Developing and Measuring Faculty Motivation to Teach in Higher Education

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DEVELOPING AND MEASURING FACULTY MOTIVATION TO TEACH IN HIGHER EDUCATION

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Abstract

Currently, little research exists that speaks specifically to the motivation of faculty to teach in higher education settings. Given the changes that higher education has faced over the last few decades, the demographics of the faculty has transformed. The competing demands of research, teaching, and service challenge faculty at every juncture, and some have suggested that throughout this process, it is the students who are losing. What motivates faculty in higher education to teach, and what are the factors that contribute to that motivation? To answer this question, faculty motivation to teach was explored through the theoretical frameworks of teacher efficacy, achievement goals, and task values. In addition, constructs of worklife, satisfaction and perceptions of student motivation were employed. This study found support for a bifactor exploratory structural equation model (BF-ESEM), where a latent underlying factor defined as motivation to teach was identified. Above and beyond the motivation to teach general factor, each of the 11 specific motivational factors of teacher efficacy, achievement goals, and task values were identified. Further, several factors including perceptions of student motivation were found to positively impact motivation to teach, while research requirements were found to negatively impact motivation to teach. Worklife, satisfaction and motivation to teach were all found to negatively impact intent to leave.
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Dedication

I dedicate this dissertation to my wife, Sarah Beth.

You play a role that words cannot describe. I am honored to have you by my side and to share with you this amazing journey called life.
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Chapter 1

Overview

Introduction and Importance

The results of a literature review reveal limited research on faculty members’ motivation to teach in higher education, as well as the factors that may play into that motivation. As such, this study is focused on faculty members’ motivation to teach in higher education settings. In this study faculty motivation to teach will be described in terms of the value they (the individual faculty member) place on teaching (Maehr & Zusho, 2009), their view of themselves as an educator (Hoy, Hoy & Davis, 2009), their professional goals (Wigfield, Tonks & Klauda, 2009), and how they perceive their students’ level of engagement within the classroom (Hardre, Davis & Sullivan, 2008). Faculty motivation may be contingent on elements including faculty demographics, institutional and professional profiles, and perceptions of student motivation and engagement within the classroom (Naz, Bagram & Khan, 2012; Visser-Wijnveen, Stes & Petegem, 2014). Faculty members who possess higher motivation to teach may have more success within their classrooms (in terms of student engagement and learning outcomes) (Naz, et al., 2012), and may invest more time into the continual development and preparation of their courses (Van den Berg, Bakker & ten Cate, 2013).

Characteristics to be considered within this study include: institution type (public research institution, public teaching institution, and public community college), discipline (general education, business, nursing, higher education, etc.), teaching methods (discussion, seminars, lecture, online, etc.), faculty rank (Professor, Associate Professor, Assistant Professor, etc.), status (tenure-track, non-tenure track, contract, etc.), years of teaching experience, faculty’s professional identification (scholar, educator, professor, teacher, researcher, etc.), teaching load
(number of classes or units taught per semester), demographic characteristics (sex, race, age, etc.), institutional characteristics (size, institutional profile, etc.), faculty worklife, job satisfaction, intent to leave, and faculty perceptions of student engagement within their classes.

Three different motivation related constructs will be used to examine the relationships among the demographic and professional characteristics and faculty motivation to teach. Self-efficacy (in this research to be referred to as teacher efficacy) will be utilized to gain insight into three areas associated with teacher efficacy including: efficacy for instructional strategies, classroom management, and student engagement (Hoy et al., 2009). Achievement goal theory will be used to explore the construct of achievement goals of faculty, specifically using the ideas of mastery orientation, ability approach, ability avoidance and work avoidance (Maehr & Zusho, 2009). Task value theory, particularly focused on teaching values, will help to identify how much value a faculty member may put on a given task related to teaching, and thus its importance to that faculty member (Wigfield et al., 2009). Beyond the motivation of faculty to teach in higher education, this research will seek to examine whether a relationship exists between faculties’ motivation to teach in higher education and their perceptions of student motivation and engagement within their classrooms (Hardre et al., 2008). While faculty motivation to teach in higher education (via scales of teacher efficacy, goal theory and teaching task values) and perceptions of student motivation can be analyzed independently, the two areas of interest will be brought together to examine potential relationships.

