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The Role of Extrinsic Motivators on Job Satisfaction and Turnover in Higher Education Within R2 Research Universities in the United States

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THE ROLE OF EXTRINSIC MOTIVATORS ON JOB SATISFACTION AND TURNOVER IN HIGHER EDUCATION WITHIN R2 RESEARCH UNIVERSITIES IN THE UNITED STATES

by

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ABSTRACT

The purpose of this study was to evaluate extrinsic motivators and the relationship they have with job satisfaction and turnover intent. Literature suggests that higher education faculty have differing needs and satisfiers than other public sector employees (Lee & Wilkins, 2011; Maidani, 1991). As a result, the Delphi method was utilized to identify extrinsic motivators that were tailored to higher education. Once these motivators were identified through a panel of experts, they were combined to create a survey with previously established scales measuring job satisfaction and turnover intent.

This survey was designed to answer the following research questions: 1) what relationship, if any, exists between extrinsic motivators and job satisfaction? 2) what relationship, if any, exists between extrinsic motivators and turnover intent? And 3) what extrinsic motivator differences, if any, exist between colleges? A factor analysis was performed on the survey to identify correlated items and group them into factors. As a result, five factors were derived from the survey, job satisfaction, relationships, finances, autonomy, and work environment conditions. After performing multiple regressions using the identified factors and the dependent variables, job satisfaction, and turnover intent, it was found that job satisfaction and the importance of relationships were predictors of both dependent variables. Work environment conditions were found to be a predictor of job satisfaction, and there were no significant differences in extrinsic motivators between colleges.

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DEDICATION

This dissertation is dedicated to all of my family for providing love, support, and encouragement, I would not have been able to accomplish this without them.

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CHAPTER 1

INTRODUCTION

Job satisfaction is a widely discussed topic, Herzberg, Mausner, and Snyderman (1959) initially discussed job satisfaction as being affected by intrinsic motivators only, and job dissatisfaction as being affected by extrinsic motivators. However, other theorists like Maslow (2014) suggested that there is a hierarchy of fulfillment, starting with basic needs such as physiological and security. If the early extrinsic needs are not met, the next intrinsic needs in line cannot be met either (Hong, 2011; Maslow, 2014). This assessment falls in line with the self-determination theory, which states that behaviors or motivators can start as an extrinsic motivator and then become internalized by the individual (Gagne & Deci, 2005; Ryan & Deci, 2000). As there is uncertainty with the role of extrinsic motivators with job satisfaction, this study will aim to evaluate the role they play in higher education as well as identifying their role in turnover intent.

Background of the Problem

Employee turnover is a costly consequence for businesses, with an expected cost of 680 billion dollars annually across all trades nationwide in the coming years (Tarallo, 2018). Unfortunately, higher education is not exempt, where according to Jo (2008) 68 million dollars are spent annually as a result of faculty turnover. While higher education may have aspects that make it unique from the majority of other businesses, such as

tenure, teaching and research; it is still affected by turnover (Bozeman & Gaughan, 2011). These differences within higher education are what drive the need for continued research into faculty job satisfaction and turnover. In an attempt to control for some of the variability that results in higher education, participants will be delimited to gain a better understanding of faculty within the fields of business, liberal arts, and engineering as they have been identified as having different motivators (Bowker & Lynch, 1984; Serow, 2000).

Research Problem

There is inadequate understanding regarding extrinsic motivation factors affecting job satisfaction and turnover within higher education research universities, and my research will shed more light on this problem. The purpose of this study is to identify job satisfaction variables within higher education faculty at research universities. Previous studies have focused on specific subsets such as only women, only science teachers, or countries outside of the United States. Previous studies have also not directly linked extrinsic motivators to turnover intent. This link is done by evaluating the following research questions: 1) what relationship, if any, exists between extrinsic motivators and job satisfaction? 2) what relationship, if any, exists between extrinsic motivators and turnover intent? And 3) what extrinsic motivator differences, if any, exist between colleges?

Significance of the Research Problem

The concept of identifying ways employers can increase job satisfaction and reduce the turnover intent of employees is an important one for administrators within

higher education. Under the notion that faculty and teachers are thought to be driven only by intrinsic motivators, the use of rewards and compensation would not be considered necessary (Herzberg et al., 1959; Locke, 1978). In the modern climate, where funding is not always available, other motivators need to be evaluated by administrators to ensure their employees' job satisfaction is high, not only to prevent turnover but also to improve performance (Jo, 2008; Karl, O'Leary-Kelly, & Martocchio, 1993).

Methodology

This research study used the Delphi method to identify extrinsic motivators that were important to higher education faculty within the fields of business, liberal arts, and engineering. The identified variables were added to a survey that also included a job satisfaction scale and a turnover intent scale. This survey was sent to higher education faculty using purposive sampling across public R2 universities, delimiting respondents to colleges of business, liberal arts, and engineering. Participants were also delimited by faculty rank, as either tenured, tenure-track, part-time non-tenure, and full-time non-tenure track. After the study was completed, factor analysis was performed on the survey to identify correlated factors. Multiple regressions were then performed on the factor analysis, answering the research questions: 1) what relationship, if any, exists between extrinsic motivators and job satisfaction? 2) what relationship, if any, exists between extrinsic motivators and turnover intent? And 3) what extrinsic motivator differences, if any, exist between colleges? The research questions attempted to confirm or add context to Herzberg's two-factor motivation theory in which extrinsic motivators are thought not to influence job satisfaction (Herzberg et al., 1959).

Definition of Key Concepts

Delphi Method: a technique that uses the feedback of panelists to construct or evaluate a topic in a specific field (Murry & Hammons, 1995; Preble, 1984).

Panelist: knowledgeable professionals that can provide relevant feedback in a specific field of study (Nworie, 2011).

Self-efficacy: an individual's belief in their ability to affect their thoughts, motivation, and actions (Bandura, 1986).

Turnover: when an employee leaves one job for another job (Jo, 2008).

CHAPTER 2

REVIEW OF LITERATURE

The purpose of this literature review is to evaluate current trends in job satisfaction within higher education organizations and how intrinsic motivational factors affect job satisfaction. Understanding intrinsic motivational factors and how to implement them can provide employees greater self-efficacy and potentially lead to an increase in job satisfaction, employee commitment, and reduced turnover (Herzberg, 1968; Herzberg et al., 1959; Ryan, Healy, & Sullivan, 2012). While recent studies have been done utilizing Herzberg's Two-factor theory as a framework to identify variables in job satisfaction, many of them are from the '60s through to the '90s without much emphasis on the changing workplace at present (Harpaz, 1990; Lacy & Sheehan, 1997; Lodahl, 1978; Nias, 1981). Also, a paper by Steers, Mowday, and Shapiro (2004) suggests that the workplace has changed dramatically due to an increase in diversity amongst employees and an increased variety of functions in connection with an increase in globalization.

Studies that have been done in the higher education setting have been focused on particular jobs, such as a study by Lacy and Sheehan (1997) that only measured job satisfaction concerning Herzberg's theory amongst teachers in higher education, leaving out administrative staff. An example of this is a study by Jo (2008), which found that lower-level administrative staff felt left out of the decision-making process within the

department and became dissatisfied with their supervisor. Another changing variable is the employment of women in higher education, a report published by the American Council on Education (2016) stated that women in higher education on average earned $13,616 less than their male counterparts. Supporting this, a study by Lacy and Sheehan (1997) found that in general, women had lower job satisfaction than men. When evaluated by category, women had lower satisfaction in the following categories (a) relationships with colleagues, (b) job security, (c) possible promotion, and (d) opportunity to pursue their ideas than when compared to their male counterparts (Lacy & Sheehan, 1997).

Herzberg's Two Factor Theory

Theoretical Framework

The hygiene-motivator theory explains motivation as having two parts; satisfaction, which is intrinsic or a motivation factor, and dissatisfaction, which is extrinsic or a hygiene factor (Herzberg et al., 1959). In this theory, satisfaction and dissatisfaction are separate concepts and do not affect one another (Herzberg et al., 1959). Therefore, reducing the frequency of dissatisfaction or negative hygiene variable would not cause satisfaction but would only limit dissatisfaction (Herzberg et al., 1959). The same was initially found to be true of motivator or satisfaction variables, which would only affect satisfaction (Herzberg et al., 1959). Because of this relationship between hygiene and motivator factors, the focus should be placed on both limiting negative hygiene factors, while promoting or increasing intrinsic factors (Herzberg, 1968). Examples of the identified intrinsic factors that emerged were (a) achievement, (b) recognition, (c) the act of working, (d) responsibility, (e) growth, and (f) advancement;

these intrinsic variables were mostly related to job satisfaction (Behling, Labovitz, & Kosmo, 1968). The extrinsic variables identified were (a) policy, (b) supervision, (c) relations with supervisor, (d) relations with coworkers, (e) relations with subordinates, (f) work conditions, (g) salary, (h) personal life, (i) job security, and (j) social status; these extrinsic variables were solely responsible for job dissatisfaction (Behling et al., 1968; Herzberg, 1968).

Theoretical Framework/Relevant to Problem

The hygiene-motivation theory suggests that providing an employee the opportunity for personal development and goal setting or feedback can increase their self-efficacy (Locke, 1978). Employers aiming to increase employee motivation can take advantage of professional development and provide room for advancement as these are also tools for increasing self-efficacy and job satisfaction (Ngemegwai, 2018). In a study by Harpaz (1990), it was found that employees ranked interesting work overall to be an essential factor in their jobs, with the amount of pay another vital factor but varying based on age. The amount of pay was more critical for subordinates and less important for managers (Harpaz, 1990). Other factors that were of importance based on age groups were job security for older employees and the opportunity to learn for the younger employees (Harpaz, 1990).

Issues with the Herzberg Framework Regarding the Problem

Contrary to Herzberg's theory, a study by Ondrack (1974) found that intrinsic or motivation factors affected both satisfaction and dissatisfaction. In a review by Gibson and Teasley (1973), it was suggested that weaknesses in Herzberg's two-factor motivation theory were a result of the methodological approach taken in which semi-

structured interviews were conducted (Gibson & Teasley, 1973; Herzberg et al., 1959). However, Herzberg (1966) argues that it is harder to fake what the perceived best answer would be in a structured interview as opposed to answering a written survey or questionnaire. Studies have implicated that interest in job, autonomy, and decision making are positive predictors of job satisfaction; however, some studies suggest the relationship is not cut and dry, and outside factors can alter the relationship (Gibson & Teasley, 1973). Herzberg (1966) goes on to state that listing factors of job satisfaction for an employee to rank are amongst the most misleading methods used by psychologists. An overwhelming variety of attitudes attributed to job satisfaction suggest that there are multiple variables affecting job satisfaction and that no one particular method can be applied to employees as a whole (Behling et al., 1968). According to Bozeman and Gaughan (2011), university faculty have the potential to have different factors influencing their job satisfaction due to the pursuit of tenure, which is not found in many other workplaces. Bozeman and Gaughan (2011) using professors as the basis for their study and theorized that higher education faculty working in fields that were heavy in research would have different factors affecting job satisfaction. Future research ideas emerging from Bozeman and Gaughan's (2011) study were the inclusion of different pay variables and their role in determining job satisfaction.

Maslow's Hierarchy of Needs

Maslow (2014) states that needs exist hierarchically, as the lower needs are met, they are forgotten, and the next need arises. Maslow's theory postulates that there are five needs that to be met for an individual's motivation, these needs are (1) physiological, (2) safety, (3) belonging, (4) esteem, and (5) self-actualization (Taormina & Gao, 2013).

The physiological needs are those that keep the body functioning; someone lacking this need is enveloped by it until it is satisfied (Maslow, 2014). Safety is next in the hierarchy, and beyond physical safety, needs can encompass facets such as job tenure or job benefits such as insurance (Maslow, 2014). Belonging in the context of job satisfaction will relate to the desire to have relationships with people and a longing to fit in (Hong, 2011; Maslow, 2014). After belongingness, an individual will strive for the need of esteem; this can manifest in recognition or appreciation from coworkers (Maslow, 2014). Lastly, self-actualization is highly variable between individuals and involves the individual achieving their potential in what they are called to do (Maslow, 2014).

