demands made.	99	3.25 (0.941)	9
Evaluation of faculty.	99	3.23 (1.028)	10
Given responsibility without the authority to make decisions.	99	3.05 (1.173)	11
Conflicting demands in job role.	99	3.04 (1.039)	12
Unable to take time-off.	98	2.92 (0.981)	13
Lack of information about what is going on.	99	2.64 (0.984)	14
Insufficient clerical support.	99	2.63 (1.209)	15
Lack of support from university administrator.	99	2.56 (1.062)	16
Lack of participation in decision making.	99	2.55 (0.86)	17
Lack of support in job role.	99	2.51 (1.082)	18

Table 4 continued

In your role as a department chair, to what extent do the following factors create stress?	N	Mean (Std. Dev.)	Rank
Feeling work not valued.	98	2.5 (1.018)	19
Efforts not valued	98	2.48 (1.057)	20
Working alone.	99	2.37 (1.036)	21
Limited or no access to training.	98	2.21 (0.966)	22
Unclear job description.	99	2.13 (0.976)	23
I feel discriminated because of my gender.	99	1.35 (0.861)	24
I feel discriminated because of my age.	99	1.28 (0.59)	25
I feel discriminated because of my race.	98	1.18 (0.598)	26
I feel discriminated because of my sexual orientation.	99	1.09 (0.476)	27

Engineering

Only slightly different from those in the agriculture field, the department chairs in engineering field rated insufficient time for scholarship and/or research as the factor that causes stress the most; with a slightly higher mean (3.77). Whereas, the second most stressful factor is increased workload (mean = 3.63), followed by long working hours with a mean of 3.49 and need to meet targets/deadlines with a mean of 3.47 (see Table 5).

Table 5. Factors that cause stress to department chairs in the field of engineering

In your role as a department chair, to what extent do the following factors create stress?	N	Mean (Std. Dev.)	Rank
Insufficient time for scholarship and/or research.	57	3.77 (1.035)	1
Increased workload.	57	3.63 (0.771)	2
Long working hours.	57	3.49 (0.889)	3
Need to meet targets/deadlines.	57	3.47 (0.868)	4
Dealing with conflicts.	57	3.46 (0.867)	5
Administrative work.	57	3.44 (0.802)	6
Dealing with competing demands.	56	3.43 (1.006)	7
Lack of funds/resources to do the job.	56	3.34 (1.164)	8
Evaluation of faculty.	56	3.3 (1.008)	9
Not able to exert control over demands made.	57	3.18 (0.947)	10
Given responsibility without the authority to make decisions.	57	2.96 (1.164)	11
Conflicting demands in job role.	57	2.91 (0.987)	12
Unable to take time-off.	57	2.81 (0.99)	13
Insufficient clerical support.	57	2.68 (1.212)	14
Lack of information about what is going on.	57	2.51 (0.909)	15
Lack of support in job role.	56	2.48 (0.914)	16
Lack of support from university administrator.	57	2.47 (0.908)	17
Efforts not valued	57	2.46 (1.087)	18
Lack of participation in decision making.	57	2.44 (0.907)	19
Feeling work not valued.	57	2.32 (1.055)	20

Table 5 continued

In your role as a department chair, to what extent do the following factors create stress?	N	Mean (Std. Dev.)	Rank
Working alone.	56	2.3 (1.008)	21
Unclear job description.	57	2.14 (0.875)	22
Limited or no access to training.	57	2.05 (0.833)	23
I feel discriminated because of my age.	57	1.14 (0.441)	24
I feel discriminated because of my race.	57	1.14 (0.441)	24
I feel discriminated because of my gender.	57	1.12 (0.426)	26
I feel discriminated because of my sexual orientation.	57	1.04 (0.186)	27

Science

Similar to the engineering field, the insufficient time for research and/or scholarship is rated the highest as a factor that causes stress; with a higher mean (3.91) compare to the engineering field. Again, increased workload is cited as the second most stressful factor (mean = 3.68) and the need to meet targets/deadlines is also in the third rank with a mean of 3.57. The next factor though is different from both agriculture and engineering. Administrative work (mean = 3.51) is the fourth most stressful factor for the department chairs in the science field (see Table 6).

Table 6. Factors that cause stress to department chairs in the field of science

In your role as a department chair, to what extent do the following factors create stress?	N	Mean (Std. Dev.)	Rank
Insufficient time for scholarship and/or research.	136	3.91 (0.946)	1
Increased workload.	136	3.68 (0.86)	2

Table 6 continued

In your role as a department chair, to what extent do the following factors create stress?	N	Mean (Std. Dev.)	Rank
Need to meet targets/deadlines.	136	3.57 (0.766)	3
Administrative work.	136	3.51 (0.779)	4
Dealing with competing demands.	136	3.49 (0.878)	5
Dealing with conflicts.	136	3.48 (0.886)	6
Lack of funds/resources to do the job.	135	3.41 (1.115)	7
Evaluation of faculty.	135	3.4 (0.986)	8
Long working hours.	136	3.37 (0.949)	9
Not able to exert control over demands made.	136	3.29 (0.973)	10
Given responsibility without the authority to make decisions.	135	3.12 (1.133)	11
Conflicting demands in job role.	134	3.11 (0.829)	12
Unable to take time-off.	133	2.98 (1.097)	13
Lack of information about what is going on.	136	2.72 (0.979)	14
Lack of support from university administrator.	134	2.63 (1.001)	15
Insufficient clerical support.	136	2.57 (1.178)	16
Lack of support in job role.	136	2.53 (1.088)	17
Lack of participation in decision making.	136	2.52 (0.935)	18
Working alone.	134	2.48 (0.971)	19
Efforts not valued	136	2.44 (1.052)	20
Feeling work not valued.	136	2.38 (1.082)	21
Limited or no access to training.	136	2.26 (1.04)	22
Unclear job description.	136	2.11 (0.916)	23

Table 6 continued

In your role as a department chair, to what extent do the following factors create stress?	N	Mean (Std. Dev.)	Rank
I feel discriminated because of my gender.	136	1.38 (0.878)	24
I feel discriminated because of my age.	136	1.18 (0.529)	25
I feel discriminated because of my race.	136	1.16 (0.52)	26
I feel discriminated because of my sexual orientation.	136	1.04 (0.319)	27

This study found that the most cited factors causing stress across all disciplines, i.e., Agriculture, Engineering, and Science are relatively similar. Increased workload, need to meet target/deadlines, dealing with competing demands, insufficient time for scholarship/research, and dealing with conflicts are the top five factors that cause stress to department chairs (see Figure 9).
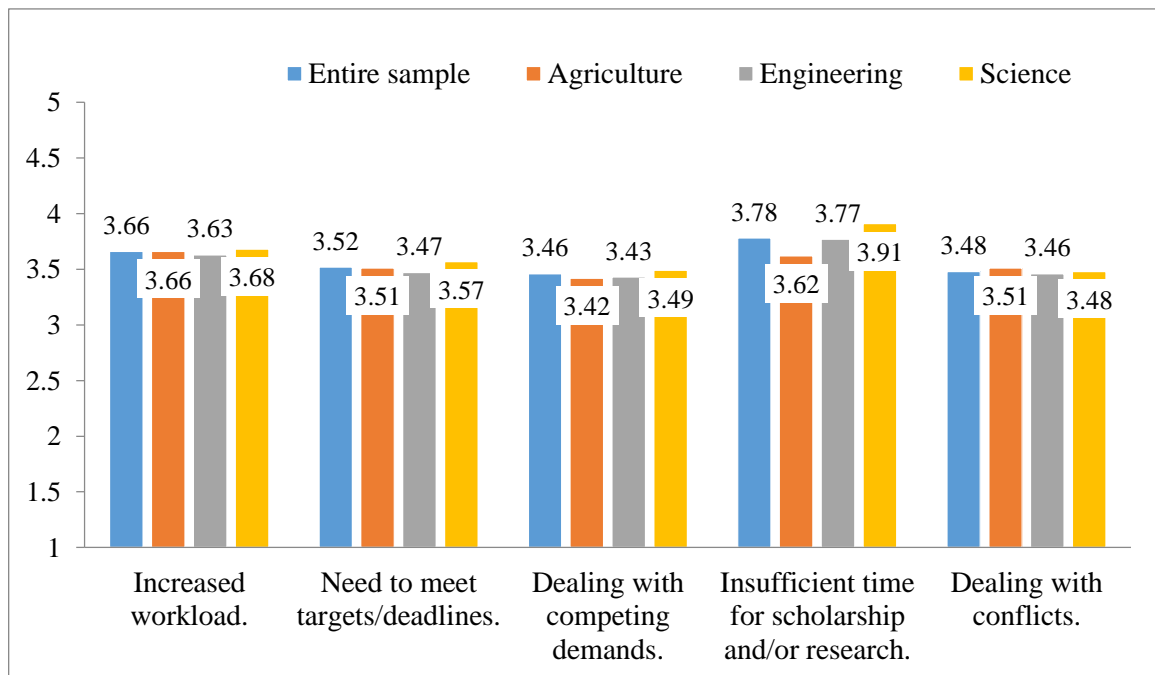
Figure 9. Sample items of factors causing stress based on department chairs' disciplines and entire sample

Twenty eight items in the questionnaire were comprised of statements that are related to factors causing stress to department chairs. Factor analysis was performed to identify scales in the data. The basic purpose of factor analysis is to reduce the number of items that are used to measure a variable, in this case, the stress variable by data reduction technique (DeVellis, 2011) One of the first things to look at in the factor analysis output is the Kaiser-Meyer-Olkin (KMO) and Bartlett's value which shows sampling adequacy. KMO values between .5 and 7 are mediocre, values between .7 and .8 are good, and values between .8 and .9 are great (Kaiser, 1974). For this study the KMO value is .846 which means the sample size is adequate for factor analysis (see Table 7).