**Purpose**

The purpose of this study is to examine those characteristics that may have an impact on a faculty member’s motivation to teach in higher education. This study will use the motivational theories of teacher efficacy (mastery experience, physiological arousal, vicarious experience, and
verbal persuasion), achievement goals (mastery, performance, ability, and work), task values (attainment, intrinsic, utility, and cost) and perceptions of student motivation.

**Overview of Literature**

The various elements of this research will be described based on prior research and the findings that have influence and defined the constructs employed. The literature will lay the foundation for this study in terms of describing the connections already made through scholarly research and where new information is needed to move the field forward.

**Motivation**

Motivation is an exhaustive topic that encompasses many different constructs and theories. What began as a focus on needs and drives has developed to include things like beliefs, goals, and values (Wentzel & Wigfield, 2009). Many of the theories and constructs utilized in motivation research can be traced back to other theories and constructs which creates a hard to comprehend web of ideas, thoughts and perspectives. Due to the overlap of constructs and ideas however, the door is wide open for more in-depth research to identify and define similarities and patterns of behavior in motivation.

**Self-efficacy/Teacher-efficacy.** Self-efficacy is a motivation theory used to study individual’s beliefs about their ability to complete a task, perform an action, or learn a construct (Bandura, 1997). It is theorized that an individual’s self-efficacy is not only influenced by one’s behaviors and environment, but that self-efficacy can also influence the behavior and environment. Therefore, individuals who are considered to have low self-efficacy often doubt their abilities to perform in various ways (often leading to low abilities or performance), while those who are considered to have a high self-efficacy are those who are often more willing to participate, perform higher, and often push themselves further (Shunk & Pajares, 2009).
According to Shunk and Pajares (2009), self-efficacy research has shown to be powerful on motivation, achievement, and self-regulation.

Self-efficacy, as an evaluation of beliefs, can be utilized to explore educators’ beliefs about their own ability to teach, as well as students’ abilities to learn (Hoy et al., 2009). When it comes to the beliefs that teachers hold relating to teaching, it is suggested that self-efficacy is one of the most useful constructs available to help understand these beliefs. Faculty’s self-efficacy for teaching can also be referred to as teacher efficacy (Tschannen-Moran, Hoy, & Hoy, 1998).

Teacher efficacy is tied to faculties’ beliefs about their abilities or capabilities in regards to motivating and engaging students to meet desired outcomes (Kleinsasser, 2014; Tschannen-Moran & Hoy, 2001). In a review of the literature by Kleinsasser (2014), several elements were identified as having contributed to teacher efficacy including: institutional culture, school level environment, wellness issues (i.e. depression, burnout, etc.), type of instruction, and educational context. Teacher efficacy has also been shown to relate to student outcomes with regards to their motivation, sense of efficacy and achievement (Tschannen-Moran et al., 1998).

**Achievement goals.** Goals are often defined as incentives or outcomes that we as individuals try to achieve (Maehr & Zusho, 2009). Achievement goals are aligned with goal theory in that they share motives for why people do things. Many theoretical models have been developed for goal theory ranging from two goal models (mastery approach and performance approach) to four goal models (mastery approach, mastery avoidance, performance approach, and performance avoidance). Mastery goals are intrinsically (within oneself) driven where approach is focused on how to master an objective, while avoidance is focused on if one can still perform at the mastery level and emphasizes past ability (Maehr & Zusho, 2009). Performance
goals are extrinsically (outside oneself) driven where the outcome is the main focus. In performance goals people are driven by a need for reaffirmation of success (approach) or a fear of failure (avoidance). In adapting Pintrich’s (2000a) four goal model, one can look at mastery approach, performance approach, performance avoidance, and work avoidance in relation to faculty achievement goals. This could enhance one’s ability to make determinations on a faculty member’s motivation for teaching as compared to their motivation for research or service.

**Task Values.** Value often relates to the importance of an activity or task to an individual (Lewin, 1938). In terms of motivation, values often involve the force behind attaining or achieving something. Five sources of value have been identified and include: the need for satisfaction, shared beliefs about what is desirable, the relation of one’s actual self to desired or undesired ends, evaluative inference, and one’s own experiences (Higgins, 2007). What creates value then are our experiences, and they can derive from a variety of situations (Wigfield et al., 2009). The concept of value plays into the idea of teaching values, and what elements a faculty member may value more in terms of their career, or what they may have to give up in order to be successful within their career.