Maslow and Extrinsic Motivation

Following Maslow's theory (Maslow, 2014), there is an order in which the needs of an individual are met. The initial needs are (1) physiological, followed by (2) safety, and (3) belonging; these needs are extrinsic as they originate from an outside source from the individual (Deci, 1972; Hong, 2011; Maslow, 2014; Ryan & Deci, 2000). As a result, Maslow's theory is connected to Herzberg's motivation theory through extrinsic needs (Arnold, 2017). Leaders within higher education can rely on Maslow's theory to satisfy the lower needs of employees, as found by Hong (2011), that the sense of belonging to an organization increases job satisfaction.

Herzberg and Maslow

Herzberg's two-factor motivation theory and Maslow's Hierarchy of needs are connected in two aspects. First through the lower needs of Maslow and the extrinsic motivators of Herzberg. Secondly, Maslow's higher needs, esteem, and self-actualization are connected to Herzberg's intrinsic motivators (Arnold, 2017). Maslow's lower needs

are extrinsic needs and when comparing them to Herzberg should be only responsible for job dissatisfaction, however, Maslow places the lower needs as a necessity to be filled before the higher needs or "satisfaction" can be met (Arnold, 2017; Maslow, 2014).

Importance of Job Satisfaction

An increase in job satisfaction has been linked as a way to avoid turnover when influenced by outside job opportunities and organizational commitment (Daly & Dee, 2006). A study by Daly and Dee (2006) found that in higher education, factors that positively affect job satisfaction were (a) autonomy, (b) open communication, (c) performance rewards, and (d) shared expectations of required work. Also, a study by Bozeman and Gaughan (2011) found that working with others outside of their industry, and the respect of their coworkers were intrinsic factors affecting job satisfaction. The salary was an extrinsic factor affecting job satisfaction. Demographic variables that have been shown to affect job satisfaction and turnover were part-time employment, and a negative relationship with job satisfaction and length of employment with pre-tenure track faculty (Bozeman & Gaughan, 2011). Another category of intrinsic motivation that affected job satisfaction through the task-level theory was the complexity and enjoyment of tasks and have been shown to increase job satisfaction. Task complexity allows the employee to utilize more of their skills and challenge themselves, thus increasing intrinsic motivation. Similar to task complexity, task enjoyment was derived from the utilization of different skills and also increased intrinsic motivation and job satisfaction (Onimole, 2015; Taber & Alliger, 1995). It has been found that faculty's status, either full-time or part-time plays a role in job satisfaction within community colleges (Rosser, & Townsend, 2006). Another previous study has found that interpersonal relationships

can vary between pre-tenure faculty and senior level faculty, positive relationships between pre-tenure faculty were also found to positively affect job satisfaction (Ponjuan, Conley, & Trower, 2011). These findings suggest more research into the relationships and job satisfaction between tenured and pre-tenure faculty is warranted.

Turnover and Satisfaction

It is estimated that staff turnover at higher education institutions results in a cost of 68 million dollars a year (Jo, 2008). Not only are institutions affected monetarily by faculty turnover but also see detriments caused by alterations in course scheduling, the cohesiveness of communication within a department, and added course load for remaining teachers (Daly & Dee, 2006; Hong, 2011). High instances of turnover amongst supervisors were noted as a reason for lower-level staff to consider quitting from dissatisfaction, in response to gaining a heavier workload with supervisor turnover (Jo, 2008). A study by Figueroa (2015) examining staff turnover in higher education found that common causes of faculty turnover were (a) income, (b) coworker conflict, (c) flexibility in work schedule, and (d) communication within departments. A study by Ryan et al. (2012) found that "dissatisfaction with certain aspects of the faculty job (salary, autonomy, teaching load, opportunities for career advancement as well as to develop new ideas and pursue research)" were factors that lead to faculty members in higher education to consider leaving their job. Serow (2000) found that higher research was more sought after as it led to faster career advancement. Jo (2008) found that (a) adeptness of supervisor, (b) opportunity for advancement, and (c) flexibility in work-life were all factors involuntary turnover, but relationships with immediate managers were the predominant factor. Jo (2008) stated that flexibility, being one of the highest reported

causes of turnover in women, needs to be further evaluated as the workplace roles are changing and that universities that implemented more flexible hours had a lower turnover rate amongst men and women. While Jo (2008) found the variables mentioned above that affected voluntary turnover in women administrators, the extent to which each one affected turnover was not evaluated and was suggested to be studied in future research.

Job Satisfaction and Performance

Feedback and self-efficacy, aspects of the two-factor motivation theory, are predictors of performance, where positive feedback increased self-efficacy and caused an increase in performance (Karl et al., 1993). Karl et al. (1993) noted that performance increases were best seen with employees that possessed higher self-efficacy and postulated that for those with lower self-efficacy (a) persuasion, (b) modeling, and (c) reducing anxiety could increase the self-efficacy before a task. Christen, Iyer, and Soberman (2006) found that job performance had a positive effect on an employee's job satisfaction. Tierney and Farmer (2002) found that higher levels of self-efficacy increased levels of job creativity and performance, and lower levels of self-efficacy were detrimental job creativity and performance. Jo (2008) found that performance at universities drops as turnover from job dissatisfaction increases; this is due to having to hire and train an employee to fill the void while other employees become dissatisfied with gaining a heavier workload.

Extrinsic Factors Affecting Job Satisfaction

Job Satisfaction and Flexibility

Jo (2008) found that work hour flexibility offered to administrators in higher education was not consistent. A lack of flexibility in hours was found to be a reason for turnover in females with younger children in higher education, those that left their jobs did not always do so for higher salaries (Jo, 2008). Jo (2008) also found that graduates preferred to look for jobs that afforded more flexibility, even at the detriment of a reduced salary. As a result, employees that utilize more flexible work hours have the lowest turnover rates within their university (Jo, 2008).

Job Satisfaction and Pay Compensation

According to the original two-factor motivation theory, financial compensation including salary and fringe benefits would not play a role in increasing job satisfaction (Herzberg et al., 1959; Ncube & Samuel, 2014) After criticisms of the theory, Herzberg (1968) re-examined the topic and including that for the populations studied extrinsic motivators did play a role in job satisfaction, contrary to the belief that the constructs were distinct. A critique of Herzberg's theory by Ondrack (1974) finds that some extrinsic factors were found to influence an employee's job satisfaction, salary, and relationships with peers were observed in the study. Keeping with this theme, a study by Ghanbahadur (2014) found that financial compensation was one of the extrinsic factors present in job satisfaction.

Extrinsic Factors and Higher Education

According to the two-factor motivation theory, job satisfaction is predominantly influenced by intrinsic factors, also known as motivators (Herzberg, 1968; Herzberg et

al., 1959). However, extrinsic factors are found to be influencers on job satisfaction to a lesser degree (Herzberg, 1968). The degree to which extrinsic motivators affected job satisfaction was thought of as a baseline in which intrinsic factors played a role, and that the baseline would differ depending on the job and individual (Ondrack, 1974). Salary and supervisor were found to be top contributors to job satisfaction amongst classified staff in California community colleges (Hong, 2011). In a study comparing public and private sector employees, Maidani (1991) found that public sector employees found extrinsic factors to be more important to them than their private sector counterparts.

Differences Between Colleges

Three different types of colleges were chosen to identify potential differences, these were Liberal Arts, Engineering, and Business. Liberal arts colleges typically contain but are not limited to courses in English, History, Philosophy, Psychology, and Sociology (International Student, 2020). Engineering colleges contain courses in the natural, applied, and computer sciences (U.S. Department of Education, 2020). Business colleges typically contain courses such as Finance, Management, Accounting, Marketing, and Economics (The Princeton Review, 2020). As a function of the different course offerings, teachers in these colleges are also engaged in varying levels of research and teaching (Bowker & Lynch, 1984; Serow, 2000). Teaching has been deemed to be less significant than research in universities, as research has become more important in determining salary and tenure (Tang & Chamberlain, 1997). This is notably more true in the applied and natural sciences, However, in the social sciences and humanities, teaching has been seen as more important, with teaching ability making up to 75% of the decision (Bowker & Lynch, 1984; Inside Higher Ed, 2020; Serow, 2000). As a result,

Liberal Arts colleges, which are a blend of humanities and social sciences as well as colleges of Business, which are social sciences should value teaching more than colleges of Engineering, which are applied and natural sciences (Inside Higher Ed, 2020; International Student, 2020; The Princeton Review, 2020; U.S. Department of Education, 2020).

Delphi Methodology

The Delphi methodology is a technique that uses feedback from questions or interviews to ascertain data that can be used for questionnaires in a study (Linstone & Turoff, 2002; Sackman, 1975; Wolstenholme & Corben, 1994). The benefit of using the Delphi method is that it can provide a viewpoint into an area that lacks developed and specific questionnaires (Sackman, 1975). For the information gathered to be considered valid, there needs to be anonymity in the polled experts, feedback from the polling, and statistical analysis on the reliability (Sackman, 1975). The Delphi methodology has been used to evaluate the dispositions of a highly intrinsically motivated person, relying on published experts in the field (Taormina & Gao, 2013). This study on motivation in regards to Maslow utilized the Delphi methodology to separate items according to experts; this study did not include all relevant information causing the outcomes to be unclear as to their reliability (Taormina & Gao, 2013). Along with reliability, validity is also a concern for using the Delphi method with the potential for small sample sizes and capturing only a snapshot (Sackman, 1975). It is necessary to have a thorough presentation of information critical to the concept and to share the information gleaned from the expert panelists in the final report (Sackman, 1975).

The Rationale for Delphi within the Motivation Framework

Previous studies regarding the Herzberg two-factor motivation theory have used different surveys and questionnaires (Brenner, Carmack, & Weinstein, 1971). However, Brenner et al. (1971) found that different methods of gathering data will yield varied results depending on the population in a particular study.

Previous Use of the Delphi Method

The Delphi method has previously been used in many fields as it is a versatile tool that can be used in evaluating curriculum, developing surveys, or identifying underlying issues within an organization (Murry & Hammons, 1995). The Delphi method is a beneficial tool when trying to gain insight into a subject with multiple issues, especially when the issues can be subjective (Nworie, 2011). Previous instances of the Delphi method being employed were in developing a framework for teaching competencies, identifying the causes of turnover amongst women in the information technology field, and validating techniques used in occupational therapy practices (Falzarano & Pinto, 2013; Gluchman, 2014; Tigelaar, Dolmans, Wolfhagen, & van der Vleuten, 2004).

Measuring Turnover Intention

The turnover intention scale developed by Bothma and Roodt (2013) was used to measure the turnover intentions of the selected faculty members. The turnover intention scale used has been shown to have a Cronbach's alpha coefficient of $\alpha = 0.80$, indicating the scale has an acceptable level of construct validity and therefore is correctly measuring turnover intent (Bothma & Roodt, 2013; Shadish, Cook, & Campbell, 2002).

Measuring Job Satisfaction

The generic job satisfaction scale consists of ten statements based on a five-point Likert scale (Macdonald & MacIntyre, 1997). The generic job satisfaction scale has a Cronbach alpha coefficient of $\alpha = 0.77$, satisfying the range for acceptable construct validity, indicating that it appropriately measures job satisfaction (Macdonald & MacIntyre, 1997; Shadish et al., 2002; Tavakol & Dennick, 2011).

Implications for Leadership

Hong (2011) suggests that performance reviews are linked to financial compensation and to incorporate a job satisfaction component that enables a more complex interaction between supervisor and faculty member. Per Maslow's needs of connectedness, improving the following facets of the job can result in higher job satisfaction (a) flexible schedules, (b) training, (c) compensation, (d), and inclusion with decision making. The variables mentioned above have been included in studies using Herzberg's framework of job satisfaction (Jo, 2008). Hong (2011) also notes that while Herzberg maintains extrinsic factors that affect job dissatisfaction, they have also been linked to employee turnover.

Implications for this Study

While there is research utilizing Herzberg's motivation theory to evaluate job satisfaction, the role that hygiene or extrinsic factors play has not been fully explored (Arnold, 2017; Hong, 2011; Jo, 2008; Kirk, 2017). A gap in the research also exists concerning the application of Herzberg's theory and higher education, previous studies

have been limited to (a) community colleges, (b) lack of the inclusion of employee turnover, and (c) focused only on specific populations (Arnold, 2017; Hong, 2011; Jo, 2008; Shin & Jung, 2014).

CHAPTER 3

METHODOLOGY

Purpose of the Study

The purpose of this study is to evaluate extrinsic motivators on job satisfaction and turnover between pre-tenure faculty, tenured faculty, and lecturers. This study was completed in multiple stages; the initial stage was the Delphi process in which a questionnaire was developed for use in the second stage, where the developed questionnaire was used to evaluate the research question.