Table 7. KMO and Bartlett's test stress items

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.846
Bartlett's Test of Sphericity	Approx. Chi-Square	1708.815
	df	378
	Sig.	.000

Another important measurement output is the eigenvalues (see Table 9). Eigenvalues are the amount of information captured by a factor. In the case of 28-item analysis, an eigenvalue of 7 would account for 25% (7/28) of the total information. The eigenvalue rule (Kaiser, 1960) stated that for a factor to be considered containing information needed, its eigenvalue cannot be less than 1.0.

Table 8. Total Variance of Items Measuring Stress

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.246	33.022	33.022	4.133	14.759	14.759
2	3.362	12.007	45.029	4.062	14.507	29.266
3	1.978	7.066	52.095	3.445	12.303	41.569
4	1.298	4.636	56.731	3.105	11.090	52.659
5	1.283	4.582	61.313	1.706	6.093	58.752
6	1.098	3.920	65.233	1.428	5.099	63.851
7	1.013	3.617	68.850	1.400	4.998	68.850
8	.903	3.224	72.074			
9	.861	3.076	75.150			
10	.706	2.522	77.672			
11	.635	2.267	79.939			
12	.604	2.158	82.096			
13	.549	1.959	84.056			
14	.535	1.910	85.965			
15	.458	1.635	87.600			
16	.440	1.570	89.170			
17	.428	1.529	90.699			
18	.391	1.395	92.094			
19	.365	1.305	93.400			
20	.306	1.093	94.493			
21	.268	.958	95.451			
22	.248	.885	96.335			
23	.223	.795	97.131			
24	.195	.698	97.829			
25	.186	.663	98.492			
26	.183	.653	99.145			
27	.132	.471	99.617			
28	.107	.383	100.000			

As presented in Table 8, items 1 to 7, each has an eigenvalue that is greater than

1.0. A Varimax rotation was used in order to maximize the variance of the squared

loadings for each item, namely, the correlations between each item and each factor. The
rotated factor determined what the items within a factor have in common. Then, based on
the loadings, the scales to measure stress were created. Table 9 summarized the factor
loadings of the items in the questionnaire and the created scales using Principal
Component Analysis that combined two or more correlated variables into one factor.

Table 9. Scales and Squared Loadings of Stress Items

StressRole		StressWork		StressAgeGender Race Sexorientation		StressNoSupport	
component 1		component 2		component 3		component 4	
Not able to exert control over demands made	0.716	Administrative work.	0.652	I feel discriminated because of my age.	0.65	Lack of support in job role.	0.641
Dealing with competing demands	0.607	Increased workload	0.815	I feel discriminated because of my race.	0.84	Efforts not valued.	0.685
Given responsibility without the authority to make decisions.	0.73	Need to meet targets/deadlines.	0.759	I feel discriminated because of my gender.	0.75	Insufficient clerical support.	0.671
Conflicting demands in job role.	0.607	Long working hours.	0.77	I feel discriminated because of my sexual orientation.	0.88	Feeling work not valued	0.708
Unclear job description.	0.628	Unable to take time-off.	0.692			Lack of support from university administrator.	0.684
Lack of participation in decision making.	0.667						
Lack of information about what is going on.	0.59						

Department Chairs' Preference in Time Allocation for Their Activities

The respondents were asked about their preference in terms of time they spent for four different kinds of activities: (1) administrative works; (2) evaluation of faculty members; (3) research/scholarly activities; and (4) teaching and interacting with students. The respondents were asked to rate using a scale that ranges from 1 to 50; hence 25 (the middle number) means the department chairs are satisfied with the time they spent for the activity the way it is. If the rating is less than 25, it means the department chairs prefer less time; whereas more than 25 means they would like to have more time.

About 64% department chairs in this study stated they prefer less time for administrative works, such as, attending meetings, planning and preparing budget, scheduling classes, and managing department resources. Further, about 54% department chairs would like to have less time to deal with faculty-related issues, such as, evaluation of faculty members. In contrast to their responses to the time for administrative and faculty-related issues, almost all department chairs in this study, 96% prefer to have more time for their research and scholarly activities. In the same way, 83% department chairs in this study would like to have more time for teaching and interacting with students.

Research Question 3: How Do Disciplines and Gender Affects the Issues Surrounding Department Chairs' Stress, Role Conflict, and Job Satisfaction?

Factor Causing Department Chairs' Stress, Disciplines, and Gender

In order to answer the third research question, I performed a multivariate analysis of variance (MANOVA). MANOVA enables the test of more than one independent

variables and the degree of variance within independent variables. The results of within-subjects and between-subjects variance show whether or not the independent variables have had a significant effect on the dependent variables. The independent variables are considered to have a significant effect on the dependent variables if the within-subjects variance is smaller than the between-subjects variance. Unlike Analysis of Variance (ANOVA) that allows only one dependent variable to test, MANOVA can test multiple independent and multiple dependent variables within the same model. In MANOVA, the indicator of significance is shown through the Wilks' lambda.

Table 10. Multivariate Tests on Stress Variable

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power
Q2. Disciplines (Agriculture, Engineering, Science)	Wilks' Lambda	.973	0.64	12.000	558.000	.808	.014	7.685	.377
Q9. Gender	Wilks' Lambda	.909	.4.68	6.000	279.000	.000	.910	28.094	.989
Q2*Q9 Interaction between Disciplines and Gender Variables	Wilks' Lambda	.973	.652	12.000	558.000	.797	.014	7.826	.385

Table 10 shows whether there is a significant effect of department chairs'
disciplines and their gender on stress. Discipline variable was not significant (p>.05),
while the difference by gender is significant ($p < .05$). In addition, interaction between
the two independent variables was also not significant ($p > .05$).

As for the gender as the predictor, Wilks' lambda shows a significance level of
.000. Therefore, gender played a significant role in differences in department chairs'
perceived stress. Women are more likely to report stress for discrimination; nonetheless,
the mean for the item on stress due to age, gender, race, and sexual orientation for both
female and for male department chairs are relatively low. With a five-point Likert scale,
namely, 1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = always; the rating for
this items for total female and male department chairs are 1.5637 and 1.1067 respectively
(see Table 11).

Table 11. Descriptive statistics of stress due to age, gender, race, and sexual orientation by gender variable

Stress Variable		*What is your gender?*	*Mean*	*Std. Deviation*	*N*
StressAgeGender RaceSexorientation	Total all fields (Agriculture, Engineering, and Science)	Female	1.5637	.61001	51
		Male	1.1067	.33229	239
		Total	1.1871	.43092	290

Department Chair and Job Satisfaction

The adequate number of sample of the respondents for the job satisfaction items is
shown by the Kaiser-Meyer-Olkin value of .811 (see Table 12).

Table 12. KMO and Bartlett's Test (Job Satisfaction Items)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.811
Bartlett's Test of Sphericity	Approx. Chi-Square	561.997
	df	28
	Sig.	.000

Similar to the way the analysis on job stress items was performed, with the job satisfaction items I also looked at the eigenvalues amount. Table 13 indicates that components 1 and 2 have eigenvalues of 3.245 and 1.005, respectively.

Table 13. Total Variance Explained (Job Satisfaction Items)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.245	40.558	40.558	3.245	40.558	40.558
2	1.005	12.557	53.114	1.005	12.557	53.114
3	.877	10.968	64.082			
4	.860	10.754	74.836			
5	.652	8.147	82.984			
6	.537	6.714	89.698			
7	.458	5.721	95.419			
8	.367	4.581	100.000			

After identifying which components that have sufficient information for further analysis, I examined the squared loadings of each job satisfaction items (see Table 14), grouped them, and created the scale.

Table 14. Scale and Squared Loadings of Job Satisfaction Items

Job_SatisfactionScale			
component 1		component 2	
To what degree are you satisfied with: The opportunity to make use of your leadership skill.	0.791	To what degree are you satisfied with: Your workload.	0.819
To what degree are you satisfied with: The opportunity to do different things.	0.703	To what degree are you satisfied with: Your salary.	0.67
To what degree are you satisfied with: Support from the dean.	0.68	To what degree are you satisfied with: Support from faculty.	0.512
To what degree are you satisfied with: The autonomy and freedom to make decision.	0.673		
To what degree are you satisfied with: The opportunity for advancement in your job.	0.573		

After finding out the factor loading amount for each item, a reliability analysis was conducted to test the internal consistency of the component 1 and component 2. The reliability statistics is indicated by Cronbach's alpha. As a rule of thumb, the Cronbach's alpha result needs to be at least 0.70 (Nunnally, 1978).