**Faculty Motivation**

Faculty motivation is expected to play a major role in explaining why some faculty put more time and effort into the cause of teaching than other faculty. A recent study by Visser-Wijnveen, Stes and Petegem (2014), looked at faculty’s motivation to teach in higher education. They utilized three questionnaires to examine self-efficacy, task value, intrinsic motivation, and teacher efficacy. The analysis of data identified three distinct categories for faculty (researchers, teachers/researchers, and teachers), in which it was concluded that faculty who were identified with a stronger focus on research made the least amount of effort in teaching, whereas those who
identified as primarily teachers put significantly more effort into their teaching activities (Visser-Wijnveen et al., 2014). This research further validates the study presented by Van den Berg et al. (2003) in which a lower level of engagement and motivation was found for teaching when other profession related activities (research and service) were in place.

Bailey (1999) also researched motivation and self-efficacy of faculty in relation to research and teaching. What was observed in this study was the differences between faculty in terms of their intrinsic (innate) motivation and self-efficacy. The results concluded that there is an array of different faculty ranging from very low to very high on both motivation and self-efficacy for the separate constructs of teaching and research. An important observation however is that if an individual has low motivation and self-efficacy for teaching, it doesn’t mean they have high motivation and self-efficacy for research (Bailey, 1999). The results often vary, and are based on the individual themselves.

**Relation of Variables to Motivation**

In dealing with faculty motivation to teach, there are many factors that need to be taken into consideration to determine if something may positively or negatively influence that motivation. Three different institutional types have been identified (public research institution, public teaching institution, and public community college), and within each of those institutional frameworks, a different set of requirements is expected from the faculty (Silver, 1982). While some institutions require faculty to conduct extensive research, others have a pure focus on teaching. The whole gamut in between also exists. As research has already shown, a high research focus may minimize the effectiveness and motivation of faculty to teach (Bailey, 1999; Van den Berg et al., 2003; Visser-Wijnveen et al., 2014). With institution type, the teaching load should also be considered as this links directly to research requirements. Faculty who are
involved in the tenure-track process may receive release time (specifically for conducting research), which often reduces their teaching load (Blackburn & Lawrence, 1995). Along with the two aforementioned variables, rank and years of experience may also play into a faculty member’s motivation for various tasks. Tien and Blackburn (1996) discovered that motivation for research falls off after a faculty member achieves a promotion. A question then becomes, if a faculty member reaches full professor, does their motivation for research continue at the same pace? Research indicates that full professors are often more productive in their research than either associate or assistant professors (Blackburn & Lawrence, 1995; Tien & Blackburn, 1996). Further, it may be suggested, that as faculty age their motivation to teach and continually develop new course material may also be diminished (Blackburn & Lawrence, 1995). Beyond the research, service and teaching requirements of faculty, institutions are also working toward meeting their own goals. To achieve these goals, institutions require faculty to perform at a high level with a focus on moving the institution forward, often requiring faculty to put their personal achievement goals on the back burner for the sake of institutional progress (Rugg, Warren, & Carpenter, 1981).

For faculty who desire to spend most of their time conducting research, they may only be required to teach one class per semester. The importance of how faculty members identify themselves is key to understanding where their goals and values lie (Lewin, 1938; Maehr & Zusho, 2009). To better place this into context, it is suggested that for those who would consider themselves as teachers or educators, they may have a stronger value for teaching than research. However, those who consider themselves more of a scholar or researcher may tend to place more focus on the research aspects of their careers. How might this definition of oneself influence motivation to teach? This question goes back to the link between research efforts and teaching,
where the focus on research reduces the effectiveness and motivation of faculty to teach (Bailey, 1999; Van den Berg et al. 2003; Visser-Wijnveen et al., 2014).

The discipline in which faculty teach (i.e., English, math, engineering, etc.) may also play a role in their level of motivation for research, teaching, and service (Blackburn & Lawrence, 1995). Those in the sciences may be more motivated for research due to their background and can often produce more than an individual within a general education area (history, English, etc.). Research conducted by Colbeck, Cabrera, and Marine (2002), suggests that the teaching methods used is also tied to faculty motivation. The results of this study indicate that the goals and beliefs about the teaching profession are strongly associated with the extent to which one uses traditional or more modern teaching methods.