Research Questions

For this study, there were multiple research questions, analyzing the general higher education faculty population as well as between-group differences of extrinsic motivators as they relate to job satisfaction and turnover.

- RQ1: What relationship, if any, exists between extrinsic motivators and job satisfaction?
    - (H_0) There will be no interaction between means for extrinsic motivators and job satisfaction.
- RQ1A: What extrinsic motivators positively influence job satisfaction?
    - (H_0) There will be no extrinsic motivators that positively influence job satisfaction.

Commented [DH1]: Use bullet to match others.

- (H_a) There will be at least one extrinsic motivator that positively influences job satisfaction.

- RQ1B: What extrinsic motivators negatively influence job satisfaction?
  - (H_0) There will be no extrinsic motivators that negatively influence job satisfaction.
  - (H_a) There will be at least one extrinsic motivator that negatively influences job satisfaction.
- RQ2: What relationship, if any, exists between extrinsic motivators and turnover intent?
  - (H_0) There is no interaction between means for extrinsic motivators and turnover intent.
  - (H_a) There will be at least one interaction between means for extrinsic motivators and turnover intent.
- RQ2A: What extrinsic motivators positively influence turnover intent?
  - (H_0) There will be no extrinsic motivators that positively influence turnover intent.
  - (H_a) There will be at least one extrinsic motivator positively influencing turnover intent.
- RQ2B: What extrinsic motivators negatively influence turnover intent?
  - (H_0) There will be no extrinsic motivators that negatively influence turnover intent.
  - (H_a) There will be at least one extrinsic motivator negatively influencing turnover intent.

- RQ3: What extrinsic motivator differences, if any, exist between colleges (College of Liberal Arts, College of Engineering, and College of Business)?
    - (H_0) There will be no differences in means between colleges.
    - (H_a) There will be at least one extrinsic motivator that is different between colleges.

Methods

Limitations

Limitations to research can reduce the generalizability of the results, including the wording of instruments and researcher bias (Brenner et al., 1971; Kirk, 2017; Ngemegwai, 2018). To avoid the following biases, the researcher identified all methods and techniques used in panel and participant selection (Sandrey & Bulger, 2008). As acknowledged by Brenner et al. (1971), research bias could be present in the wording of the questions in the Delphi instrument. The open-ended question and comment section of the Delphi instrument also helped to reduce researcher bias (Kirk, 2017). Another possible limitation was the geographic areas represented in the study; for the pilot study, the university chosen was within driving distance, thus limiting the potential for generalizability (Kirk, 2017).

Delimitations

The delimitations in this study involved boundaries to limit the scope of the research (Gluchman, 2014). The participants were delimited to faculty members within colleges of Liberal Arts, Business, and Engineering as previous studies have noted differences in the motivations of these faculty (Bowker & Lynch, 1984; Serow, 2000).

Delphi (Pilot Study)

The modified Delphi method was used to garner the opinions of experts in the field of higher education (Linstone & Turoff, 2002). The Delphi method relies on an expert panel to develop an instrument by allowing the panelists to participate in the anonymous discussion (Collins, 2010). As a result, the Delphi method is a useful tool for both evaluating complicated issues and providing feedback focused on higher education faculty by using anonymous group communication (Linstone & Turoff, 2002; Sandrey & Bulger, 2008). Pertinent to this study, the Delphi method, according to Linstone and Turoff (2002), is well suited to identify human motivations, values, and goals.

Panel Selection

One of the benefits of the Delphi method is the ability of experts from a large geographic area to communicate anonymously towards the creation of a model (Wolstenholme & Corben, 1994). Following Murry and Hammons (1995), there should be at least 10 participants to maintain reliability; however, once the participants exceed 25-30, new information is not produced. In a study by Preble (1984), two expert panels were used to provide nuances that exist in one particular organization. Likewise, Sandrey and Bulger (2008) suggest the inclusion of heterogeneous and homogeneous groups within the panel; therefore, multiple colleges within the pilot university were represented. The expert panel for this study included 10 participants with jobs ranging from tenured faculty, pre-tenure faculty, and lecturers from three colleges within the pilot university. The colleges chosen for the Delphi panel were the College of Liberal Arts, the College of Engineering and Science, and the College of Business. The experts participated in a

minimum of three rounds to reach consensus through the anonymous group panel collaboration (Linstone & Turoff, 2002).

Participants

Participants were faculty from the College of Liberal Arts, the College of Engineering and Science, and the College of Business within the pilot university. Participants in the Delphi consisted of faculty from the colleges listed above as they represent different fields that have been shown to hold different values concerning research and teaching (Bowker & Lynch, 1984; Serow, 2000). The pilot university fits the R2 research university delimitation that was used in stage two of the study (The Carnegie Classification of Institutions of Higher Education, 2018). An invitation to participate in the study was sent out via email to all faculty that are teaching in the Colleges of Liberal Arts, the College of Engineering and Science, and the College of Business (Alston, 2016). The emailed invitation contained the research purpose statement and relevant information about the study to inform faculty members about the Delphi process, what is expected for the panel process, and a section to return indicating their informed consent (Alston, 2016; Falzarano & Pinto, 2013). To control for anonymity, a crucial aspect of the Delphi method, all panel experts were assigned a three-number identification code only accessible to the researcher (Falzarano & Pinto, 2013; Sterling Brasley, 2018). All information collected throughout the Delphi process was kept confidential (Falzarano & Pinto, 2013).

Identification of Variables

Panelists from each group received the Delphi survey consisting of ten variables sorted into two categories, job satisfaction and turnover. The initial survey for round one

consisted of ten variables that have been derived from existing research using the Herzberg framework relating to job satisfaction (Bozeman & Gaughan, 2011; Daly & Dee, 2006; Figueroa, 2015; Jo, 2008; Ryan et al., 2012). The panelists participated in a minimum of three rounds of the Delphi process to evaluate the variables and reach unanimous consent on the appropriateness of the variables about their experience within higher education (Murry & Hammons, 1995; Nworie, 2011).

During round one of the Delphi process, the identification phase, panelists were given a list of ten extrinsic motivation variables used to gauge job satisfaction, these variables were selected from the Herzberg theory of motivation relating to job satisfaction (Bozeman & Gaughan, 2011; Collins, 2010; Daly & Dee, 2006; Figueroa, 2015; Jo, 2008; Nworie, 2011; Ryan et al., 2012). The selected variables are (a) teaching load, (b) research load, (c) performance rewards. (d) benefits, (e) relationship with supervisor, (f) opportunity of advancement, (g) flexibility with schedule, (h) interactions with coworkers, (i) salary, and (j) departmental communication (Bozeman & Gaughan, 2011; Daly & Dee, 2006; Deci, 1972; Figueroa, 2015; Jo, 2008; Ryan et al., 2012). Panelists used a five-point Likert scale to rate the variables of job satisfaction ranging from not important (1) to very important (5). Furthermore, panelists provided feedback on the wording of the statements and include additional variables from their experiences they believe relate to job satisfaction within higher education (Collins, 2010; Nworie, 2011; Tigelaar et al., 2004). This round one provided a framework for the experts to add to and adjust, which differs from the traditional framework for the first round of the Delphi process; round one usually consists of open-ended questions (Collins, 2010; Murry & Hammons, 1995; Nworie, 2011). Complete open-ended questions for round

one are best suited for exploring and forecasting a construct (Scheele, 1975). Since the aim of this study is to design a questionnaire, starting with a preliminary questionnaire is the best way to start the process (Collins, 2010; Scheele, 1975). Another benefit of this approach was to allow the experts to provide pertinent insight that the researcher may have missed while decreasing the potential for items to be excluded from the questionnaire (Murry & Hammons, 1995; Nworie, 2011).

The researcher collected all of the responses from round one and provided statistical descriptors and comments for each of the variables as well as provided additional variables included from the panelists (Murry & Hammons, 1995; Sandrey & Bulger, 2008). The questionnaire was sent back to the expert panel for round two of the Delphi process, the panelists were given the updated list of variables affecting job satisfaction and were asked to rank them by importance using a five-point Likert scale (Collins, 2010; Murry & Hammons, 1995; Nworie, 2011). Included in the round two questionnaires was the rankings for each participant to compare with the mean rankings and comments from the rest of the panel (Murry & Hammons, 1995). This allowed experts to reevaluate their responses and make corrections as they seem fit (Linstone & Turoff, 2002; Murry & Hammons, 1995; Sandrey & Bulger, 2008).

The process continued in the same manner as round two until stabilization of the results was reached; this is typically within two to four rounds (Murry & Hammons, 1995; Sandrey & Bulger, 2008). Typically, when using the Delphi method, the consensus amongst panelists occurs when 75 percent of the panelists reach agreement on any of the variables (Murry & Hammons, 1995; Tigelaar et al., 2004). However, for this study following the method used by Pisel (as cited in Collins, 2010), stability was determined

when the standard deviation from the mean is within the range of 0.0 to 0.05, and the Delphi process was concluded.

Factor Analysis

A factor analysis was used to validate the construct validity of the questionnaire developed through the Delphi pilot study (Reinold, 2007). The exploratory factor analysis assessed the items developed from the Delphi and narrowed the related items down (Muijs, 2011; Srinivas, 2018) by evaluating correlations between variables and factors within the survey through factor loading (Muijs, 2011). By performing the factor analysis, it was then possible to calculate the survey's internal consistency by providing a Cronbach's alpha coefficient for reliability (Muijs, 2011; Srinivas, 2018).

Role of the Researcher

During the Delphi process, the researcher had multiple roles, as a planner, communicator, and a facilitator (Murry & Hammons, 1995). Initially, as a planner, the researcher gathered information about extrinsic motivation and job satisfaction and created the initial round one questionnaire to be sent out to the panelists. The researcher served as a communicator after each round of the Delphi when clarification of comments and ratings are needed for the panelist (Collins, 2010). As a facilitator, the researcher allowed for dialogue to take place anonymously between the panelists for the sharing of their ideas about extrinsic motivation and job satisfaction (Collins, 2010; Murry & Hammons, 1995).

The Factor Analysis

Participants

Participants were from R2 universities in the United States as defined by the Carnegie classification system (The Carnegie Classification of Institutions of Higher Education, 2018). R2 universities have a moderate amount of research funding and activity compared to R1 and R3 universities (The Carnegie Classification of Institutions of Higher Education, 2018). R1 universities have the highest level of doctoral degrees granted and have the highest level of research funding. In contrast, R3 universities have the lowest level of doctoral degrees granted, in some cases, zero, and minimal funding comparatively (The Carnegie Classification of Institutions of Higher Education, 2018). Furthermore, participants were delimited to R2 universities that contain a College of Business, College of Engineering, and College of Liberal Arts. Engineering faculty have been found to regard research as more important than teaching, and a valuable tool to advance through the university hierarchy (Serow, 2000).

On the contrary, Bowker and Lynch (1984) found that deans in social science programs valued teaching ability as the method to award tenure. Serow (2000) also found that faculty in applied science fields saw teaching and research as competitors for importance. Based on work by Cohen (1992), there needed to be a minimum of 21 participants in each group since there were multiple analysis of variance (ANOVA) tests done between-group differences for three groups.

Instrumentation

As a result of the Delphi process, a questionnaire was developed to examine the role of extrinsic motivators on job satisfaction within research universities in higher

education. In addition to the developed questionnaire, two scales used to evaluate turnover and job satisfaction was added with the final survey. The turnover intention scale developed by Bothma and Roodt (2013) was used to measure the turnover intentions of the selected faculty members. The turnover intention scale used has been shown to have a Cronbach alpha coefficient of $\alpha = 0.80$, indicating the scale has an acceptable level of construct validity and therefore is correctly measuring turnover intent (Bothma & Roodt, 2013; Shadish et al., 2002). The generic job satisfaction scale consisted of ten statements based on a five-point Likert scale (Macdonald & MacIntyre, 1997). The generic job satisfaction scale has a Cronbach alpha coefficient of $\alpha = 0.77$, satisfying the range for acceptable construct validity, indicating that it appropriately measures job satisfaction (Macdonald & MacIntyre, 1997; Shadish et al., 2002; Tavakol & Dennick, 2011). The survey was sent to the selected faculty members via an email link (Ghanbahadur, 2014).