The reliability statistics (Cronbach's alpha) for component 2 was lower than 0.70, in that case, the items in component 2 were not included in the next analysis. Whereas the Cronbach's alpha of component 1 is 0.766 (see Table 15). Therefore, items in component 1 were further used as a variable for job satisfaction.

Table 15. Reliability Statistics of Job Satisfaction Scale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.766	.779	5

Department Chairs' Job Satisfaction, Disciplines, and Gender

The job satisfaction variables consist of three dependent variables, namely, job satisfaction scale, item 7_1 *(I feel my department is a good place)*; item number 7_2 (*As a department chair I feel valued);* and item 7_4 *(All in all I feel satisfied with my position).* In order to test the influence of the two independent variables, i.e., department chairs' disciplines and their gender on their job satisfaction, I used multivariate analysis of variance (MANOVA). MANOVA is the appropriate method to examine the variables because it allows the test of the effect of independent variables on two or more dependent variables (Stevens, 2002).

The MANOVA test results (see Table 16) shows that disciplines and gender variables each shows a *p* value > 0.05, therefore, it can be concluded that department chairs' job satisfaction does not differ based on disciplines or gender. Similarly, the interaction between gender and disciplines variables has no significant difference on department chairs' job satisfaction.

Table 16. Multivariate Tests on Job Satisfaction Variable

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Powerd
Q2. Disciplines (Agriculture, Engineering, Science)	Wilks' Lambda	0.951	1.805	8	562	0.073	0.025	14.439	0.774
Q9. Gender	Wilks' Lambda	0.993	0.464	4	281	0.762	0.007	1.855	0.159
Q2*Q9 Interaction between Disciplines and Gender Variables	Wilks' Lambda	0.978	0.79	8	562	0.612	0.011	6.317	0.371

A five-point Likert scale from 1 (highly dissatisfied) to 5 (highly satisfied) was used to rate the extent to which the department chairs' are satisfied with their position. The descriptive statistics on the items pertaining to job satisfaction shows that the means for items measuring department chairs' job satisfaction are ranging from 3.7 to 4.5 across different disciplines and gender (see Table 17). Therefore, it can be concluded that department chairs' job satisfaction is relatively high for all disciplines and gender.

Table 17. Descriptive Statistics of Department Chairs' Job Satisfaction

	Please mark the appropriate land-grant field in which your department belongs.	What is your gender?	Mean	Std. Deviation	N
Job_SatisfactionScale	Agriculture	Female	3.7975	0.74348	20
		Male	3.8089	0.69396	79
		Total	3.8066	0.70035	99
	Engineering	Female	4.12	0.57619	5
		Male	3.8154	0.63102	52
		Total	3.8421	0.62762	57
	Science	Female	3.6889	0.6733	27
		Male	3.7196	0.60555	107
		Total	3.7134	0.61727	134
	Total	Female	3.7721	0.692	52
		Male	3.7702	0.64054	238
		Total	3.7705	0.64882	290

Table 17 continued

	Please mark the appropriate land-grant field in which your department belongs.	What is your gender?	Mean	Std. Deviation	N
Q7_1_I_feel_my_ department_is_a_good_ place	Agriculture	Female	4.5	0.60698	20
		Male	4.2658	0.81191	79
		Total	4.3131	0.77784	99
	Engineering	Female	4.2	1.30384	5
		Male	4.3846	0.74502	52
		Total	4.3684	0.79354	57
	Science	Female	4.2963	0.72403	27
		Male	4.3458	0.75364	107
		Total	4.3358	0.74535	134
	Total	Female	4.3654	0.74172	52
		Male	4.3277	0.76978	238
		Total	4.3345	0.7637	290

Table 17 continued

	Please mark the appropriate land-grant field in which your department belongs.	What is your gender?	Mean	Std. Deviation	N
Q7_2_As_dept_chair_I_ feel_valued	Agriculture	Female	3.7	1.08094	20
		Male	3.8101	1.00097	79
		Total	3.7879	1.0129	99
	Engineering	Female	3.8	1.30384	5
		Male	3.8269	0.90144	52
		Total	3.8246	0.92819	57
	Science	Female	3.8889	0.75107	27
		Male	3.9813	0.86854	107
		Total	3.9627	0.84432	134
	Total	Female	3.8077	0.92965	52
		Male	3.8908	0.92129	238
		Total	3.8759	0.92173	290

Table 17 continued

	Please mark the appropriate land-grant field in which your department belongs.	What is your gender?	Mean	Std. Deviation	N
Q7_4_All_in_all_I_feel_ satisfied_with_my_ position	Agriculture	Female	4.05	0.51042	20
		Male	3.962	0.7415	79
		Total	3.9798	0.69956	99
	Engineering	Female	4.2	0.83666	5
		Male	3.9038	0.93431	52
		Total	3.9298	0.92311	57
	Science	Female	3.7037	0.82345	27
		Male	3.9159	0.85915	107
		Total	3.8731	0.85331	134
	Total	Female	3.8846	0.73174	52
		Male	3.9286	0.83637	238
		Total	3.9207	0.81757	290

Research Question 4: Are There Any Relationships between Department Chairs' Role

Conflict, Job Stress, Job Satisfaction, and Likelihood to serve for another Term?

Using multiple regressions with forward block entry, I examined the relationship

between department chairs' disciplines, gender, stress, job satisfaction, and likelihood to

serve for another term. Table 18 (model summary) presents the information about R, R^2,

and adjusted R^2. All the three R values point to the degree to which the linear

combination of the independent variables (i.e., disciplines, gender, job stress, and job

satisfaction) in the regression analysis predicts the dependent variable (likelihood to serve

for another term).

Table 18. Model Summary[e]

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Change Statistics		
					R^2 Change	F Change	df1
1	.176[a]	.031	.023	1.28076	.031	4.171	2
2	.236[b]	.056	.041	1.26916	.025	3.407	2
3	.383[c]	.147	.120	1.21584	.091	6.825	4
4	.438[d]	.192	.160	1.18800	.045	7.069	2

a. Predictors: (Constant), Engineering, Agriculture
b. Predictors: (Constant), Engineering, Agriculture, age, E. DEMOGRAPHICS1. What is your gender?
c. Predictors: (Constant), Engineering, Agriculture, age, E. DEMOGRAPHICS1. What is your gender?,
StressWork, StressNoSupport, StressAgeGenderRaceSexorientation, StressRole
d. Predictors: (Constant), Engineering, Agriculture, age, E. DEMOGRAPHICS1. What is your gender?,
StressWork, StressNoSupport, StressAgeGenderRaceSexorientation, StressRole,
Q7_4_All_in_all_I_feel_satisfied_with_my_position, Job_SatisfactionScale
e. Dependent Variable: Likelihood to serve for another term

As shown in Table 18 the R^2 for model 1 is .031 which means that the

independent variable disciplines (Agriculture and Engineering) explained only 3.1% of

the variance in the likelihood to serve for another term. Model 2, adds 2 independent

variables, i.e., gender and age, for which the R^2 value is .056; gender and age explained

an additional 2.5.% of the variance in the likelihood to serve for another term. The

contribution of age and gender variables is shown by the R^2 change of Model 2, .025.

Model 3 adds job stress variables. For model 3 the R^2 is .147. In other words, the

department chairs' gender, age and job stress explained an additional 9.1% of the variance in likelihood to serve for another term. The contribution of stress variables (i.e., StressWork, StressNoSupport, StressAgeGenderRaceSexorientation, and StressRole) is indicated by the R^2 change of Model 3, which is .091. Whereas, Model 4, adds job satisfaction variables was included, the R^2 value is .192, which means gender, age, job stress, and job satisfaction explained an additional 4.5% of the variance in department chairs' likelihood to serve for another term. The contribution of the job satisfaction variables (i.e., All in all I feel satisfied with my position and Job_SatisfactionScale) is indicated by the R^2 change of Model 4, which is, .045.

The next table is the ANOVA output (see Table 19). The ANOVA table provides the results of a test of significance of the F statistics. In this analysis, models 1, 2, 3, and 4 indicate a p value that is well below .05 ($p < .001$), and therefore, it can be concluded that the set of independent variables explain a significant proportion of the variance of the dependent variable. Each of the models was statistically significant and each explained additional variance of the dependent variable.

Table 19. ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.684	2	6.842	4.171	.016[b]
	Residual	429.772	262	1.64		
	Total	443.457	264			
2	Regression	24.66	4	6.165	3.827	.005[c]
	Residual	418.797	260	1.611		
	Total	443.457	264			
3	Regression	65.019	8	8.127	5.498	.000[d]
	Residual	378.438	256	1.478		
	Total	443.457	264			
4	Regression	84.974	10	8.497	6.021	.000[e]
	Residual	358.483	254	1.411		
	Total	443.457	264			

a. Dependent Variable: Likelihood to serve for another term

b. Predictors: (Constant), Engineering, Agriculture

c. Predictors: (Constant), Engineering, Agriculture, age, E. DEMOGRAPHICS1. What is your gender?

d. Predictors: (Constant), Engineering, Agriculture, age, E. DEMOGRAPHICS1. What is your gender?, StressWork, StressNoSupport, StressAgeGenderRaceSexorientation, StressRole

e. Predictors: (Constant), Engineering, Agriculture, age, E. DEMOGRAPHICS1. What is your gender?, StressWork, StressNoSupport, StressAgeGenderRaceSexorientation, StressRole, Q7_4_All_in_all_I_feel_satisfied_with_my_position, Job_SatisfactionScale

The coefficient table (see Table 20) contains the information about the regression coefficient (B) value that is how much change can be expected in the dependent variable with a one unit change in each independent variable. Further, the beta coefficient is also presented in the coefficient table. Unlike B value, Beta coefficients are all measured in standard deviations, instead of the units of the variables, hence, they can be compared to one another.