**Faculty Motivation to Teach and Student Motivation**

There are many proposed reasons why individuals are motivated to teach. The range includes: a desire to change students in purposeful ways, to transform students, to convey knowledge, to guide students to further their knowledge, and to allow students to search out their own meaning (Whitcomb, Borko, & Liston, 2008). In each perspective, development of the student is the main concern. Education has been described as an opportunity to converse with others about subjects that matter (Oakeshott, 1989). In his book *Why Read?*, Edmundson (2004) highlights that true education should “fuse mind and heart” (p. 45). For each individual the reasons they have become teachers will be different, and the reasons used truly are endless. Some get into teaching for the desire to influence young lives, others for their love of students, and still others to transform their field of study through research. The latter (those with a strong focus on research), may be required to teach in order to fulfill their passion (Blackburn & Lawrence, 1995). The question then is, does the focus on research negatively influence the
teaching environment? With prior research suggesting that student motivation is tied to faculty effectiveness (Martin, 2006), one might suggest that if teaching is seen as an obligation, teacher effectiveness and student motivation will be decreased.

Defining an effective teacher or effective teaching is challenging (Centra, 1993). Each definition is based on perception and what one believes to be superior and valuable. Effectiveness has been linked to the term robust, and can be used in a multitude of ways. Is the educator physically robust, emotionally robust or intellectually robust (Davies, 1957)? There is also the notion of continual growth. Is the educator looking for ways to continually improve, are they further developing their classes each year, are they participating in research to advance their field, and are they involved in continuing education experiences to stay on top of their chosen field? The problem most often encountered, is in how we measure effectiveness (McKeachie & Kulik, 1975). Effectiveness in teaching is essential to the learning and development of students (Van den Berg et al., 2013). Teacher efficacy meets effectiveness in that educators with lower self-efficacy will typically find less enjoyment in the act of teaching than those with higher self-efficacy. This lack of self-efficacy in educators has been hypothesized to lower levels of effectiveness (as perceived by students) in the classroom (Martin, 2006).

A study conducted by Martin (2006) sought to determine if there was a relationship between teachers’ perceptions of student motivation, and their satisfaction and teacher efficacy. The study utilized a teacher form of the Student Motivation and Engagement Scale to measure teacher perceptions of their students’ motivation and engagement. With over 1,000 teachers responding, the results suggest that despite teachers’ perceptions that their students are high in self-efficacy, have mastery orientations, and value school, they also perceive them to be highly anxious, self-handicapping, and afraid of failure. Recent research has utilized the Perceptions of
Student Motivation questionnaire (PSM) to measure teacher perceptions of student motivation and engagement. Most research to date has utilized the instrument as means to validate the tool, and has thus far, been proven stable and valid across studies conducted in the US and China (Hadre et al., 2008). The goal here is to determine if a link exists between a faculty member’s perceptions of their student’s motivation, and their own motivation for teaching. For example, if faculty members perceive their students to be very low in engagement and motivation, does that decrease their drive and motivation to continue teaching?

Further, there is a desire to better understand faculty intent to leave. Previously, researchers have shown that elements of satisfaction, worklife, and morale contribute to intent to leave (Bludorn, 1982; Johnsrud & Rosser, 2002; Rosser & Townsend, 2006). To add to existing literature, the impact of motivation to teach on intent to leave is examined within this study.

**Definitions**

*Motivation* – “That which influences the initiation, direction, magnitude, perseverance, continuation, and quality of goal-directed behavior” (Maehr & Zusho, 2009, p 77).

*Self-Efficacy* – “Perceived capabilities for learning or performing actions at designated levels” (Schunk & Pajares, 2009, p 35).

*Teacher Efficacy* – “The teacher’s belief in her and his ability to organize and execute the courses of action required to successfully accomplish a specific teaching task” (Tschannen-Moran, Hoy & Hoy, 1998, p 233).

*Achievement Goal Theory* – “Specifies the kinds of goals (purposes or reasons) that direct achievement-related behaviors” (Maehr & Zusho, 2009, p 77).
Teaching Values – An element of Expectancy Value Theory, teaching values are the qualities of various faculty requirements and how those qualities influence a faculty member’s desire to complete or participate in those requirements (Wigfield et al., 2009).