Data Collection

The survey was disseminated through a two-step sampling process using random selection and purposive sampling (Lacy & Sheehan, 1997). R2 universities selected for participation in the study, and purposive sampling was used to intentionally target deans of colleges of business, liberal arts, and engineering, ensuring that participants fit the research criteria (Buzinski, 2009; Kirk, 2017; McNamee, 2017; Ngemegwai, 2018). Purposive sampling allowed for the survey to be disseminated to faculty members within the selected colleges to filter out non-faculty members of the university (Buzinski, 2009; Kirk, 2017; McNamee, 2017; Ngemegwai, 2018).

Data Analysis Methods

The data consisted of variables that influence job satisfaction and turnover intent; these consisted of demographic data, extrinsic motivators. Demographic data contained the following variables (a) tenure track or non-tenure track, (b) college within a university, (c) public or private university, (d) age, and (e) gender. A study by Maidani (1991) compared the means of satisfied and dissatisfied public and private sector employees. Following that study, one-way ANOVAs for between-group differences were calculated for the three types of college as the independent variables (IV) and job satisfaction as the dependent variable (DV). Another one-way ANOVA was calculated between-group differences for the three types of college as the IV and turnover intent as the DV. Two more one-way ANOVAs was calculated, but instead for the three types of faculty members within higher education as the IV's and job satisfaction and turnover intent respectively for the DV.

In a study on the Herzberg framework by Ghanbahadur (2014), multiple regressions were run to identify predictors of intrinsic and extrinsic job satisfaction. Following Ghanbahadur's (2014) methods, a multiple regression analysis was performed on the extrinsic motivation factors and job satisfaction as well as another multiple regression to analyze the extrinsic motivators and turnover because multiple regressions are used to evaluate the effect of multiple dependent variables on an independent variable (Muijs, 2011).

Threats to Validity

Threats to validity can impact the generalizability of results from research (Shadish et al., 2002). The Delphi method is at risk of attrition due to smaller population

size, as a result, the invitation email was sent to a larger population in order to maintain the minimum recommended sample size of 10 at the end of the process (Murry & Hammons, 1995). Instrumentation, as a threat to validity, was reduced due to the Delphi method tailoring the survey instrument to the sample population (Linstone & Turoff, 2002; Shadish et al., 2002). Construct confounding is another potential threat to validity in which an unmeasured variable is affecting the results, this is being addressed by the random selection of universities participating in the study (Pourhoseingholi, Baghestani, & Vahedi, 2012; Shadish et al., 2002). Mono-operation bias is best controlled for by using multiple treatments in a study; however, since this study is using a one-time survey, multiple universities across the country was used to gain a larger sample size (Shadish et al., 2002).

CHAPTER 4

RESULTS

The purpose of this study was to evaluate extrinsic motivators and the relationship they have with job satisfaction and turnover intent. As a result of a gap in the literature, especially regarding higher education, extrinsic motivators specific to higher education needed to be identified. This chapter will detail the results of this study, starting with the Delphi method to gather feedback from expert panelists. After the Delphi method, the results of the factor analysis will be presented and explained, along with other data analysis in the context of the research questions.

The first portion of this study was used to identify factors affecting job satisfaction. Using the Delphi method, ten variables were identified: (a) performance rewards, (b) salary, (c) annual compensation, (d) opportunity for advancement, (e) flexibility, (f) relationship with supervisor, (g) teaching load, (h) academic freedom, (i) interactions with coworkers, and (j) facilities. During the Delphi method, faculty rated the aforementioned extrinsic motivators on a Likert scale and deemed them to be necessary. After each round, the following descriptive statistics were analyzed: (a) mean, (b) median, (c) mode, (d) standard deviation, and (e) coefficient of variance. These statistics were presented to each panelist after each round to provide feedback amongst the panelists (Collins, 2010).

Round One

The Delphi method started with each participant receiving a Likert type survey that contained the following items: (a) performance rewards, (b) benefits, (c) salary, (d) opportunity for advancement, (e) flexibility with schedule, (f) low research load, (g) relationship with supervisor, (h) departmental communication, (i) high teaching load, and (j) interactions with coworkers. The panelists ranked these items by importance and provided additional comments as warranted. After round one, panelist's results were analyzed by (a) mean, (b) median, (c) mode, (d) standard deviation, and (e) coefficient of variance. Also, comments by panelists were analyzed in which they indicated that some items should be adjusted as well as the inclusion of other variables. The low research load and high teaching load variables were the most commonly suggested variables to which panelists suggested changes. One panelist in response to these two variables stated that "some people would want a higher research load" and, in response to teaching load, stated that "some people prefer lower teaching load." Another panelist, about the low research load variable, stated that "some may prefer research to teach," while another stated that "research load is self-generated." Lastly, about teaching load, another panelist stated: "it is important that I DON'T have a high teaching load." Due to these comments relating to the quantities of the items, they were changed to the research load and teaching load.

The salary was another variable that a panelist suggested changes to, and the panelist stated that "I believe Salary might be too broad of a topic. Salary includes both the initial salary that one is given when he/she is hired, but after that, it relates to annual compensation." The panelist then stated that "the initial salary might be fine, but the lack

of annual compensation might be an issue." As a result, the panelist suggested the item be split into starting salary and annual compensation. Due to the panelist suggestion, the salary was changed to starting salary for the next round (Table 1).

Table 1

Round One Descriptive Statistics for Extrinsic Motivators

	Mean	Median	Mode	Standard Deviation	Coefficient of Variance
Performance Rewards	3.40	3.00	3.00	0.92	0.27
Benefits	3.80	4.00	4.00	0.64	0.17
Salary	4.30	4.00	4.00	0.74	0.17
Opportunity for Advancement	4.20	5.00	5.00	1.49	0.35
Flexibility	4.10	4.00	4.00	0.83	0.20
Low Research Load	2.20	2.50	3.00	1.16	0.53
Relationship with Supervisors	4.00	4.00	4.00	0.53	0.13
Departmental Communication	3.80	4.00	4.00	1.28	0.34
High Teaching Load	4.00	4.00	5.00	0.83	0.21
Interactions with Coworkers	3.70	4.00	4.00	1.30	0.35

Panelists during round one also suggested additional variables to be included in the questionnaire. One panelist suggested that "academic freedom/autonomy" and "quality of student interactions" be included. Another panelist, when referencing research load and teaching load, included "having something like "Opportunities for overload" may help since that allows people to earn more money with higher workloads" the panelist then suggested that "facilities might be an important variable to add." As a result of comments from round one, several items were added to the questionnaire. These

were (a) annual compensation, (b) collaborations with external organizations, (c) academic freedom, (d) facilities, (e) interactions with students, and (f) opportunity for overload.

Using the criteria established for this study, after round one the following variables had met the inclusion criteria, a mean of 4.0 or higher and a coefficient of variance of less than 0.50, and were not included in further rounds, (a) opportunity for advancement (4.2, 0.35), (b) flexibility (4.1, 0.20), and (c) relationship with supervisor (4.0, 0.13). As a result of these items having a mean value of 4.0 or higher and coefficient of variance 0.50 or less, they were included in the final survey (Collins, 2010).

Round Two

Round two began after the descriptive statistics and feedback had been gathered from round one, panelists were emailed the updated questionnaire, including the results from round one. During round two panelists reached consensus on the following items, (a) performance rewards (4.1, 0.2), (b) starting salary (4.3, 0.16), (c) annual compensation (4.25, 0.11), (d) teaching load (4.00, 0.23), and (e) interactions with coworkers (4.00, 0.23). As a result of reaching consensus and a mean value greater than 4.0 and coefficient of variance 0.50 or less, these items were removed from the round three questionnaires and included in the final survey (Collins, 2010). Panelists during round two had no additional wording comments or suggestions regarding new items (Table 2).

Table 2

Round Two Descriptive Statistics for Extrinsic Motivators

	Means	Median	Mode	Standard Deviation	Coefficient of Variance
Performance Rewards	4.12	4.0	4	0.83	0.20
Fringe Benefits	3.50	3.5	3	0.53	0.15
Starting Salary	4.25	4.0	4	0.70	0.17
Annual Compensation	4.25	4.0	4	0.46	0.11
Opportunity for overload	2.75	2.5	2	1.28	0.47
Research Load	3.00	3.0	3	1.30	0.44
Departmental Communication	3.62	4.0	4	1.18	0.33
Teaching Load	4.00	4.0	3	0.92	0.23
Student Interactions	3.75	4.0	4	0.88	0.24
Academic Freedom	3.75	4.0	4	1.03	0.28
Interactions with Coworkers	4.00	4.0	5	0.92	0.23
Collaborations with external organizations	2.87	3.0	3	1.35	0.47
Facilities	3.87	4.0	3	0.83	0.22

Round Three

Round three, the consensus around, panelists had reached consensus on all variables (Collins, 2010). While variables had been excluded due to meeting the inclusion criteria, round three served as the final consensus forming around as no new variables had been introduced in round two, and all of the variables had reached a consensus, indicating that no additional rounds were warranted (Collins, 2010). In round three, panelist's mean responses indicated the inclusion of the following variables into the final instrument, academic freedom (4.13, 0.16) and facilities (4.00, 0.23). While the following

variables reached a consensus amongst participants, they did not meet the required mean score of 4.0 or higher to be included in the final instrument (Table 3).

Table 3

Round Three Descriptive Statistics for Extrinsic Motivators

	Mean	Median	Mode	Standard Deviation	Coefficient of Variance
Fringe benefits	3.63	3.5	3	1.06	0.29
Opportunity for overload	2.75	3.0	3	1.16	0.42
Research Load	3.13	3.0	3	1.55	0.50
Departmental Communication	3.50	4.0	4	1.20	0.34
Student Interactions	3.88	4.0	4	0.64	0.17
Academic Freedom	4.13	4.0	4	0.64	0.16
Collaborations with external organizations	3.13	3.0	3	1.25	0.40
Facilities	4.00	4.0	3	0.93	0.23

These items were (a) fringe benefits (3.63, 0.29), (b) opportunity for overload (2.75, 0.42), (c) research load (3.13, 0.50), (d) departmental communication (3.50, 0.34), (e) student interactions (3.88, 0.17), and (f) collaborations with external organizations (3.13, 0.40). Due to literature support fringe benefits, interactions with students, and collaboration with external organizations will be included in the final instrument, as discussed in the discussion section (Table 4).

Table 4

Items to Be Included in the Job Satisfaction Survey

Survey Inclusion	Round Criteria Were Met	Mean	Coefficient of variance
Performance Rewards	2	4.10	0.20
Starting Salary	2	4.30	0.16
Annual Compensation	2	4.25	0.11
Opportunity for advancement	1	4.20	0.35
Flexibility	1	4.10	0.20
Relationship with supervisor	1	4.00	0.13
Teaching load	2	4.00	0.23
Academic Freedom	3	4.13	0.16
Interactions with coworkers	2	4.00	0.23
Facilities	3	4.00	0.23

Results of the Survey

The second portion of the study used the variables identified during the Delphi portion of the study; a survey was created in combination with a general job satisfaction scale and a turnover intent scale. This was done to evaluate extrinsic motivators and their relationship to job satisfaction and turnover intent between job title, gender, age, ethnicity, and college type. In doing so, the following questions will be answered: is there any relationship between job satisfaction and extrinsic motivators, what relationship exists between turnover intent and job satisfaction, what extrinsic motivator differences exist between colleges?

This survey was sent out to 224 deans of colleges of Liberal arts, Engineering, and Business. These colleges were selected from R2 public universities based on the

Carnegie scale; 98 universities fit these criteria. Purposive sampling was used to intentionally target the correct audience within the research audience by disseminating the survey link by filtering out non-faculty staff (Kirk, 2017). This resulted in 278 survey responses, of which 18 needed to be removed due to 20% or more of the survey being incomplete.

Demographics

Participants' demographics were broken down by gender, age, ethnicity, college type, and job title. The gender breakdown of the participants was 87 females and 170 males, with two participants declining to answer. Participants' responses for the age portion were grouped by 20-29 (4), 30-39 (45), 40-49 (50), 50-59 (82), 60-69 (63), and 70 or higher (13). Ethnicities were distributed as follows, American Indian or Alaskan Native was nine, Asian or Pacific Islander were six, Black or African American were 19, Hispanic or Latino were ten, White/ Caucasian was 204, and 11 participants chose not to answer. Participants were broken down by job title, Tenured, Tenure track, Part-time Non-tenure track, and Full-time Non-tenure track. Job titles were distributed as follows; tenured faculty were 151, tenure track faculty were 52, part-time non-tenure track faculty were seven, full-time non-tenure track faculty were 49. Lastly, participants were further broken down by the college that they worked at, either a College of Business, Liberal Arts, or Engineering. Participants were distributed as follows, the College of Business was 98, the College of Liberal Arts was 70, and the College of Engineering was 91 (Table 5).