The first thing to analyze from this coefficient table is the significance level of the predictors (the independent variables). After selecting the independent variables that are significant ($p < .05$), the next step is to analyze the B value of the variables. The variable for the department chairs in agriculture (B = .490, p = .003) is significant and its coefficient is positive indicating that the department chairs who belong to agriculture field are more likely to serve for another term compare to those in the science field. The variable for the department chairs in engineering (B=.022, p = .917) is not significant. Next, the age variable has a B value of -.037 and p = .001. The coefficient is negative which indicates that the older the department chair's age, the less likely that he/she will serve for another term. It is worth noting that the sample has been filtered by removing those who stated that they will retire.

The stress variable, labeled as 'stress work', i.e., stress related to workloads shows a B value of -.265 and p value of .043. B coefficient is negative, which means the less stress related to workloads that are experienced by the department chairs, the more the chance that they will serve for another term. Equally, the other stress variable, labeled as 'Stress No Support' (stress due to the lack of support from administrators, faculty, and

other constituents), has a B value of -.284 and *p* value of .033. That is to say that the less lack of support as perceived by the department chairs, the more the chance that they will serve for another term. Finally, the variable on department chairs' overall satisfaction with their position indicates a B value of .301 and p value of .004; meaning to say that the more the department chairs feel satisfied with their position as administrators, the more likely they will serve for another term.

As for the beta coefficients, the age variable has the largest beta coefficient, -.193 and engineering has the smallest beta coefficient, -.016. A one standard deviation increase in age variable leads to a .193 standard deviation decrease in predicted likelihood to serve for another term, with the other variables held constant. A one standard deviation increase in agriculture variable leads to a .181 increase in predicted likelihood to serve for another term. Whereas, a one standard deviation increase in stress due to workload variable leads to a .142 standard deviation decrease in predicted likelihood to serve for another term. Next, a one standard deviation increase in stress due to no support variable leads to a .184 standard deviation decrease in predicted likelihood to serve for another term. Finally, a one standard deviation increase in department chairs' overall job satisfaction, leads to a .192 standard deviation increase in predicted likelihood to serve for another term.

Table 20. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.28	0.115		19.903	0
	Agriculture	0.49	0.179	0.178	2.741	0.007
	Engineering	0.022	0.21	0.007	0.104	0.917
2	(Constant)	3.441	0.705		4.879	0
	Agriculture	0.51	0.177	0.185	2.872	0.004
	Engineering	-0.037	0.21	-0.011	-0.176	0.86
	age	-0.029	0.012	-0.15	-2.463	0.014
	E. DEMOGRAPHICS1. What is your gender?	0.24	0.203	0.073	1.187	0.236
3	(Constant)	5.219	0.823		6.342	0
	Agriculture	0.541	0.171	0.196	3.165	0.002
	Engineering	-0.013	0.202	-0.004	-0.065	0.948
	age	-0.033	0.011	-0.174	-2.931	0.004
	E. DEMOGRAPHICS1. What is your gender?	0.19	0.215	0.057	0.883	0.378
	StressWork	-0.218	0.132	-0.117	-1.648	0.101
	StressNoSupport	-0.426	0.125	-0.276	-3.4	0.001
	StressAgeGenderRaceSexorientation	0.164	0.206	0.055	0.796	0.427
	StressRole	0.052	0.168	0.028	0.308	0.758

Table 20 continued

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
4	(Constant)	3.033	1.067		2.842	0.005
	Agriculture	0.498	0.167	0.181	2.975	0.003
	Engineering	-0.052	0.198	-0.016	-0.261	0.795
	age	-0.037	0.011	-0.193	-3.309	0.001
	E. DEMOGRAPHICS1. What is your gender?	0.25	0.211	0.076	1.185	0.237
	StressWork	-0.265	0.13	-0.142	-2.036	0.043
	StressNoSupport	-0.284	0.132	-0.184	-2.146	0.033
	StressAgeGenderRaceSexorientation	0.179	0.202	0.06	0.885	0.377
	StressRole	0.146	0.166	0.079	0.88	0.38
	Job_SatisfactionScale	0.168	0.146	0.085	1.152	0.25
	Q7_4_All_in_all_I_feel_satisfied_with_my_position	0.301	0.105	0.192	2.876	0.004

a. Dependent Variable: Likelihood to serve for another term

Summary of the Major Findings

One of the important findings in this study is the fact that the department chairs at land grant universities; specifically those who are in the fields of agriculture, engineering, and science, are relatively satisfied with their positions. The respondents of this study were asked to rate the statement 'All in all I feel satisfied with my position'. The ratings are measured by five-point Likert scale that ranges from 1 (strongly disagree), 2

(disagree), 3 (not sure), 4 (agree), and 5 (strongly disagree). As indicated by the average

responses of 3.93 (see Figure 10), it can be concluded that in overall the respondents are

satisfied with their position as department chairs.
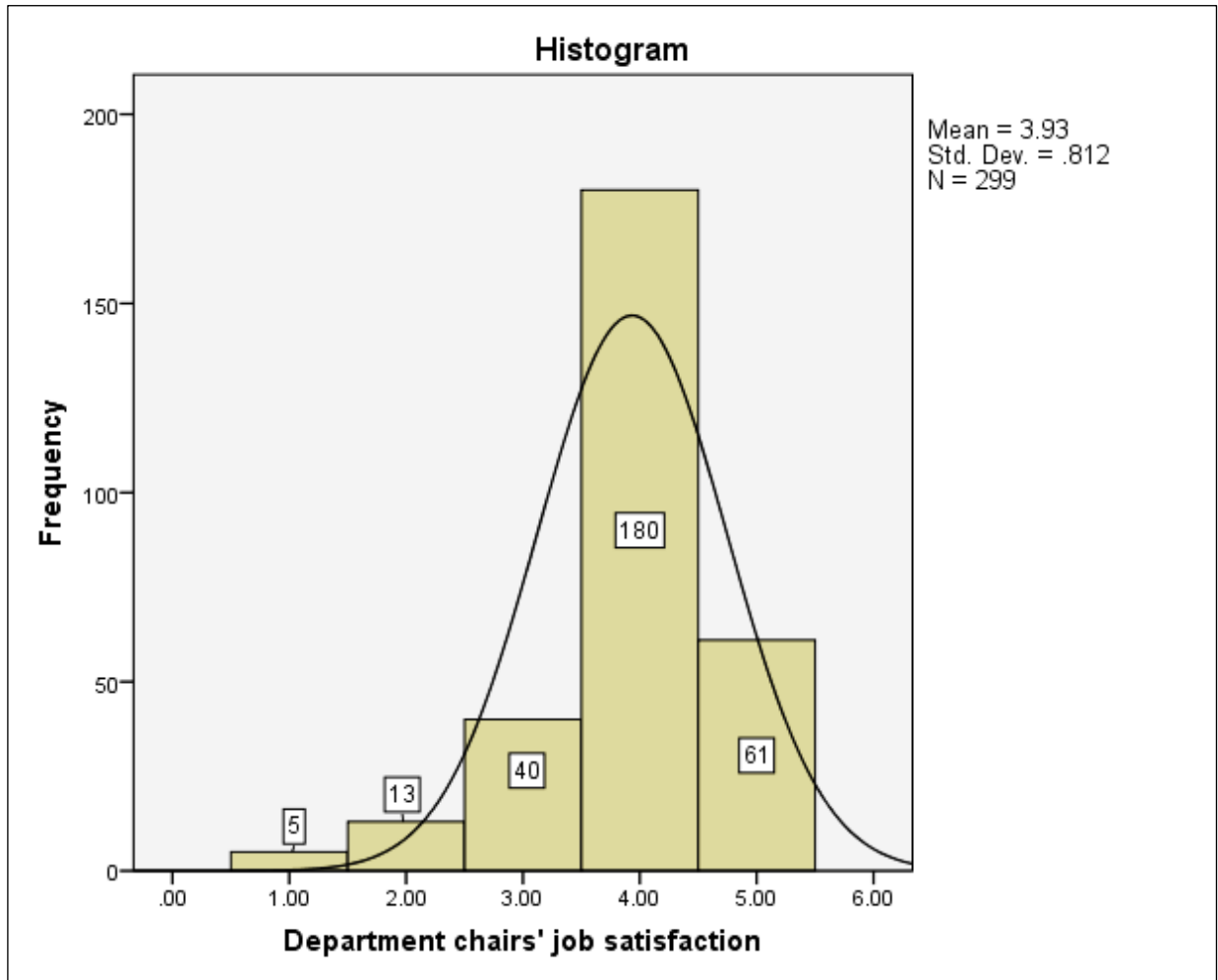
Figure 10. Land Grant Universities' Department Chairs' Job Satisfaction