Student Engagement – “…a state of being that is highly influenced by contextual factors, such as policies and practices of the school and family or peer interactions” (Sinclair, Christenson, Lehr & Anderson, 2003, p 31).

Theoretical Framework

The theoretical frameworks utilized in this research include teacher efficacy, achievement goal theory, task value theory, and perceptions of student motivation. Each framework will be helpful in gaining more insight into faculty members’ motivation to teach in higher education.

Teacher Efficacy

Teacher efficacy, also known as self-efficacy for teaching, is concerned with how a teacher judges their personal capabilities within the classroom (Hoy et al., 2009; Tschannen-Moran & Hoy, 2001; Kleinsasser, 2014). There are four main components of teacher efficacy including: mastery experience, physiological arousal, vicarious experiences, and verbal persuasion (Tschannen-Moran & Hoy, 2001). Mastery experience is focused on content knowledge, physiological arousal relates to the anxiety or excitement felt, vicarious experiences include observations of credible mentors, and verbal persuasion depicts pep-talks and performance feedback (Hoy et al., 2009). Each of the four areas is designed to address teacher efficacy within instruction, discipline/management, student engagement, student motivation, and teacher to student relationships.

This research will be focusing primarily on the constructs of instruction and discipline/management. The constructs of student engagement and motivation have not been
very robust in prior research nor do they really get at the motivation faculty have for teaching.
The teacher efficacy scale will help to better understand how faculty members’ view their ability
within the classroom to determine if they see themselves as effective educators.

**Achievement Goals Theory**

A faculty member’s goals are tied to his/her efficacy (Hoy et al., 2009). The level of
teaching efficacy an individual has will influence the goals they set for themselves within their
profession. Achievement goals are focused not on what a faculty member’s goal is, but more
why they have that goal (Maehr & Zusho, 2009; Pintrich, 2000b). An important aspect of
achievement goals theory is that it recognizes individual differences and accounts for contextual
variables. Achievement goals can have approach orientations in which the individual seeks to
master a content or skill and outperform others, or there are avoidance orientations in which the
individual seeks to not lose skills or competence in the sight of others (Maehr & Zusho, 2009).
Different orientations exist including mastery (intrinsic), ability (intrinsic), performance
(extrinsic), task (intrinsic and extrinsic), and work (intrinsic and extrinsic).

One of the main foci of achievement goals within this research is to get at the purpose or
reason why a faculty member chooses to pursue the task of teaching (Pintrich, 2000b). As
previously stated, goals are tied to ones’ efficacy (Hoy et al., 2009). Based on how faculty
members’ view themselves as an educator (their teaching efficacy), may influence what types of
goals they will set for themselves. For example, if a faculty member is more passionate about
and focused on research, his/her goals for teaching may be different (avoidance goals rather than
approach goals).
Task Value Theory

Task value is defined by the qualities of various tasks, and how those qualities may influence a faculty member’s desire to perform that task (Wigfield et al., 2009). Task value is a segment of expectancy value theory (EVT), and a framework first proposed in the early 1980’s (Eccles et al., 1983). There are four primary elements to task value theory including: attainment value or importance, intrinsic value, utility value or usefulness, and cost (Wigfield & Eccles, 2000). The attainment value or importance of a task is tied to the value placed on doing well within the task (Wigfield et al., 2009). Intrinsic value within the theory is tied to personal enjoyment that the faculty member may gain from performing the task. Utility value is associated with the usefulness of the task toward future plans. For example, does completing a given task (teaching) well, lead to a greater chance of tenure for faculty in higher education? Cost is often associated with what needs to be given up in order to complete or participate in the task (Wigfield & Eccles, 2000).

Task value theory is a small segment of expectancy value theory that in the case of this research focuses specifically on the value that the faculty place on teaching. By understanding the value associated with the task of teaching, the hope is that we can better understand the motivation for teaching. Those with a lower value for teaching may have a lower motivation for teaching in higher education. In that case, it may also suggest a stronger focus or desire to participate in research or service activities.

Perceptions of Student Motivation

Much research has been conducted previously that looks at student motivation, teacher motivation, and teachers perceptions of student motivation in the K-12 arena, but little has been explored in higher education (Hardre et al., 2008). Prior research has indicated a connection
between teachers’ perceptions and their actions, as well as teachers’ impact on student motivation (Hardre et al., 2006; Hardre et al., 2008). The connection that remains to be made is whether faculty perceptions of student motivation within higher education may have an influence on their own motivation to teach.