Table 5

Survey Demographics

Variables	Frequency
Gender	
Prefer not to say	2
Female	87
Male	170
Age	
Prefer not to answer	2
20 - 29	4
30 - 39	45
40 - 49	50
50 - 59	82
60 - 69	63
70 plus	13
Ethnicity	
American Indian or Alaskan Native	9
Asian or Pacific Islander	6
Black or African American	19
Hispanic or Latino	10
White/ Caucasian	204
Prefer not to say	11
Job Title	
Tenured	151
Tenure Track	52
Part-time Non-tenure Track	7
Full-time Non-tenure Track	49
College	
College of Business	98
College of Liberal Arts	70
College of Engineering	91

Identification of College Designation

There were no instances when participants did not classify themselves into the engineering or business categories. However, there were instances when participants selected the other option and filled in their college names in the comments section. Using the identified course offerings for Liberal Arts colleges of courses in English, History, Philosophy, Psychology, and Sociology, participants' responses that were filled into the comments section were placed in the appropriate college (International Student, 2020). Examples of this were "Arts and Humanities" and "College of Arts and Letters." These were subsequently placed in the Liberal Arts category.

Factor Analysis

A factor analysis was deemed an acceptable way to evaluate the new instrument as a result of the appropriate sample size (Comrey & Lee, 1992). Findings by MacCallum, Widaman, Zhang, and Hong (1999) have noted that the sample size for factor analyses has not been directly established, with many suggestions being put forward. They have noted minimum sample sizes ranging from 100 to 250. MacCallum et al. (1999) also noted previous researchers have established ranges dependent on the number of items in the scale, with common ranges of participants to the number of items being anywhere from 3:1 to 10:1 (Cattell, 1978; Everitt, 1975; Gorsuch, 1983). The factor analysis in this study was performed on 29 items, using the rationale of the aforementioned studies the appropriate number of participants for this particular factor analysis would be within 87 to 290 participants. This study included 259 participants in the factor analysis, falling within the acceptable range of participants (Comrey & Lee, 1992).

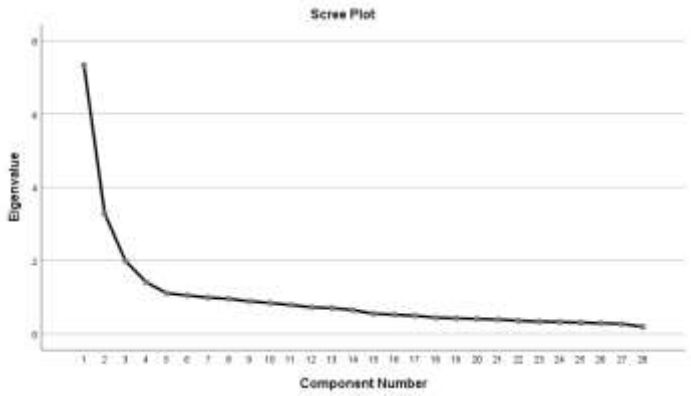
The Kaiser-Meyer-Okin measure of sampling adequacy (K.M.O.) was 0.882. This value indicates the sample size was appropriate for the factor analysis, as values within 1.00 and 0.50 are acceptable for factor analysis (Alston, 2016; Field, 2013). Lastly, when considering the factor analysis' appropriateness for this data set was Bartlett's test of sphericity, which tests whether the correlations between variables are high enough (Alston, 2016; Raasch, 2017). Values with a significance level smaller than 0.05 are considered adequate for factor analysis, Bartlett's test of sphericity on this data yielded a significant value ($X^2 = 2836.67$, $p = 0.00$) further indicating that factor analysis would be appropriate (Raasch, 2017). The factor analysis was performed on the data using SPSS version 25. The factor analyses were performed with Varimax rotation and Kaiser Normalization. As noted by Williams, Onsman, and Brown (2010), the scree plot was used to evaluate the number of factors appropriate to keep with each analysis.

Identifying the Number of Factors

The initial factor analysis contained all questions within the survey, with questions 25 and 29 reverse coded to account for reverse scaling on their Likert scale. The initial factor analysis resulted in seven factors, with factor one consisting of 14 items, factor two consisting of four items, factor three consisting of three items, factor four consisting of three items, factor five consisting of two items, and factors six and seven had one factor each. The total explained variance for values one through seven were: 26.19%, 11.72%, 7.13%, 5.04%, 3.95%, 3.74%, and 3.53%. After reviewing the Scree plot, question two was eliminated due to poor loading across the seven factors.

A factor analysis was then conducted on the same data set, excluding question 22. This analysis provided six factors, of which factor six only had one variable, and it

loaded almost evenly between factor two and factor six, with 0.53 and 0.588, respectively. As a result of this loading and looking at the Scree plot, another factor analysis was conducted, however forcing five factors (Figure 1).



Note. The Scree plot indicates a drop in Eigenvalue variability after five factors.

Figure 1 *Scree Plot for Factor Analysis*

After forcing five factors, the variables loaded with 15 in factor one, five variables in factor two, three variables in factor three, three variables in factor four, and two variables in factor five. The variables loading into factor five were high, with question six having a value of 0.661 and question 23 having a value of 0.616. As a result of the high loadings of each variable in their respective factor and referencing the Scree plot, five total factors were decided upon, these were job satisfaction, relationships, finances, autonomy, and work environment conditions (Table 6).

6

Percent of Variance for the Five Factors

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	6.98	24.94	24.94
2	2.55	9.10	34.04
3	2.40	8.57	42.61
4	1.77	6.30	48.91
5	1.46	5.20	54.11

Naming the Factors

After reviewing the questions separated into the five factors by the factor analysis and referring to the literature, each factor was given a categorical name. Factor one, containing questions from the job satisfaction scale and the turnover intent scale, was named the job satisfaction factor. Factor two was the relationships factor as a result of it containing the three questions asking about faculty's perceptions of their relationships with coworkers, supervisors, and departmental communication. Factor three contained five questions regarding performance rewards, fringe benefits, starting salary, the opportunity for advancement, and annual compensation; therefore, it was identified as the finances factor. Factor four was identified as the autonomy factor due to it containing questions about flexibility, teaching load, and academic freedom. Factor five was identified as the working environment conditions factor due to the questions about work being good for physical health and the importance of facilities (Table 7).

Table 7

Grouped Factors and Correlations

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Question Number	Question	Correlation
Factor 1: Job Satisfaction		
1	I receive recognition for a job well done	0.66
2	I feel close to the people at work	0.56
3	I feel good about working at this company	0.76
4	I feel secure about my job	0.54
5	I believe management is concerned about me	0.67
7	My wages are good	0.45
8	All my talents and skills are used at work	0.56
9	I get along with my supervisors	0.62
10	I feel good about my job	0.83
24	How often have you considered leaving your job?	0.75
25	How satisfying is your job in fulfilling your personal needs?	0.7
26	How often are you frustrated when not given the opportunity at work to achieve your personal work-related goals?	0.78
27	How often do you dream about getting another job that will better suit your personal needs?	0.8
28	How likely are you to accept another job at the same compensation level should it be offered to you?	0.68
29	How often do you look forward to another day at work?	-0.57
Factor 2: Relationships		
16	How important is your relationship with your supervisor to your job satisfaction?	0.74
18	How important is departmental communication to your job satisfaction?	0.77
20	How important are interactions with coworkers to your job satisfaction?	0.78
Factor 3: Finances		
11	How important are performance rewards to your job satisfaction?	0.67
12	How important are fringe benefits to your job satisfaction?	0.57
13	How important is starting salary to your job satisfaction?	0.77
14	How important is the opportunity for advancement to your job satisfaction?	0.58
17	How important is annual compensation to your job satisfaction?	0.78
Factor 4: Autonomy		
15	How important is flexibility to your job satisfaction?	0.71
19	How important is teaching load to your job satisfaction?	0.68

(continued)

21	How important is academic freedom to your job satisfaction?	0.64
Factor 5: Work Environment Conditions		
6	On the whole, I believe work is good for my physical health	0.67
23	How important are facilities to your job satisfaction?	0.61

Internal Reliability

With the five factors decided on, internal consistency was conducted on the survey by measuring Cronbach's Alpha (Cronbach, 1951). The factors yielded a less than desirable Cronbach's Alpha score of 0.576. As a result, the researcher analyzed the factor analysis and reverse coded the Questions 24-29, of which each had negative values. Once again, another factor analysis was performed on this updated data set. The resulting findings explained variance for the five factors as job satisfaction (26.21), relationships (11.78), finances (7.13), autonomy (5.05), and work environment conditions (3.94) (see Appendix A).

The resulting factor analysis had nearly identical values with all of the reverse coded items switching from negative correlations to positive except for Q29. In addition to becoming positive correlations, the strength of the correlations remained similar or unchanged, as seen with Q24 (0.749) and Q24R (0.748). Internal reliability for the instrument was measured using Cronbach's Alpha and was found to be 0.82, which is considered a good measure of reliability (Hair, Black, Babin, & Anderson, 2010). Internal reliability was then measured for each factor as follows, job satisfaction (0.87), relationships (0.76), finances (0.71), autonomy (0.53), and work environment conditions (0.22).

Comparing Means

After performing the factor analysis and subsequent reliability test, the means of each factor were calculated for each participant. The means for each factor are as follows, job satisfaction (M = 3.41, SD = 0.66), relationships (M = 3.90, SD = 0.76), finances (M = 3.86, SD = 0.66), autonomy (M = 4.26, SD = 0.65), and work environment conditions (M = 3.67, SD = 0.77). Using this data, one-way ANOVA's were chosen due to their appropriateness for comparing means between multiple groups (Cronk, 2012; Raasch, 2017). This was performed for each of the five factors and the instrument as a whole to test for significance ($p < 0.05$) amongst the demographic data.

For the job satisfaction factor, the one-way ANOVA indicated significance between groups for gender ($F = 1.46$, $p = 0.042$) with males having a mean score of 3.42 and a standard deviation of 0.67. Females had a mean score of 3.41 and a standard deviation of 0.63. The one-way Anova analysis of the job satisfaction factor for between-group differences amongst gender had a large effect size as established by Cohen (1992). There were no statistically significant differences for age, ethnicity, job title, or college. For the relationships factor, there were no statistically significant differences for gender, age, ethnicity, job title, or college. For the finances factor, there were no statistically significant differences for gender, age, ethnicity, job title, or college. For the autonomy factor, there were no statistically significant differences for gender, age, ethnicity, job title, or college. There were no statistically significant differences for gender, age, ethnicity, job title, or college for the instrument's total means.

For the work environment conditions factor, the one-way ANOVA indicated significance between groups for gender with a p-value of 0.015. Males had a mean score

of 3.77 with a standard deviation of 0.75, while females had a mean score of 3.49 with a standard deviation of 0.78. The one-way ANOVA also indicated significance for age with a p-value of 0.012. Levene's test of equality of equal variances indicated that equal variance could not be assumed ($F = 2.53$, $p = 0.05$). Therefore, a Games-Howell post hoc test was conducted on the work environment conditions data, indicating that the 40-49-year-old age group had statistically significantly lower mean value (3.37) than that of the 60-69-year-old age group (3.91, $p = 0.01$) and the 70 and older age group (4.11, $p = 0.02$). The one-way Anova analysis of the work environment conditions factor for between-group differences amongst gender and age both had a small effect size as established by Cohen (1992).

Research Questions

The first research question to consider is "What Relationship, if any, exists between extrinsic motivators and job satisfaction?" Multiple regression analyses were performed to predict job satisfaction from the different factors drawn from the survey. After the initial multiple regression, finances, and autonomy were removed due to having p values greater than 0.05. The remaining factors statistically significantly predicted job satisfaction, $F(3,255) = 1023.21$, $p = 0.00$ explaining 92.3% of the variance. The resulting equation to predict job satisfaction is equal to -0.46 + 1.00*(job satisfaction) + 0.05*(relationships) + 0.12*(work environment conditions). Using the subtractive method of eliminating factors to create a better predicting equation did not yield a better-explained variance.