Interestingly, despite the fact that the department chairs are satisfied with their position; their likelihood to serve for another term may be another story. Using the same five-point Likert scale that ranges from 1 (very unlikely), 2 (unlikely), 3 (undecided), 4 (likely), and 5 (very likely); the result of this study found that on average the department chairs were undecided in terms of whether or not within 5 years from now they will serve for another term. The respondents' average response was indicated by the mean of 2.47 (see Figure 11).
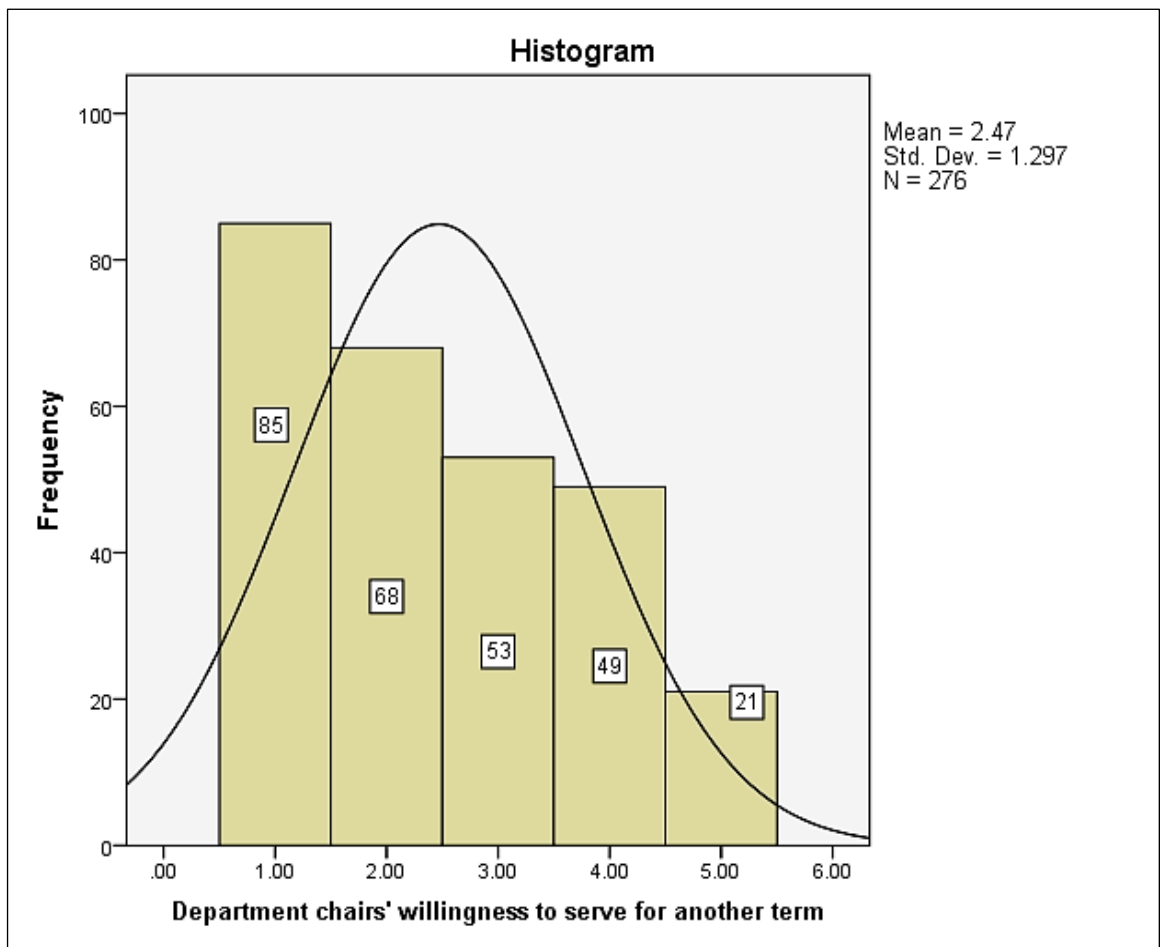

Figure 11. Land Grant Universities' Department Chairs' Likelihood to Serve for another Term

Furthermore, this study found that regardless of the disciplines, the job of the department chairs is similar. As an example, when asked about factors that cause stress, similar issues, such as, increased workload and insufficient time for scholarship and/or research are in the top ranks of the factors that cause stress to the department chairs in agriculture, engineering, and science fields.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

The focus of this study was to analyze the influence of land grant department chairs' role conflicts, job stress, and job satisfaction on their likelihood to serve for another term. The purpose of this study was to identify factors that cause stress to department chairs at land grant universities; to measure how role conflict, job stress, job satisfaction impact their likelihood to serve for another term. To address this purpose, this research examined factors that cause significant stress, investigated the stressors that might be different among department chairs of different disciplines, gender differences in terms of stress, role conflict, job satisfaction, and the relationships between department chairs' stress, satisfaction, and likelihood to serve for another term. The research was guided by the following questions:

1. According to the department chair what are the factors that cause significant stress?

2. How do the factors that cause stress vary among department chairs at different disciplines, i.e., Agriculture, Science, and Engineering?

3. How do gender differences affect the issues surrounding department chairs role, i.e., stress, role conflict, job satisfaction, and likelihood to serve for another term?

4. Are there any relationships between department chair's perceived stress, job satisfaction, and likelihood to serve for another term?

The survey respondents in this study were department chairs from 70 land grant universities, specifically, those who are in the fields of agriculture, engineering, and

science. In this chapter I provide a summary of the research findings with reference to the four research questions, to state the implications of the findings, and to propose recommendations.

Research Question 1: According to the Department Chairs What are the Factors that Cause Significant Stress?

Two factors are ranked as the highest with regard to factors that cause stress to department chairs in the fields of agriculture, engineering, and science. These two factors are increased workload and insufficient time for scholarship and/or research. This finding is consistent with the study on department chair stress by Gmelch and Burns (1993) in which they found that one of the top three stressors for department chairs was a heavy workload. Concerning this particular finding, there are several things that universities might be able to do in order to alleviate the department chairs' job stress. First, regarding the increased workload as one of the most cited cause of stress, universities may not necessarily reduce the workload itself; each of the duties is a necessary aspect of the university. Nevertheless, appointing an associate or assistant chair can help share the load of work that the department chairs need to perform. In addition, not only will the associate or assistant chair be able to shoulder a portion of the departmental duties, but also serve as a sounding board for new ideas. An adequate number of clerical staff is also necessary to support the work of department chairs.

Another highly cited stressor is insufficient time for scholarship and/or research. Despite the fact that the main task of department chairs is to perform administrative

duties, department chairs remain faculty members; and being faculty members, under most cases still need to maintain their scholarship and to keep updated with the research in their fields. Universities may consider providing an allocated time for department chairs to take a sabbatical year at the end of their first term. By doing so, department chairs will have time to catch up with the current research and/or rebuild their scholarship during their sabbatical time. Consequently, stress related to insufficient time for scholarship and/or research can be reduced, if the department chairs realize prior to and during serving as department chairs they will have time to update their research.

Research Question 2: How do the factors that cause stress vary among department chairs at different disciplines, i.e., Agriculture, Science, and Engineering?

The results of this study on factors causing stress to department chairs in agriculture, engineering, and science indicate that the most frequently cited stressors do not vary by discipline. Increased workload and insufficient time for scholarship and/or research were the top two factors that cause stress across all tested disciplines.

This finding shows that department chair's work is similar regardless of the disciplines. The main tasks of department chairs are indeed not discipline-dependent. Since the duties posed the same challenges to department chairs, universities might be able to take steps to encourage collegiality among department chairs across disciplines. This can be done through regular gatherings where department chairs may meet and share their challenges with each other and learn from one another on ways to solve issues within their departments. The gathering can be facilitated by the university central

administrators in which all department chairs are invited for an hour gathering; which could also serve as a department chair support group. In a study on novice teachers' likelihood to remain teaching, researchers noted that collegial climate could encourage them to stay in their job (Pogodzinksi, Youngs, & Frank, 2013). A good example of a department chairs gathering is the Department Chairs Professional Development Workshop Series held by Iowa State University Office of the Senior Vice President and Provost. Unlike a general leadership development, the department chair workshop is designed to specifically address topics related to department chairs work. The workshop presents topics pertaining to personnel and conflict management; policies; faculty advancement; and student affairs (Iowa State University, 2015). Practical and hands-on problem solving is offered as a part of the sessions during the workshop. Further, through the workshop, the department chairs have the opportunity to meet with their peers across different departments within the university.

Research Question 3: How do gender differences affect the issues surrounding department chairs role, i.e., stress, role conflict, and job satisfaction?

The department chairs' stress and role conflict are not affected by their disciplines. Gender, on the contrary, has a significant role in the differences in terms of job stress. This finding is supported by the studies on how women as administrators experienced more dilemmas due to the expectations of their additional gender-related-role. Unlike men, women may be more likely to feel that that they are responsible for the care of the household, children, and their spouses/partners (Hochschild, 1989), while at

the same time maintain a job as administrators with demanding duties and responsibilities (Perrakis & Martinez, 2012).