A goal in this research is to understand faculty motivation to teach in higher education through the constructs of teacher efficacy, achievement goal theory, and task value theory. By understanding the faculty member’s motivation to teach, and determining the characteristics that may explain their motivation, we may then be able to see if there is a relationship between faculty motivation and their perceptions of student motivation.

**Research Design**

This research study is quantitative in nature, utilizing self-report survey measures to collect data from faculty at higher education institutions (Babbie, 2013; Creswell, 2005). By using survey research, this study seeks to explain faculty motivation to teach in higher education. Participants will be asked to complete an online survey that is composed of: institutional demographics, individual demographics, worklife, satisfaction, teacher efficacy, achievement goals, teaching values, and faculty perceptions of student motivation. Data collected will be analyzed using various latent variable models including exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and structural equation modeling (SEM).

**Research Questions**

1. How do faculty members perceive student motivation and engagement within their classes?
2. Are there differences between faculty demographic and professional characteristics and faculty perceptions of student motivation and engagement?
3. Is there a relationship among faculty demographic and professional characteristics, faculty members’ perceptions of student motivation and engagement, and faculty members' motivation as measured through teacher efficacy, achievement goals and task values?

4. Is there an underlying structure to teacher efficacy, achievement goals, and task values that can be defined and measured as faculty motivation to teach?

5. What combination of demographic and professional characteristics and faculty perceptions of student motivation and engagement explain faculty motivation to teach and intent to leave?

Limitations/Gaps

The limited investigation of faculty motivation to teach in higher education can be seen as the biggest limitation for this study. In an effort to brainstorm all the possible factors that play into motivation to teach, or may have a positive or negative effect on that motivation, several things were identified that could not feasibly be included within this research. Personal factors (e.g., marital status, dependents, health issues, financial issues, etc.), which may have an impact on faculty members’ worklife or motivation, were not included in this study. In addition, there are other factors within faculty members’ professional lives that may also influence their motivation (e.g., professional development opportunities, university engagement, institutional climate, etc.). Due to access, this research is focused solely on faculty at public institutions which could also be a limitation.

Significance of the Study

Faculty motivation can be viewed in a number of ways including faculty motivation to teach, faculty motivation to do research, and faculty motivation to participate in service activities
(Van den Berg et al., 2013). Each of these motivational areas may influence research productivity, employee retention, or teaching effectiveness. Research on faculty motivation to teach in higher education may have several significant implications for how higher education institutions hire and assign faculty. For example, those individuals who describe themselves as researchers would probably welcome the opportunity to spend more time pursuing their research interests, while those who prefer to be in the classroom educating young minds may prefer reduced research requirements and additional class time. An important question to consider is: are we doing a disservice to students by forcing faculty who do not desire to teach, into the classroom? As education should be the primary goal, further research will contribute to our understanding of faculty’s motivation to teach in higher education and the implications of that motivation. This information may then be used by institutions to improve students’ learning experience and perhaps even the faculty members’ career experience.

In a study by Tien and Blackburn (1996), it was suggested that there is a belief that the possibility of promotion is a significant factor in research productivity for faculty in doctoral granting institutions. The study found that research productivity is often reduced after a promotion, and then picks up again closer to the next promotion. Research also suggests that the importance of promotion varies among individuals (Tien & Blackburn, 1996). The relationship, then, is that as a faculty member seeks to progress through the tenure process, there may be an intense focus on research with a more minimal focus on teaching responsibilities (Wilkesmann & Schmid, 2013). This reduced focus on teaching may result in lower teaching performance or effectiveness (Blackburn & Lawrence, 1995).

Faculty and their ability to teach are essential to the growth and development of students and their knowledge (Naz et al., 2012). Research suggests that without incentives (e.g.,
promotion, tenure, performance raises), faculty members are more willing to leave their positions. In a study by Naz and colleagues (2012), a link was made between faculty retention and the performance and motivation of students. A higher engagement or motivational value for teaching may also directly influence students’ ability to learn as the direct focus of the faculty will be in areas other than teaching and teaching prep (Van den Berg et al., 2013). Husman, Duggan, and Fishman (2014) suggest the importance of professional development and learning engagement on teacher performance and retention. The connection ultimately relates back to student achievement which should be a primary concern at any institution.