As a result of gender differences, the multiple regression was performed again for males and females separately. For males, after the initial multiple regression,

relationships, finances, and autonomy were removed due to having p values greater than 0.05. The remaining factors statistically significantly predicted job satisfaction, F (2,167) = 984.70, p = 0.000 explaining 92.2% of the variance. Males' predicted job satisfaction is equal to -0.32 + 1.02 *(job satisfaction) + 0.12*(work environment conditions). Using the subtractive method of eliminating factors to create a better predicting equation did not yield a better-explained variance.

For females, after the initial multiple regression, factors finances and autonomy were removed due to having p values greater than 0.05. The remaining factors statistically significantly predicted job satisfaction, F (3,83) = 343.44, p = 0.000 explaining 92.5% of the variance. Females' predicted job satisfaction is equal to -0.47 + 0.991*(job satisfaction) + 0.07*(relationships) + 0.10*(work environment conditions). Using the subtractive method of eliminating factors to create a better predicting equation did not yield a better-explained variance.

The second research question to consider is "What relationship, if any, exists between extrinsic motivators and turnover intent?" To answer the research question, RQ2: what relationships exist between extrinsic motivators and turnover intent, and multiple regression analyses were performed to predict turnover intent by the factors drawn from the survey. As a result of the initial multiple regression, finances, autonomy, and work environment conditions were removed due to having p values greater than 0.05. The remaining factors statistically significantly predicted turnover intent, F (2,256) = 430.67, p = 0.000 explaining 77.1% of the variance. The resulting equation predicting turnover intent is equal to 32.50 + -5.28*(job satisfaction) + 0.62*(relationships). Using

the subtractive method of eliminating factors to create a better predicting equation did not yield a better-explained variance.

Due to gender differences, the multiple regression analysis was rerun for males and females separately. For males, after the initial multiple regression, finances, autonomy, and work environment were removed due to having p values greater than 0.05. The remaining factors statistically significantly predicted turnover intent, $F(2,167) = 270.97$, $p = 0.000$ explaining 76.4% of the variance. Males' predicted turnover intent is equal to 32.87 + -5.23*(job satisfaction) + 0.53*(relationships). Using the subtractive method of eliminating factors to create a better predicting equation did not yield a better-explained variance.

For females, after the initial multiple regression, finances, autonomy, and work environment conditions were removed due to having p values greater than 0.05. The remaining factors statistically significantly predicted turnover intent, $F(2,84) = 159.88$, $p = 0.000$ explaining 79.2% of the variance. Females' predicted turnover intent is equal to 31.97 + -5.45*(job satisfaction) + 0.817*(relationships). Using the subtractive method of eliminating factors to create a better predicting equation did not yield a better-explained variance.

To further examine the relationship between turnover intent and job satisfaction, a Pearson product-moment correlation was run. After conducting the Pearson correlation in SPSS, there was a large, negative relationship between job satisfaction and turnover intent, which was statistically significant ($r = -0.691$, $n = 259$, $p = 0.00$). To further examine the relationship between turnover intent and the importance of relationships, a

Pearson product-moment correlation was run. After conducting the Pearson correlation, there was no statistically significant relationship ($p = 0.446$).

The third research question is "What extrinsic motivator differences, if any, exist between colleges?" To examine if any differences in extrinsic motivators existed between colleges, the ANOVAs performed on the factor analysis were evaluated. There were no statistically significant differences between the colleges of business, liberal arts, or engineering for the job satisfaction ($p = 0.25$), relationships ($p = 0.52$), finances ($p = 0.08$), autonomy ($p = 0.64$), or work environment conditions ($p = 0.94$) factors, as well as no significant differences for the instrument total ($p = 0.20$).

CHAPTER 5

DISCUSSION

The purpose of this study was to evaluate extrinsic motivators and the relationship they have with job satisfaction and turnover intent. Due to a lapse in literature, especially regarding higher education, extrinsic motivators specific to higher education needed to be identified. Once identified, the motivators were used to examine relationships between job satisfaction and turnover intent, as well as examining any differences that exist between different colleges within a university. It was determined that a survey would provide insight into this area, so one was developed using the Delphi method, which is a useful tool for exploring issues to be assessed by policy and decision-makers (Nworie, 2011). It was then implemented by sending the developed survey out to higher education faculty working in colleges of business, liberal arts, and engineering within public R2 universities.

The Delphi Method

The Delphi aimed to develop items to be included in a job satisfaction survey for higher education faculty. The first round of the Delphi method was used to identify new variables as well as evaluate variables preselected based on literature. The Delphi method is an excellent tool to use when evaluating areas that have not been thoroughly

evaluated or in the case of higher education, an area with attributes unique from most jobs, such as tenure (Bozeman & Gaughan, 2011; Falzarano & Pinto, 2013).

Utilizing the Delphi method, the consensus amongst participants on a particular item, as well as a predetermined mean value of 4.0, were the criteria used for inclusion in the final survey instrument (Collins, 2010; Sandrey & Bulger, 2008). Based on a five-point Likert scale, variables that reached a mean of 4.0 or higher were deemed to be relevant to the panelists. The requirement for consensus was when an item had a coefficient of variance less than 0.50, and this measurement was used since it is not affected by small sample sizes (Sorensen, 2002).

Job satisfaction is affected by multiple variables, and there are differing theorists behind these, such as Herzberg and Maslow (Arnold, 2017; Herzberg et al., 1959; Maslow, 2014). Herzberg, credited for the hygiene-motivator theory, initially postulates that extrinsic factors are solely related to job dissatisfaction (Herzberg et al., 1959). Zhou and Volkwein (2004) found that the extrinsic factors job security, autonomy, and compensation positively affect job satisfaction and faculty turnover. Other more recent literature suggests extrinsic motivators play a more important role in job satisfaction than originally theorized (Nias, 1981). Following more recent literature on job satisfaction, panelists concluded that (a) performance rewards, (b) starting salary, (c) annual compensation, (d) opportunity for advancement, (e) flexibility, (f) relationship with supervisor, (g) teaching load, and (h) interactions with coworkers positively affected their job satisfaction.

The identification of performance rewards by the Delphi panel as an essential motivator of job satisfaction goes along with previous research that has shown

performance rewards to have a positive relationship with job satisfaction (Li, Chen, & Lai, 2018). Rewards are most effective when the employee feels that hard work was required to gain them, producing a more excellent feeling of job satisfaction (Gallagher & Einhorn, 1976).

The amount of pay, encompassing starting salary, and annual compensation has been found to affect the job satisfaction of higher education faculty, specifically in terms of worth (Bozeman & Gaughan, 2011). While Herzberg et al. (1959) found that relationships with supervisors were not an important factor of job satisfaction, interactions and relationships with coworkers and supervisors were found to positively affect job satisfaction, as supported by more recent works of literature (Arnold, 2017; Bozeman & Gaughan, 2011; Jo, 2008). This finding is supported by studies that have shown collaboration, and positive work environments increase teachers' job satisfaction (Arnold, 2017; Bozeman & Gaughan, 2011). From panelist suggestions, expanding salary into starting salary and annual compensation is logical as university pay scales can be varied and have different pathways to pay increases (Hong, 2011). The inclusion of annual compensation was also an essential factor, separate from salary as higher education faculty can receive additional income through consulting and research grants (Boyer & Lewis, 1985). Tying into this finding, research load was not included by the panelists following findings from Bozeman and Gaughan (2011) as well as Zhou and Volkwein (2004) despite literature suggesting that research can play a role in career advancement and opportunity (Ryan et al., 2012; Serow, 2000).

Opportunity for advancement lies on the border of intrinsic or extrinsic motivation; however, it is supported both by Maslow and Herzberg to increase job

satisfaction (Arnold, 2017). The opportunity to gain tenure is an essential and unique aspect of job satisfaction. It should be included under the opportunity for advancement as well as providing a rationale for differences between non-tenured and tenured faculty (Bozeman & Gaughan, 2011).

Teaching load was found to be an essential variable for job satisfaction in this study; however, panelists made the distinction that they did not want high teaching loads. Depending on the college type falling under the categories of applied, hard, or soft sciences, it has been found that teaching could interfere with research opportunities; in these instances, lower teaching loads would increase job satisfaction (Bozeman & Gaughan, 2011).

The Delphi method is a useful tool in identifying underlying or previously unobserved variables (Nworie, 2011) as such, panelists suggested that the following variables be added to the questionnaire for further rounds, (a) academic freedom, (b) interactions with students, (c) collaboration with external organizations, (d) facilities, and (e) opportunity for overload. Academic freedom has been found to affect job satisfaction within higher education faculty by allowing free choice of research and teaching opportunities (Harpaz, 1990; Mahamane, 2011). Harpaz (1990) identifies that interpersonal relationships are a potential source of job satisfaction, explaining the importance of interactions with students and coworkers. The inclusion of collaborations with external organizations can fall under interesting work and compensation (Harpaz, 1990). Faculty allowed to collaborate with outside organizations will find their work more interesting as well as providing additional income opportunities (Harpaz, 1990). Collaboration with external organizations also allows for extra variety in the work of the

faculty member, providing an increase in satisfaction (Bozeman & Gaughan, 2011). The inclusion of facilities is contradictory to Herzberg et al. (1959), who laid out that working conditions contributed to job dissatisfaction; however, the questioning was only done in the negative (Arnold, 2017). Ghanbahadur (2014) found that working conditions were the highest predictor of extrinsic job satisfaction. Also, Rosser and Townsend (2006) found that improvements to facilities can benefit a university by reducing faculty turnover. Opportunity for overload provides additional income through adding additional courses to the faculty members' course load; however, there is controversy surrounding the use of overloads in place of hiring more faculty (Baker, Terosky, & Martinez, 2017).

The following three items did not meet the criteria for inclusion in the final survey; however, they were included due to significant literature inclusion, fringe benefits, interactions with students, and departmental communication. Fringe benefits were included in the final survey as there was sufficient evidence in the literature that pay and benefits are connected and are a source of extrinsic motivation for public university faculty (Arnold, 2017; Bozeman & Gaughan, 2011; Lee & Wilkins, 2011). Better fringe benefits opportunities have been cited as determinants for employees choosing public sector jobs over private-sector jobs (Lee & Wilkins, 2011). Interactions with students were included as faculty find it essential to have a sense of community and collaboration within their classrooms (McNamee, 2017). For faculty interacting with students, the social aspect of Maslow's theory and interpersonal relationships are seen when testing Herzberg's theory are sources of job satisfaction that can come from both interactions with students and within departments (Brenner et al., 1971).

Departmental communication is a crucial aspect of higher education with the existence of multidisciplinary programs and curriculum (Kurz, Mueller, Gibbons, & Dicataldo, 1989; Lian, 2000). Appropriate communication within departments can also increase productivity amongst employees (Bozeman & Gaughan, 2011; Lian, 2000).

To conclude the findings of the Delphi the following were included in the final survey from panelists suggestion: (a) performance rewards, (b) starting salary, (c) annual compensation, (d) opportunity for advancement, (e) flexibility, (f) relationship with supervisor, (g) teaching load, and (h) interactions with coworkers. The following items did not reach consensus during the Delphi, however, had significant literature support: fringe benefits, interactions with students, and departmental communication (Arnold, 2017; Bozeman & Gaughan, 2011; Brenner et al., 1971; Kurz et al., 1989; Lee & Wilkins, 2011; Lian, 2000).

The Factor Analysis

The factor analysis was performed on the survey results received from 258 participants. These participants held faculty positions in higher education and were delimited to colleges of business, liberal arts, and engineering. A factor analysis was performed on the survey to group the items into related factors, after evaluating the correlations (see Appendix E) and scree plot (see Figure 1) five factors were selected. The five factors were job satisfaction, relationships, finances, autonomy, and work environment conditions.