In the same manner, job satisfaction does not differ based on the disciplines of the department chairs. Nonetheless, unlike the case with job stress; gender did not have a significant influence towards department chairs' job satisfaction. At the same time, it is worth noting that the overall job satisfaction for female department chairs in agriculture and engineering fields, as indicated by the means of 4.05 and 4.2 respectively, were slightly higher than their male counterparts. The fact that female department chairs were not statistically lower on job satisfaction is quite interesting, considering the female department chairs' job stress particularly those that are related to discrimination (i.e., stress due to age, gender, race, and sexual orientation) and stress due to the lack of support, were both higher than the male department chairs. This anomaly is consistently found in studies on job satisfaction; where women almost always scored higher than men. It is possibly due to the fact that women are more likely to value the intrinsic returns to work compared to men who are more likely to value the extrinsic factors of work (Clark 1997; Neil & Snizeck, 1987).

The overview of gender composition is a reflection of how leadership in higher education is largely dominated by males. Likewise, in a study of female department chairs at 50 doctoral-granting institutions, it was found that female chairs faced resistance and hostility from their male colleagues (Mullen, 2009). While there has been progress to increase the participation of women in the managerial position, for women in leadership position in the higher education, it may still be lonely at the top. One of the possible

reasons of the gap between the percentages of female and male department chairs is some women's reluctance to take on the leadership position. In the process of selecting a department chair, the search committee may have stereotyped ideas of how a department chair should behave and what he/she may look like. More often than not, these stereotyped ideas of a leader involve the typical masculine characteristics (Gabriel, 2011).

Universities may be able to give more support to female department chairs by creating a support group or a committee on women where female department chairs across disciplines meet regularly and discuss issues that they faced. Furthermore, it may be beneficial to send female department chairs to a formal leadership program, such as, Regional Women's Leadership Forum (American Council on Education, 2015) which is specifically designed for midlevel women administrators.

Research Question 4: Are there any relationships between department chair's perceived stress, job satisfaction, and likelihood to serve for another term?

The multiple regression analysis indicated that the independent variables, namely, stress and job satisfaction, as well as other predictors, i.e., disciplines, gender, and age, contributed to the variance in the dependent variable, that is, department chairs' likelihood to serve for another term. In further analysis, it was found that the department chairs in the agriculture field were more likely to serve for another term compared to the chairs in the science fields. This finding may be explained by a more homogenous nature

of the departments/programs within the agriculture field relative to departments/programs within the science field. Hence, there may be more homogeneity in the department.

Department chairs' age has a significant effect on predicting the likelihood to serve for another term. After removing the respondents who stated they will retire within the next five years; the result reasonably shows that the older the department chairs' age, the less likely they will be willing to serve for another term. With this in mind, universities should plan to groom younger faculty members for future leadership roles. Finding and nurturing leadership talent might be done through offering an academic leadership seminar, such as Emerging Leader Academy, a leadership development program, where departments can nominate or send their faculty members.

Another predicting variable, stress, is related to workload, proven to significantly influence the department chairs' likelihood to serve for another term. Likewise, another stress variable pertinent to the availability of support, also significantly predicted the department chairs' likelihood to serve for another term. The less support they receive as perceived by department chairs, the less chance they will serve for another term. This outcome is aligned with studies on the correlation found between perceived support and employees' retention (Eisenberger, Stinglhamber, Vandenberghe, Sucharski, & Rhoades, 2002).

Finally, job satisfaction, as anticipated, significantly predicts the department chairs' likelihood to serve for another term. The higher their score on job satisfaction, the more likely they will serve for another term as department chairs. This finding is supported by studies on the correlations between employees' job satisfaction and

retention (Farkas & Tetrick, 1989). Similarly, teachers who reported higher job satisfaction at their school and with their profession were more likely to remain in their job (Perrachione, Rosser, & Petersen, 2008).

Department chairs assume leadership position without training or preparation, thus, universities should hold orientation for new department chairs. This orientation can be held in a form of multiple days seminar in which new department chairs attend sessions that discuss university policies; what to expect and what the university central administrators expect from the department chairs; faculty development; external constituents; strategic planning; and other topics that are relevant to department chairs' duties and responsibilities (Iowa State University, 2015). The orientation will also be a means by which newly appointed department chairs can meet with their colleagues who are also new in the job. Further, it will also be an opportunity for department chairs to meet in person and to know the individuals who serve as the university central administrators, with whom they can consult. Knowing that there are people that they can talk to is important for department chairs. As leaders who work in solitary in their respective departments and often caught between fulfilling the expectations of the faculty members in the department and the expectations of the university, department chairs might feel more assured in performing their duties when they know the university central administrators are there to support them.

Conclusions and Recommendations

Being a department chair can be a lonely position; the social interaction is limited due to the boundary that requires department chairs to avoid being too close with faculty members because it could give an impression of their bias or suspicion of being bias.

Whenever there is a change of leadership, there is almost always uncertainty. Sometimes the change is good, sometimes it is not. In the department, a new department chair will enact change and may result in uncertainty. The uncertainty is mostly caused by the need to adjust to the new leader, and perhaps new rules and regulations, the department climate may change, and the policies might change as well. In the case of department chair position, under most conditions it is beneficial for the university to encourage department chairs to retain their positions for a longer period to promote stability within the department. Moreover, hiring department chairs can bring about additional tangible cost to the university and department (McPhillips, Stanton, Zuckerman, and Stapleton, 2007). However, as this study found, many department chairs are not interested in serving for another term. The reasons for that reluctance are mostly due to the workload and the insufficient time for department chairs to perform their research and scholarship. One of the several things that universities can do to support department chairs and to sustain them may be to provide them with assistance. Universities may be able to help alleviate department chairs' workload by appointing or hiring an associate or assistant chair. Further, department chairs can have a graduate assistant to help them with their research and/or scholarly work.

With regard to the department chairs who are currently serving, universities might be able to provide training or workshop, such as the American Council on Education's (ACE) Leadership Academy for Department Chairs. Further, universities can establish a university-wide leadership development, such as Emerging Leader Academy (ELA) for their department chairs as well as for aspiring faculty to prepare them for leadership positions. At Iowa State University, for example, the Emerging Leader Academy is supported by the Office of the Senior Vice President and Provost. The ELA program is led by the experts in academic leadership both from within and outside campus experts (Iowa State University, 2013).

Limitations of the Study

This study is derived from the experience of department chairs at land grant universities in the fields of agriculture, engineering, and science in one time period. The results of this study, therefore, were applicable to universities with similar characteristics and to the programs within the three disciplines.

The response rate of this research was 18% (N=300) out of 1,704 department chairs. The relatively small sample size might be due to the fact that department chairs' tasks are overwhelming and they might find it difficult to find a time to take the survey. One of the department chairs politely responded to the survey invitation by sending an email and stated that he did not have time to fill out the survey. As reflected by the findings of this study, using the Likert scale of 1 (very rarely), 2 (rarely), 3 (sometimes), 4 (often), and 5 (always), department chairs' overall stressors were rated between 3 and

4. In other words, though not necessarily always causing stress, there are many factors that those department chairs may have to constantly juggle.

Recommendations for Future Research

Future studies can include other disciplines outside agriculture, engineering, and sciences. By doing so, there will be more disciplines that can be compared and the results could be applied to fields beyond agriculture, engineering, and science. In addition, future research can analyze research universities and comprehensive universities.

With regard to the variables measured, this study can be expanded by adding a qualitative part by interviewing department chairs across the different disciplines. The results of the interviews can be compared and combined with the quantitative part.

This study measured the department chairs' likelihood to serve for another term, that is, the possibility of serving again. It will be interesting for future study to investigate the department chairs' likelihood to serve, which will be more of individuals' internal motivation rather than a possibility.

One of the interesting findings of this study is that female department chairs' overall stress is higher than male; however, their job satisfaction was not statistically lower than male department chairs. Although it is not uncommon in studies on job satisfaction that females scored higher than males (Sousa-Poza & Sousa-Poza, 2000), further research is needed to investigate the possible mediating variables that might influence the relationship between job stress and job satisfaction.

All in all, being a department chair is a very complicated, but necessary position. It is hoped that studies such as this one provides some structures and approaches to make the difficult job a little easier.

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APPENDIX A. DISSERTATION QUESTIONNAIRE

Default Question Block

Consent Form for:

Beyond tenured: Analysis of the influence of department chair role conflict, stress, job satisfaction and their willingness to serve for another term

This form describes a research project. It has information to help you decide whether or not you wish to participate. Research studies include only people who choose to take part—your participation is completely voluntary. Please discuss any questions you have about the study or about this form with the project staff before deciding to participate.

Who is conducting this study?
This study is being conducted by Agustina Veny Purnamasari, Doctoral Candidate, School of Education, Iowa State University, Ames, Iowa. This study is conducted as a part of my dissertation study that will help to complete my dissertation and obtain a PhD degree.

Why am I invited to participate in this study?
You are being asked to take part in this study because of your role as a department chair or the equivalent position within a land-grant university that is a part of the land-grant university system stretched across the fifty states.