As prior research has indicated, there are connections between research activity and teaching activity, between teaching activity and student performance, as well as clear indicators of the implications that a research focus may have on one’s teaching. A focus on teaching may indicate lower levels of research productivity and service activity; however, as was indicated by Naz and colleagues (2012), it also emphasizes improved student performance. The goal of education should be at the core of each higher education institution. This research seeks to present information that may inform and improve the educational environment for both students and faculty.

**Summary**

This chapter provided a general overview of the research study, as well as some of its limitations. Within the overview was discussion of the purpose of this study, the important definitions surrounding the study, and the research questions that will guide the study. The following chapter will dive deeper into the literature that exists on faculty, their motivation for teaching, and the factors that may contribute to that motivation, and will serve to conceptually frame this study based on the prior research that exists.
Chapter 2

Literature Review

Introduction

Motivation in higher education is an ever-evolving topic that can be approached in a multitude of ways. One area where there is scant research is that of faculty motivation to teach. Due to the limited research in this area, connections will be made in this review that will depict the necessity and value of such a line of research to the higher education literature. This chapter will focus on what defines faculty within higher education, what aspects of their careers have been shown to impact their motivation to teach, and the theoretical frameworks that will guide the exploration into faculty motivation to teach in higher education.

Overview of Topic

Faculty members are the individuals upon whose backs institutions of higher education were built. At one time institutions “…were heavily influenced, if not completely driven, by faculty ideas and concerns” (Ginsberg, 2011, p.1). As it stands today, without faculty an institution cannot serve their students’ needs, or meet the institutional mission of developing well rounded, knowledgeable, and civically engaged citizens (Brubacher & Rudy, 1968; Hendrickson, Lane, Harris, & Dorman, 2013). The underlying themes throughout the aforementioned mission are that of learning and teaching.

Research suggests that faculty members who possess higher motivation to teach may have more success within their classrooms (in terms of student engagement and learning outcomes) (Naz et al., 2012), and may invest more time into the continual development and preparation of their courses (Umbach, 2007; Van den Berg et al., 2013). Lines of research into faculty perceptions of student motivation suggest that student motivation for learning is tied to
faculty effectiveness and motivation in the classroom (Martin, 2006). In addition to the notion of faculty motivation to teach, there are lines of research that suggest student outcomes are improved when taught by full-time faculty rather than part-time/adjunct faculty (Carrell & West, 2010; Ehrenberg & Zhang, 2005; Jaeger & Eagan, 2011), and that when research requirements are combined with teaching, educational quality increases (Galbraith & Merrill, 2012).

Currently, little research exists that speaks specifically to the motivation of faculty to teach in higher education settings. However, we do know that there are many factors that may play a role in motivation for teaching including the value a faculty member places on teaching (Maehr & Zusho, 2009), how faculty view themselves within their profession (Hoy et al., 2009), the goals they establish for themselves as educators (Wigfield et al., 2009), and how they perceive their student’s engagement within the classroom (Hardre et al., 2008). Other factors including institutional type (research institution, teaching institution, community college, private college, etc.) and faculty status (tenured/tenure-track faculty, non-tenure track faculty, contingent faculty, etc.) also play a major role into a faculty member’s motivation to teach (Naz, et al., 2012; Visser-Wijnveen et al., 2014).

There are many different roles on the academic side of higher education including: teaching, which incorporates advising or mentoring students; research, as an individual, in peer collaborations, and with students; and service to one’s discipline, program, department, college and/or University, and community (Trower, 2002). Often these differing roles act as competing demands for faculty who have limited time and resources. Faculty rank is important to this discussion, because within different ranks are differing roles. Faculty members who are tenure/tenure-track and who have high research requirements may have a lower motivation for fulfilling teaching requirements (Bailey, 1999; Van den Berg et al., 2003; Visser-Wijnveen et al.,
Compare this to contingent faculty, who are quickly increasing in number (Kezar & Sam, 2013), who are often brought in to reduce the teaching burden on full-time faculty and have little or no research requirements (Ballantyne, Berret & Harst, 2010). If student learning and faculty motivation are indeed linked as research suggests, and if student growth and development (learning) is still the primary mission in higher education, then further research in this area is essential to promote change.