The job satisfaction factor includes the items from the general job satisfaction scale, as well as items from the turnover intent scale. These items consisted of questions about recognition, coworker, work-related self-worth, job security, supervisors, finances,

looking for other jobs, satisfaction from the current job, and looking forward to another day at work. These items align with previous literature on job satisfaction (Behling et al., 1968; Bozeman & Gaughan, 2011; Daly & Dee, 2006; Herzberg, 1968; Hong, 2011; Locke, 1978; Maslow, 2014; Onimole, 2015; Taber & Alliger, 1995). The relationships factor included items about supervisors, coworkers, and departmental communication and how important they are to job satisfaction. The relationships with supervisors and coworkers' items are supported through literature, suggesting that these interactions and relationships create a positive work environment (Arnold, 2017; Bozeman & Gaughan, 2011). Departmental communication has been found to create a positive work environment through enhanced productivity (Bozeman & Gaughan, 2011; Lian, 2000). The finance factor included items regarding performance rewards, fringe benefits, starting salary, the opportunity for advancement, and annual compensation. These items were also suggested by the literature to enhance job satisfaction (Arnold, 2017; Boyer & Lewis, 1985; Gallagher & Einhorn, 1976; Hong, 2011). The autonomy factor included items about flexibility, teaching load, and academic freedom. The teaching load was identified by the panelist and specified that a low teaching load was desirable by Bozeman and Gaughan (2011). They noted that teaching loads could interfere with research and other responsibilities. In the same vein, flexibility and academic freedom were found to predict job satisfaction through the choice of teaching and research duties (Harpaz, 1990; Mahamane, 2011). Lastly, the work environment conditions consisted of items regarding physical health and the importance of facilities. Physical health affects job satisfaction, as Booth and van Ours (2008) found that healthier employees had higher job satisfaction. Facilities were found to be a positive predictor of job satisfaction and

also a negative predictor of faculty turnover in previous research (Ghanbahadur, 2014; Rosser & Townsend, 2006).

One-way ANOVAs were performed on each factor to evaluate between-group demographic differences. This resulted in statistically significant between-group differences being found in job satisfaction and work environment condition factors. For the job satisfaction factor between-group differences were identified ($F = 1.46$, $p = 0.042$) with males ($M = 3.42$, $SD = 0.67$) and females ($M = 3.41$, $p = 0.63$). This finding aligns with findings from Bozeman and Gaughan (2011), who also found that in higher education, male faculty had statistically significantly higher job satisfaction than female faculty. Also, no other demographic differences were found within the factors.

Research Question 1

Research Question 1 is "What relationship, if any, exists between extrinsic motivators and job satisfaction?" To evaluate if there were any relationships between extrinsic motivators and job satisfaction, multiple regressions were used, using the factors drawn from the factor analysis. The multiple regression revealed that job satisfaction could be predicted by an employee's job satisfaction, their perceived importance of relationships, and their work environment conditions. This equation predicts job satisfaction, with 92.3% explained variance. These findings indicate that job satisfaction, the importance of relationships, and the importance of work environment conditions positively predict job satisfaction. Maslow's (2014) social needs and other research testing Herzberg's theory has found that the social aspect of interpersonal relationships is a source of job satisfaction (Brenner et al., 1971). Previous literature has also found that working conditions are an important predictor of job satisfaction and, while not directly

tied to job satisfaction, have found that improvements to facilities can reduce faculty turnover (Ghanbahadur, 2014; Rosser & Townsend, 2006).

The results of the factor analysis and subsequent one-way ANOVA performed on the constructed survey indicated that males had a higher job satisfaction than females in higher education, as a result of these identified differences between gender another multiple regression was performed on males and females separately. For males, relationships, finances, and autonomy were removed, and the remaining variables statistically significantly predicted job satisfaction, explaining 92.2% of the variance. The variables for males that predicted job satisfaction were job satisfaction and work environment conditions, both with positive relationships. The equation indicates that both job satisfaction and work environment conditions factors play a positive role in the overall job satisfaction of males in higher education. Kemery, Mossholder, and Bedeian (1987) found that job satisfaction and physical health were directly linked and were also factors that influenced turnover intent. Those findings directly support the findings of the multiple regression analyses that indicate work environment conditions play a role in job satisfaction, as one of the questions in that factor is "on the whole, I believe work is good for my physical health."

For females, after the initial multiple regression, factors finances and autonomy were removed due to having p values greater than 0.05. The remaining variables statistically significantly predicted job satisfaction, explaining 92.5% of the variance. For the female participants their predicted job satisfaction was based on job satisfaction, the importance of relationships, and work environment conditions, all with positive relationships between the variables and job satisfaction. The resulting equation indicates

that job satisfaction, relationships, and work environment conditions positively influence females' overall job satisfaction. As with the males, the literature suggests that work environment conditions and physical health are connected with job satisfaction (Ghanbahadur, 2014; Kemery et al., 1987). The importance of relationships is also discussed in previous literature, including interactions with students, departmental communication, and relationships with supervisors, these findings have shown to positively predict job satisfaction (Brenner et al., 1971; Harpaz, 1990; Kurz et al., 1989; Lian, 2000). It is also important to note that females value relationships as part of their job satisfaction, contrary to males. This slightly contradicts existing literature by Weaver (1978), who found that males and females are equally affected by job satisfaction factors. The connection with this study's findings, however, is that when disparities occur, a drop in female job satisfaction will be noticed (Weaver, 1978).

Research Question 2

Research Question 2 is "What relationship, if any, exists between extrinsic motivators and turnover intent?" To evaluate whether any relationships existed between extrinsic motivators and turnover intent, a multiple regression was performed on all five factors. As a result, the equation produced significantly explains 77.1% of the variance. Turnover intent was able to be predicted by job satisfaction and the importance of relationships. This equation indicates that job satisfaction negatively predicts turnover intent. This aspect of the equation is supported by literature that has directly tied job satisfaction levels to turnover intent, further supporting the claim that job satisfaction is an indicator of intent to leave (Zhou & Volkwein, 2004). The importance of relationships was found to predict turnover intent positively, therefore if a faculty member finds

relationships very important, they are more likely to have a higher turnover than a faculty member that does not find relationships very important. Current literature does not identify how the perceived importance of relationships affects turnover intent; however, literature does state that dissatisfaction with an immediate supervisor is the top reason for voluntary employee turnover (Jo, 2008).

Due to identified differences between genders, multiple regressions were performed again on males and females separately. For males, after the initial multiple regression, finances, autonomy, and work environment conditions were removed, the remaining variables statistically significantly predicted turnover intent, explaining 76.4% of the variance. For the males' participants their predicted turnover intent was due to a negative relationship with job satisfaction and a positive relationship with the importance of relationships. The equation indicates that an increase in job satisfaction causes a decrease in turnover intent and that the importance of relationships positively predicts turnover intent. Aligning with this finding, Zhou and Volkwein (2004) have identified low satisfaction levels with an increased likelihood of turnover intent. Some studies that have found no effect have used similar terminology to Herzberg et al. (1959) and tried to relate dissatisfaction with turnover intent (Ryan et al., 2012)—indicating that the terminology used in the survey may play an important role in responses.

For females, after the initial multiple regression, finances, autonomy, and work environment conditions were removed due to having p values greater than 0.05. The remaining variables statistically significantly predicted turnover intent, explaining 79.2% of the variance. The female participant's predicted turnover was negatively influenced by job satisfaction and positively influenced by the importance of relationships. Like in the

above equations, this equation indicates that for females, an increase in job satisfaction causes a decrease in turnover intent and that the importance of relationships positively predicts turnover intent. As previously stated, job satisfaction has been found to decrease turnover intent in higher education (Zhou & Volkwein, 2004). For women, relationships with supervisors have also been reported to be just as important as salary in terms of turnover intent (Jo, 2008).

Gender differences were observed in the two equations produced from the multiple regressions. Males had a higher baseline (32.87) than females (31.97), while job satisfaction (-5.23) and relationships (0.53) coefficients were lower than females (-5.45, 0.817). This indicates that for females, job satisfaction and the importance of relationships play a more significant role in determining turnover intent than their male counterparts. Gender-based job satisfaction differences have been found amongst faculty in higher education, and literature suggests this is due to wage disparity and barriers to career advancement (Figueroa, 2015). Similarly, Ryan et al. (2012) found that support reduced the likelihood of turnover; in their study, the support variable included relationships with supervisors and the campus community.

Job Satisfaction and Turnover Intent

After performing multiple regressions to identify factors that predicted turnover intent, it was found that a negative job satisfaction value contributed to turnover intent for both males and females. As a result, a Pearson correlation was performed to evaluate the relationship between job satisfaction and turnover intent. This produced an r value of -0.69 with a significant p-value of less than 0.00. This indicates a sizable negative relationship between job satisfaction and turnover intent, as identified by the multiple

regression equations. Supporting this finding, Jo (2008) found that women who were dissatisfied with their supervisors engaged in voluntary turnover. Zhou and Volkwein (2004) separated job satisfaction into distinct categories of satisfaction and also found that job satisfaction was negatively linked to turnover in tenured and non-tenured faculty. Daly and Dee (2006) found that job satisfaction positively affected intent to stay, while not the same construct; it would still be measuring faculty turnover. Another Pearson correlation was performed between the relationship factor and turnover intent. No statistical significance was found between the two, unlike findings from Jo (2008) that found negative relationships with the supervisor to predict turnover.

Research Question 3

Research Question 3 is "What extrinsic motivator differences, if any, exist between colleges?" When examining differences between colleges of business, liberal arts, and engineering, no statistically significant differences were observed, including job satisfaction ($p = 0.25$), relationships ($p = 0.52$), finances ($p = 0.08$), autonomy ($p = 0.64$), work environment conditions ($p = 0.94$), and for the instrument total ($p = 0.20$). Previous studies have identified that research and teaching loads in faculty play a role in job satisfaction (Bozeman & Gaughan, 2011; Shin & Jung, 2014). While this study took a different approach to evaluate teaching and research loads, through different college types, the results of this study did not support previous findings. Since findings by Bozeman and Gaughan (2011), as well as Shin and Jung (2014), find that differences in teaching loads, as well as research loads, exist, this current study may not have asked the questions necessary to identify this relationship.

Conclusion and Implications

The Importance of Relationships

The importance of relationships was a common theme throughout the findings of this study. This includes relationships with supervisors, departmental communication, and interactions with coworkers. The findings suggest that the importance of relationships is a positive predictor of job satisfaction; this was found to be more important in women than men. Where, in findings by Jo (2008) women are more likely to have lower job satisfaction, one of the identified causes is the respect of their coworkers. As suggested by Bozeman and Gaughan (2011), the factors that affect faculty relationships are under the control of administrators and can be fostered to create an environment of equal respect. As the importance of relationships is also connected to turnover intent, administrators need to build relationships with their subordinates and support positive relationships amongst coworkers, as an estimated 68 million dollars was spent on a yearly basis in the past decade to address turnover in higher education (Figueroa, 2015; Jo, 2008). Figueroa (2015) also notes that workplace conflicts and poor communication were causes of low faculty retention. Therefore, the findings suggest that increasing relationships across higher education faculty will contribute to both an increase in job satisfaction and a decrease in employee turnover.

Work Environment Conditions

The work environment conditions factor in this study comprised physical health and the importance of the facilities in which faculty work. A study by Booth and van Ours (2008) found that both males and females had higher job satisfaction if they were considered to be in good health. These two aspects can be tied in with Maslow's (2014)

satisfaction of needs as part of the physiological and safety needs. The work environment conditions factor (0.12) was a more significant positive predictor than relationships (0.05) for both males and females, and in turn, can be a useful tool for administrators to boost job satisfaction. Findings from Goldberg and Waldman (2000), as well as Leavitt, Fong, and Greenwald (2011), indicated that employee health contributed to employee absenteeism, job satisfaction, and job performance, suggesting that administrators utilize employee wellness programs.

Delimitations and Limitations

This study delimited participants to only public R2 research universities as categorized by the Carnegie classification system (The Carnegie Classification of Institutions of Higher Education, 2018). Participants were also delimited to colleges within universities that focused on either business, the liberal arts, or engineering, this was due to the literature suggesting engineering faculty would favor research, social science faculty would favor teaching, and applied science faculty would prefer a mix of the two (Bowker & Lynch, 1984; Serow, 2000).

Geography

Through purposive sampling, the link to the survey was sent out to all public R2 universities across the country. This was done to increase the generalizability of the results; however, participants' responses were kept anonymous, as a result, there is no way to verify that respondents were equally distributed across all public R2 universities.

Ethnicity

There are limitations due to ethnicity, as seen in Table 7, with 78.76% of respondents being Caucasian, 3.47% American Indian or Alaskan Native, 2.32% Asian or

Pacific Islander, 7.34% Black or African American, and 3.86% Hispanic or Latino. These demographic data, however, are somewhat similar to findings from the National Center for Education Statistics (NCES) in 2019, in which the composition amongst all faculty was 76% Caucasian, 1% American Indian or Alaskan Native, 11% Asian or Pacific Islander, 6% Black or African American, and 6% Hispanic or Latino.