What is the purpose of this study?
The purpose of this study is understand how department chairs view their roles, to find out factors that might cause job stress, their job satisfaction, factor(s) that might influence their intention to serve for another term, and to find out the ways to improve support and training for department chairs.

What will I be asked to do?
If you agree to participate, you will be asked to respond to a series of survey questions asking about your roles and responsibilities as a department chair, as well as the support and challenges you face in your roles.

Your participation will last for the duration of your time spent on the survey, approximately 15-20 minutes to answer all of the questions. At any time you may choose to not answer a question or to end the survey.

What are the possible risks or discomforts and benefits of my participation?
Risks or Discomforts—there is no foreseeable risks or discomforts related to your participation in this research. The questions are non-invasive and you may choose to not respond to any question at any time.

Benefits—you may not receive any direct benefit from taking part in this study. We hope that this research will benefit department chairs by informing administrators of the challenges and support needed by department chairs with regard to their roles and responsibilities.

How will the information I provide be used?
The information you provide will be used for the following purposes: I am currently working on my dissertation, and I am contacting you because I really need your help to complete my dissertation. Through this study, I am trying to find out the roles, responsibility, challenges, and struggles of department chairs at land-grant universities across the nation.

The data you provide will be summarized with other department chairs' data and presented in aggregate by the disciplines based on land-grant mission according to Morrill Act 1862, i.e., agriculture, engineering, science, and military science. There will be no identifying information attached to any analyses or presentation.

What measures will be taken to ensure the confidentiality of the data or to protect my privacy?
The participants will be kept confidential to the extent allowed by applicable laws and regulations. Records will not be made publicly available. However, auditing departments of Iowa State University, and the ISU Institutional Review Board (a committee that reviews and approves research studies with human subjects) may inspect and/or copy study records for quality assurance and analysis.

To ensure confidentiality to the extent permitted by law, the following measures will be taken:

The online survey system will collect responses anonymously. Your responses will be disassociated with identifiable information at the end of the survey period. Furthermore, the data will be stored in the principal investigator's password-protected computer behind a locked office door and all files will be encrypted with password. Only the principal investigator has access to the computer and the collected data.

Further, to ensure confidentiality, the respondents' responses will be presented in aggregate by the disciplines based on Morrill Act 1862 on land grant institutions, namely, agriculture, engineering, science, and military science. There will be hundreds of departments within the 70 land grant universities, and thus, there will be hundreds of respondents which will be presented in aggregate. Thus, the large data will further ensure the confidentiality. In addition, there will be no identifying information attached to any analyses or presentation.

Will I incur any costs from participating or will I be compensated?
You will not have any costs from participating in this study. You will not be compensated for participating in this study.

What are my rights as a human research participant?
Participating in this study is completely voluntary. You may choose not to take part in the study or to stop participating at any time, for any reason, without penalty or negative consequences. You may skip any questions that you do not wish to answer. Your choice of whether or not to participate will have no impact on you as a department chair in any way.

If you have any questions *about the rights of research subjects or research-related injury*, please contact the IRB Administrator, (515) 294-4566, IRB@iastate.edu, or Director, (515) 294-3115, Office for Responsible Research, 1138 Pearson Hall, Iowa State University, Ames, Iowa 50011.

Whom can I call if I have questions about the study?
You are encouraged to ask questions at any time during this study. For further information, please contact:

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Email: lindah@iastate.edu.

Consent and Authorization Provisions
By clicking the "continue" button, you indicate that you voluntarily agree to participate in this study, that the study has been explained to you, that you have been given the time to read the document and that your questions have been satisfactorily answered. You may print a copy of the informed consent for your own files or contact the principal investigator to obtain a copy.

○ I wish to continue

○ I do not wish to continue

Please mark the appropriate land-grant field in which your department belongs.

○ Agriculture

○ Engineering

○ Science

○ Military science

In your role as a department chair, to what extent do the following factors create stress?

	Never	Rarely	Sometimes	Often	Always
• Administrative work.	○	○	○	○	○
• Increased workload.	○	○	○	○	○
• Need to meet targets/deadlines.	○	○	○	○	○
• Long working hours.	○	○	○	○	○
• Working alone.	○	○	○	○	○
• Evaluation of faculty.	○	○	○	○	○
• Unable to take time-off.	○	○	○	○	○
• Not able to exert control over demands made.	○	○	○	○	○
• Dealing with competing demands.	○	○	○	○	○
• Given responsibility without the authority to make decisions.	○	○	○	○	○
• Insufficient time for scholarship and/or research.	○	○	○	○	○
• Dealing with conflicts.	○	○	○	○	○
• Conflicting demands in job role.	○	○	○	○	○
• Unclear job description.	○	○	○	○	○
• Lack of support in job role.	○	○	○	○	○
• Efforts not valued	○	○	○	○	○
• Lack of participation in decision making.	○	○	○	○	○
• Lack of information about what is going on.	○	○	○	○	○
• Insufficient clerical support.	○	○	○	○	○

- Feeling work not valued.
- Lack of support from university administrator.
- Limited or no access to training.
- Lack of funds/resources to do the job.
- I feel discriminated because of my age.
- I feel discriminated because of my race.
- I feel discriminated because of my gender.
- I feel discriminated because of my sexual orientation.
- Other *(please specify)*. I feel discriminated because of

Are there other stressors faced by the department chair not included in the previous list?

In 5 years from now, how likely will you….

	Very Unlikely	Unlikely	Undecided	Likely	Very Likely
Continue as a department chair at this university.	◯	◯	◯	◯	◯
Work as a department chair at another university.	◯	◯	◯	◯	◯
Work in an administrator position higher than department chair.	◯	◯	◯	◯	◯
Back to faculty position (no longer serving as department chair or other administrative position).	◯	◯	◯	◯	◯
Be retired from the university service.	◯	◯	◯	◯	◯
Other. Please specify	◯	◯	◯	◯	◯

To what degree are you satisfied with:

	Highly Satisfied	Satisfied	Not sure	Dissatisfied	Highly Dissatisfied
The opportunity to make use of your leadership skill.	○	○	○	○	○
The opportunity to do different things.	○	○	○	○	○
The opportunity for advancement in your job.	○	○	○	○	○
Your salary.	○	○	○	○	○
The autonomy and freedom to make decision.	○	○	○	○	○
Support from the dean.	○	○	○	○	○
Support from faculty.	○	○	○	○	○
Your workload.	○	○	○	○	○

Please indicate your agreement with the following statement.

	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
I feel my department is a very good place for me.	○	○	○	○	○
As a department chair I feel valued in the university.	○	○	○	○	○
If I had it to do over again, I would not become a department chair.	○	○	○	○	○
All in all, I feel satisfied with my position.	○	○	○	○	○

Thinking about the time you spent in the following activities, please specify if you would prefer to spend *more time* or *less time* in each.

	Less (1)	Neutral	More (10)
1. Administrative works, such as, attending meetings, planning and preparing budget, scheduling classes, and managing department resources.			
2. Faculty-related			

issues, such as, evaluation of faculty members.	
3. My research and scholarly activities.	
4. Teaching and interacting with students.	

E. DEMOGRAPHICS

1. What is your gender?

○ Female

○ Male

2. How long have you been a department chair? _____ year(s).

In what year were you born?

What was your academic rank when you became department chair? (check all that apply)

☐ Assistant Professor

☐ Associate Professor

☐ Full Professor

☐ Other. Please specify ……………

Do you have tenure?

○ Yes

○ No

Please fill in the proportion of time assigned for your position.
(Note: this is a formal time based on your assignment and may not reflect the proportion of time actually spent).

Teaching _____%

[ ]

Research _____%

[ ]

Service _____%

[ ]

Thank you for completing this survey.

If you would like to have a summary of the findings of the study, please send a request to Agustina Purnamasari at agustina@iastate.edu

APPENDIX B. LIST OF LAND GRANT INSTITUTIONS

A•P•L•U Members

UNIVERSITY SYSTEMS

Louisiana State University System
Oklahoma State Regents for Higher Education
Oregon University System
Southern Illinois University
Southern University System
The State University of New York
Texas A&M University System
Texas Tech University System
The California State University System
The City University of New York
The University of Hawai'i System
The University of North Carolina System
The University of Texas System
University of Alabama System
University of Alaska System
University of Arkansas System
University of California[1]
University of Colorado System
University of Illinois
University of Massachusetts
University of Missouri System
University of Nebraska
University of Wisconsin System
University System of Georgia
University System of Maryland

MEMBER UNIVERSITIES BY JURISDICTION

ALABAMA
Alabama A&M University[1,2]
Auburn University[1]
The University of Alabama
The University of Alabama at Birmingham
The University of Alabama in Huntsville
Tuskegee University[1,2]

ALASKA
University of Alaska Fairbanks[1]

AMERICAN SAMOA
American Samoa Community College[1]

ARIZONA
Arizona State University
Northern Arizona University
The University of Arizona[1]

ARKANSAS
Arkansas State University
University of Arkansas, Fayetteville[1]
University of Arkansas at Pine Bluff[1,2]