Job Title

There are limitations concerning job titles due to low responses from part-time non-tenured faculty (n = 7, 2%), as seen in Table 8. A review by NCES in 2018 compared full-time and part-time faculty, finding that part-time faculty composed 46.8% of all faculty in higher education. This is likely due to a misunderstanding stemming from the purposive sampling of faculty; likely part-time faculty did not think they met the criteria to be included in the study.

Age

There are limitations due to age, as not all age groups were evenly represented, as seen in Table 6. The 20-29 age group (4) and the 70 plus age group (13) were lower than the remaining groups. While current data exists concerning faculty type, ethnicity, salary, and employment status, current data are not available concerning the higher education faculty age structure.

University Type

There is a limitation concerning the generalizability of the results. This stems from the delimitation of the study to include only R2 universities, in accordance with the Carnegie classification system. This lead to the exclusion of R1 universities, that possess

the highest level of research funding and R3 universities that have the lowest level of research funding.

Post-Mortem

When identifying the differences between colleges, there were no significant identified differences. This is contrary to previous literature suggesting that teaching load and research load play an important role in job satisfaction both directly and through indirect means such as flexibility or opportunity for advancement (Bozeman & Gaughan, 2011; Shin & Jung, 2014). This study attempted to identify those differences through the classification of colleges as being in the fields of business, liberal arts, or engineering. To better delineate these differences, I believe that more fields should be included and then use the Delphi method to group responses into applied and pure sciences, management, arts, and communication, etc.

Future Research

Future research should be done to evaluate the role of work environment conditions in job satisfaction. While there is ample research on employer-employee relationships, more research needs to be done on the various aspects of work environment conditions. This is due to a higher coefficient for work environment conditions than job satisfaction, implying that it plays a more significant role in overall job satisfaction. While it may be daunting to get equal representation, including all major fields of study instead of delimiting to business, engineering, and liberal arts might identify differences between colleges. Previous research has tied flexibility to the work environment, while the factor analysis in this study grouped flexibility into the autonomy factor and not work environment (Jo, 2008). Future research should be done to expand upon flexibility into

less broad categories, such as flexibility with scheduling and incorporating flexibility with work and family.

Conclusion and Recommendations

Based on the findings from this study and the review of literature, recommendations for supervisors and leaders within higher education are being offered. The biggest takeaway from this study is the importance of relationships, including those with supervisors, coworkers, and departmental communication. The importance of relationships was found to affect both job satisfaction and turnover intent. As noted by Jo (2008), turnover in higher education cost employers 68 million dollars in related expenses. According to Tarallo (2018), every year, 25% of employees will quit their job for another. As a result, in the near future, turnover is expected to cost employers 680 billion dollars nationwide (Tarallo, 2018).

Due to the high costs associated with employee turnover, it is in the best interest of administrators to provide a supportive environment and relationships necessary to prevent voluntary turnover (Gist, 1987). A supportive environment can entail the feedback received from supervisors, where negative feedback can cause demoralization and lowered goal setting by employees (Gist, 1987). Based on the results of this study that indicate the importance of relationships as an important predictor of job satisfaction and turnover, employers need to monitor the way they give feedback to employees. As Jo (2008) also advises, supervisors play a critical role in the prevention of turnover and therefore need to be mindful of their relationships with employees. Supervisors that have higher instances of staff turnover could be required to complete training in order to foster positive relationships between coworkers and employers. Along with improving

relationships between employees and supervisors, improving relationships between coworkers is also an important factor in job satisfaction. Communication between employees and supervisors has been identified as a means to increase job satisfaction and reduce turnover (Figueroa, 2015). Interdepartmental communication needs to be improved in an effort to improve relationships between coworkers and supervisors.

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Lastname, F. N. (Year). *Title of dissertation* (Doctoral dissertation). Retrieved from Name of database. (Accession or Order Number)

Here, (Doctoral dissertation) should be immediately after the title. ProQuest follows as you have it, and the number follows that.

…(Doctoral dissertation). ProQuest Dissertations Publishing. (10152034)

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APPENDIX A

DELPHI QUESTIONNAIRE (ROUND ONE)

Delphi Questionnaire (Round One)

As they relate to job satisfaction rate the following extrinsic motivators by importance.

	Not important	Slightly important	Moderately important	Important	Very important
Performance rewards	1	2	3	4	5
Benefits	1	2	3	4	5
Salary	1	2	3	4	5
Opportunity of advancement	1	2	3	4	5
Flexibility with schedule	1	2	3	4	5
Interactions with coworkers	1	2	3	4	5
Relationship with supervisor	1	2	3	4	5
Departmental communication	1	2	3	4	5
High teaching load	1	2	3	4	5
Low research load	1	2	3	4	5

Additional comments (please add any additional comments or suggested extrinsic motivation variables for job satisfaction and turnover):

APPENDIX B

JOB SATISFACTION SCALE

Job Satisfaction Scale

For each statement, please circle the number to indicate your degree of agreement.

	Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree
I receive recognition for a job well done	1	2	3	4	5
I feel close to the people at work	1	2	3	4	5
I feel good about working at this company	1	2	3	4	5
I feel secure about my job	1	2	3	4	5
I believe management is concerned about me	1	2	3	4	5
On the whole, I believe work is good for my physical health	1	2	3	4	5
My wages are good	1	2	3	4	5
All my talents and skills are used at work	1	2	3	4	5
I get along with my supervisors	1	2	3	4	5
I feel good about my job	1	2	3	4	5

APPENDIX C

TURNOVER INTENTION SCALE

Informed Consent

Turnover Intention Scale

Please read each question and indicate your response using the scale provided for each question:

DURING THE PAST 9 MONTHS…..

1	How often have you considered leaving your job?	**Never**	1-------2-------3-------4-------5	**Always**
2	How satisfying is your job in fulfilling your personal needs?	**Very satisfying**	1-------2-------3-------4-------5	**Totally dissatisfying**
3	How often are you frustrated when not given the opportunity at work to achieve your personal work-related goals?	**Never**	1-------2-------3-------4-------5	**Always**
4	How often do you dream about getting another job that will better suit your personal needs?	**Never**	1-------2-------3-------4-------5	**Always**
5	How likely are you to accept another job at the same compensation level should it be offered to you?	**Highly unlikely**	1-------2-------3-------4-------5	**Highly likely**
6	How often do you look forward to another day at work?	**Always**	1-------2-------3-------4-------5	**Never**

APPENDIX D

PERMISSION TO USE TIS-6

Permission to Use TIS-6

From: **Roodt, Gerhard** groodt@uj.ac.za
Subject: RE: Access and Permission to the TIS-6
Date: February 25, 2019 at 8:32 AM
To: zjh002@latech.edu

Dear Zachary

You are welcome to use the TIS!

For this purpose please find attached the longer 15-item version of the scale. The six items used for the TIS-6 are high-lighted. You may use any one of these two versions. The longer scale will generate higher coefficient Alpha reliabilities.

You are welcome to translate the scale if the need arises. I would like to propose the translate – back-translate method by using two different translators. First you translate from English into home language and then back from home language to English to see if you get to the original English wording.

This is the fourth version of the scale and it is no longer required to reverse score any items (on TIS-6). The total score can be calculated by merely adding the individual item scores. I would strongly recommend that you also conduct a CFA on the item scores to determine if any item scores should be reflected.

There is unfortunately no manual for the TIS-6. But scoring is easy. Total scores may range between 6 (6 x 1) or 30 (6 x 5). The scale mid-point will be 18 (6 x 3). Scores higher than 18 will therefore indicate a higher desire to leave the organisation and scores lower than 18 a stronger desire to stay with the organisation.

The only conditions for using the TIS is that you acknowledge authorship (Roodt, 2004) by conventional academic referencing (see article by Buthma & Roodt, 2013 in the SA Journal of Human Resource Management). The TIS may not be used for commercial purposes.

I wish you the very best with your research project!

Best regards

Gert

Prof Gert Roodt
Dept Industrial Psychology & People Management

-----Original Message-----
From: zjh002@latech.edu [mailto:zjh002@latech.edu]
Sent: 25 February 2019 12:09 AM
To: Roodt, Gerhard <groodt@uj.ac.za>
Subject: Access and Permission to the TIS-6

APPENDIX E

MATRIX FOR THE FOURTH FACTOR ANALYSIS

Rotated Component Matrix for the Fourth Factor Analysis

Table 8

Rotated Component Matrix

Item	Factors				
	1	2	3	4	5
q1	0.66	0.35	0.08	-0.05	-0.09
q2	0.56	0.47	-0.05	-0.15	0.01
q3	0.76	0.16	0.00	-0.03	0.16
q4	0.54	-0.02	0.02	0.17	-0.04
q5	0.67	0.18	0.09	-0.18	-0.01
q6	0.36	-0.02	-0.10	-0.07	0.67
q7	0.45	-0.10	-0.18	-0.25	0.10
q8	0.56	0.20	-0.02	0.00	-0.05
q9	0.62	0.24	0.05	-0.03	-0.03
q10	0.83	0.05	0.07	-0.01	0.27
q11	0.00	-0.04	0.67	-0.07	0.02
q12	0.08	0.02	0.57	0.11	0.36
q13	0.00	0.03	0.77	0.07	0.09
q14	-0.09	0.14	0.58	0.16	-0.09
q15	0.10	0.07	0.02	0.71	-0.06
q16	0.23	0.74	0.04	0.04	-0.03
q17	-0.05	0.02	0.78	0.13	-0.06
q18	-0.07	0.77	0.12	0.23	0.08
q19	0.08	0.07	0.14	0.68	0.08
q20	0.04	0.78	0.01	0.17	0.08
q21	-0.13	0.17	0.14	0.64	0.12
q23	-0.11	0.17	0.27	0.26	0.61
q24R	0.75	-0.06	-0.06	0.05	0.15
q25R	0.70	-0.12	-0.04	0.03	0.28
q26R	0.78	0.07	-0.16	0.01	-0.01
q27R	0.80	-0.10	-0.11	0.02	0.12
q28R	0.68	-0.15	0.01	0.15	-0.06
q29R	-0.57	-0.05	-0.01	-0.01	-0.46

Note: Fourth-factor analysis, with turnover intent questions, reverse coded
Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

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APPENDIX F

HUMAN USE APPROVAL LETTER

LOUISIANA TECH
UNIVERSITY

MEMORANDUM

OFFICE OF SPONSORED PROJECTS

TO: Dr. Richard Shrubb

FROM: Dr. Richard Kordal, Director of Intellectual Property & Commercialization (OIPC)
rkordal@latech.edu

SUBJECT: HUMAN USE COMMITTEE REVIEW

DATE: July 26, 2019

In order to facilitate your project, an EXPEDITED REVIEW has been done for your proposed study entitled:

"The Role of Extrinsic Motivators on Job Satisfaction and Turnover in Higher Education"

HUC 20-005

The proposed study's revised procedures were found to provide reasonable and adequate safeguards against possible risks involving human subjects. The information to be collected may be personal in nature or implication. Therefore, diligent care needs to be taken to protect the privacy of the participants and to assure that the data are kept confidential. Informed consent is a critical part of the research process. The subjects must be informed that their participation is voluntary. It is important that consent materials be presented in a language understandable to every participant. If you have participants in your study whose first language is not English, be sure that informed consent materials are adequately explained or translated. Since your reviewed project appears to do no damage to the participants, the Human Use Committee grants approval of the involvement of human subjects as outlined.

Projects should be renewed annually. ***This approval was finalized on July 26, 2019 and this project will need to receive a continuation review by the IRB if the project continues beyond July 26, 2020.*** **ANY CHANGES** to your protocol procedures, including minor changes, should be reported immediately to the IRB for approval before implementation. Projects involving NIH funds require annual education training to be documented. For more information regarding this, contact the Office of Sponsored Projects.

You are requested to maintain written records of your procedures, data collected, and subjects involved. These records will need to be available upon request during the conduct of the study and retained by the university for three years after the conclusion of the study. If changes occur in recruiting of subjects, informed consent process or in your research protocol, or if unanticipated problems should arise it is the Researchers responsibility to notify the Office of Sponsored Projects or IRB in writing. The project should be discontinued until modifications can be reviewed and approved.

Please be aware that you are responsible for reporting any adverse events or unanticipated problems.