CALIFORNIA
California Polytechnic State University, San Luis Obispo
California State University, Fresno[3]
California State University, Fullerton[3]
California State University, Sacramento
San Diego State University
San Jose State University
University of California, Berkeley
University of California, Davis
University of California, Irvine
University of California, Los Angeles
University of California, Riverside[3]
University of California, San Diego
University of California, Santa Barbara
University of California, Santa Cruz

COLORADO
Colorado School of Mines
Colorado State University[1]
University of Colorado Boulder
University of Colorado Denver/Anschutz Medical Campus

CONNECTICUT
University of Connecticut[1]

DELAWARE
Delaware State University[1,2]
University of Delaware[1]

DISTRICT OF COLUMBIA
University of the District of Columbia[1,2]

[1] Indicates a land-grant institution as designated by the state legislature
[2] Indicates a Historically Black College or University
[3] Indicates a Hispanic Serving Institution

www.manaraa.com

FLORIDA
Florida A&M University[1,2]
Florida Atlantic University
Florida International University[3]
The Florida State University
University of Central Florida
University of Florida[1]
University of South Florida

GEORGIA
Fort Valley State University[1,2]
Georgia Institute of Technology
Georgia Southern University
Georgia State University
The University of Georgia[1]

GUAM
University of Guam[1]

HAWAI'I
University of Hawai'i at Manoa[1]

IDAHO
Boise State University
Idaho State University
University of Idaho[1]

ILLINOIS
Illinois State University
Northern Illinois University
Southern Illinois University Carbondale
University of Illinois at Chicago
University of Illinois at Urbana-Champaign[1]

INDIANA
Ball State University
Indiana University
Indiana University-Purdue University Indianapolis
Purdue University[1]

IOWA
Iowa State University[1]
The University of Iowa

KANSAS
Kansas State University[1]
The University of Kansas
Wichita State University

KENTUCKY
Kentucky State University[1,2]
University of Kentucky[1]
University of Louisville

LOUISIANA
Louisiana State University and Agricultural & Mechanical College[1]
Louisiana Tech University
Southern University and A&M College, Baton Rouge[1,2]
University of Louisiana at Lafayette
The University of New Orleans

MAINE
The University of Maine[1]

MARYLAND
Morgan State University[2]
United States Naval Academy
University of Maryland, Baltimore County
University of Maryland, College Park[1]
University of Maryland Eastern Shore[1,2]
University of Maryland University College

MASSACHUSETTS
Massachusetts Institute of Technology[1]
University of Massachusetts Amherst[1]
University of Massachusetts Boston

MICHIGAN
Michigan State University[1]
Michigan Technological University
Oakland University
University of Michigan
Wayne State University
Western Michigan University

MINNESOTA
University of Minnesota[1]
University of Minnesota Duluth

MISSISSIPPI
Alcorn State University[1,2]
Mississippi State University[1]
The University of Mississippi
The University of Southern Mississippi

MISSOURI
Lincoln University[1,2]
Missouri University of Science and Technology
University of Missouri-Columbia[1]
University of Missouri-Kansas City
University of Missouri-St. Louis

MONTANA
Montana State University[1]
The University of Montana

NEBRASKA
University of Nebraska-Lincoln

NEVADA
University of Nevada, Las Vegas
University of Nevada, Reno[1]

NEW HAMPSHIRE
University of New Hampshire[1]

NEW JERSEY
Montclair State University
New Jersey Institute of Technology
Rutgers, The State University of New Jersey[1]

NEW MEXICO
New Mexico State University[1,3]
The University of New Mexico[3]

NEW YORK
Binghamton University, SUNY
Cornell University[1]
Stony Brook University, SUNY
The City College of New York, CUNY[3]
University at Albany, SUNY
University at Buffalo, SUNY

NORTH CAROLINA
East Carolina University
North Carolina A&T State University[1,2]
North Carolina State University[1]
The University of North Carolina at Chapel Hill
University of North Carolina at Charlotte
University of North Carolina at Greensboro
University of North Carolina at Wilmington

NORTH DAKOTA
North Dakota State University[1]
The University of North Dakota

[1] Indicates a land-grant institution as designated by the state legislature
[2] Indicates a Historically Black College or University
[3] Indicates a Hispanic Serving Institution

OHIO
Bowling Green State University
Cleveland State University
Kent State University
Miami University
Ohio University
The Ohio State University[1]
The University of Akron
The University of Toledo
University of Cincinnati
Wright State University

OKLAHOMA
Langston University[1,2]
Oklahoma State University[1]
The University of Oklahoma

OREGON
Oregon State University[1]
Portland State University
University of Oregon

PENNSYLVANIA
The Pennsylvania State University[1]
Temple University
University of Pittsburgh

PUERTO RICO
University of Puerto Rico Mayaguez[1,3]

RHODE ISLAND
The University of Rhode Island[1]

SOUTH CAROLINA
Clemson University[1]
South Carolina State University[1,2]
University of South Carolina

SOUTH DAKOTA
South Dakota School of Mines and Technology
South Dakota State University[1]
University of South Dakota

TENNESSEE
Middle Tennessee State University
Tennessee State University[1,2]
The University of Memphis
The University of Tennessee, Knoxville[1]

TEXAS
Prairie-View A & M University[1,2]
Texas A&M University[1]
Texas State University-San Marcos
Texas Tech University
University of Houston
University of North Texas
The University of Texas at Arlington
The University of Texas at Austin
The University of Texas at Dallas
The University of Texas at El Paso[3]
The University of Texas at San Antonio[3]

UTAH
The University of Utah
Utah State University[1]

VERMONT
The University of Vermont[1]

VIRGIN ISLANDS
University of the Virgin Islands[1,2]

VIRGINIA
George Mason University
University of Virginia
Virginia Commonwealth University
Virginia Polytechnic Institute & State University (Virginia Tech)[1]
Virginia State University[1,2]

WASHINGTON
University of Washington
Washington State University[1]

WEST VIRGINIA
West Virginia State University[1,2]
West Virginia University[1]

WISCONSIN
University of Wisconsin-Madison[1]
University of Wisconsin-Milwaukee

WYOMING
University of Wyoming[1]

RELATED HIGHER EDUCATION ORGANIZATIONS
American Indian Higher Education Consortium[1]
The College Board
The Connecticut Agricultural Experiment Station[1]
Institute for Shipboard Education/Semester at Sea
University of Wisconsin-Extension

[1] Indicates a land-grant institution as designated by the state legislature
[2] Indicates a Historically Black College or University
[3] Indicates a Hispanic Serving Institution

APPENDIX C. PERMISSION TO USE FIGURE 1

Re: GWU publication, request a permission to use a figure in a book for dissertation

Meg Holland <holland@gwu.edu>   Thu, Nov 6, 2014 at 2:06 PM
Reply-To: holland@gwu.edu
To: Agustina Purnamasari <agustina@iastate.edu>
Cc: Jason Shevrin <jshevrin@email.gwu.edu>

Dear Agustina,

GW does not have a university press. I expect it was published by the clearinghouse and with support of GW.

Given the circumstances and since Dr. Creswell seems fine with it, I see no reason for you not to use the diagram.

Best,
Meg

On Thu, Nov 6, 2014 at 2:56 PM, Agustina Purnamasari <agustina@iastate.edu> wrote:

Dear Meg and Jason,

Thank you for clarifying and checking it. I did email Dr. Creswell from UNL yesterday before I emailed GWU press, and he suggested me to ask the permission from you. Please find the email from him below.

(I'd like to make sure I am asking permission for that.. since it is for my dissertation). Since both sides (GWU press and author) seem fine with it, then I think it should be ok to use the figure/diagram?

Thank you again for your help.

Best,

Agustina

From: John Creswell [mailto:jcreswell1@unl.edu]
Sent: Wednesday, November 05, 2014 5:04 PM
To: agustina @iastate.edu
Subject: Re:

Thanks for your note. George Washington U Press would be the place to write for permission. Thanks. John

From: agustina @iastate.edu <agustina@iastate.edu>
Sent: Wednesday, November 5, 2014 4:49 PM
To: John Creswell
Subject:

Dear Dr. Creswell,

Please allow me to introduce myself. My name is Agustina Purnamasari, I am a doctoral student at Iowa State University. I am currently writing my dissertation entitled: The Influence of Department Chair Role Conflict, Stress, and Job Satisfaction towards Their Willingness to Serve for another Term.

As I was looking for a framework to guide my literature review especially to explain the role conflict of department chair's job, I found a figure that perfectly explains the faculty and administrative roles of a chair (i.e., a figure on department chair's dilemma) on your book "The department chair: new roles, responsibilities, and challenges" by Alan T. Seagren, John W. Creswell, and Daniel W. Wheeler ; prepared by ERIC Clearinghouse on Higher Education, the George Washington University, in cooperation with ASHE, Association for the Study of Higher Education.

The note on figure on page 31 mentioned that it is sourced from Faculty Senate Commite, the George Washington University. However, as I was not sure who to ask the permission from at George Washington University.

Therefore, I am writing to you to ask your permission in order to use the figure on page 31 on "The department chair: new roles, responsibilities, and challenges" book for my dissertation.

Thank you in advance and I am looking forward to hearing from you.

Best,

Agustina

Agustina V. Purnamasari

School of Education

Iowa State University

Ames, Iowa

Email: agustina@iastate.edu