Literature

Aspects of Faculty Work

It has been said that “Without the faculty, no part of the institution’s mission can be met” (Sullivan, 2011, p 315). Blackburn and Lawrence (1995) theorized the role of the faculty, and further developed the idea that it is not only individual characteristics but also the institution in which the individual works that influences their motivation, behavior, and productivity.

Traditionally, the faculty role consists of teaching, research, and service, with differing amounts of each depending on the institution in which one is employed. As research has expanded in the academic institution, there have been many who have suggested that teaching has become undervalued (Geiger, 2011; Rhode, 2006). The pressure to publish is being felt beyond the research institution, and its effect on the faculty role cannot be ignored.

Research requirements and teaching. There are two significant perks available to institutions of higher education that pursue research (Bak & Kim, 2015). One is national and/or international recognition/prestige, and the second is funding. As research requirements increase across institutions of higher education, the fear is that the value and effectiveness of teaching is decreased (Bak & Kim, 2015; Rhode, 2006). A recent study that explored teaching quality in the face of increasing academic demands reinforces this notion from multiple perspectives; it also
incorporates the idea of professional identity into the faculty experience. In the ethnographic study by Hemer (2014), a faculty member describes himself as a researcher, indicating that teaching is “a necessary evil” (p. 487). In order to spend more time on research, he employs several techniques to deal with the teaching requirement including: buying out teaching time with grant resources, repeatedly teaching the same course without modifying or updating the material, utilizing recorded lectures repeatedly, and using technology to score quizzes and essays. The study suggests, while at times quality may be retained under these conditions, the lack of engagement and updating may diminish the quality of the course and the experience students receive. This is not a loan identity however. Hemer (2014) also describes several faculty who describe teaching to be at the center of their identity. Their desire is to provide the best teaching quality possible, thus sacrificing their research quality and time for their teaching.

In one of the earlier studies found that included faculty motivation to teach, Bailey (1999) sought to understand the motivation of faculty to teach, and the effect of research requirements on that motivation. This study was conducted at a university in Australia, and looks at faculty affiliation, level of appointment, gender, qualifications and research productivity to identify levels of motivation for both research and teaching. With a framework grounded in self-efficacy, the research really focuses on one’s beliefs about their own capabilities in the tasks of teaching and research.

The study utilized the Academics’ Motivation and Self-Efficacy Scale (AMASES), which was distributed to all academic staff within the university (Bailey, 1999). The instrument was composed of motivation and self-efficacy items related to both administration/teaching and research activities. The response rate slightly exceeded 36%, and a majority (54%) of those who responded held the level of appointment of lecturer. Across respondents there was a good mix of
individuals who held bachelor’s (41), master’s (39), and doctoral (27) degrees. The study asked participants to rate their research productivity from “very low” to “very high”, with a majority indicating “very low” (36). This seems realistic given that over 50% of the respondents held the lecturer position in which research is not often a requirement of employment.

Results of the study suggest that those individuals who have lower research productivity tend to have a higher level of teaching efficacy (Bailey, 1999). Associate professors and full professors, in this study, had a higher level of research efficacy. This study furthers the research of Blackburn and Lawrence (1995), which suggests that research motivation has to be higher during the tenure-track process, as the emphasis is placed on developing a research agenda and less on teaching requirements. The study also revealed that women typically had a higher motivation for teaching than their male counterparts (Bailey, 1999).

Research and teaching quality. Does the quality of teaching go down if faculty members spend more of their time on research? Research in this area has led to mixed results. While some research indicates that teaching quality is reduced (Astin, 1993; Bak & Kim, 2015; Blackburn, 1974), other researchers suggest that having research requirements actually improves teaching quality (Galbraith & Merrill, 2012). Beyond these two perspectives, there is additional research that suggests teaching quality and research productivity are two separate entities, and that no relationship exists between the two activities (Marsh & Hattie, 2002). Given so many differing perspectives, what do trends suggest is correct?

A recent study by Galbraith and Merrill (2012) sought to utilize a newer data analysis technique, the Bayesian analysis, to analyze the relationship between research productivity and teaching quality or effectiveness. In this research, teaching quality is based on student learning outcomes rather than teaching evaluations, which is what much of the previous research has
focused on (Galbraith & Merrill, 2012; Marsh & Hattie, 2002). The idea is that teaching evaluations are more a reflection of likability rather than teaching quality, thus not providing an accurate account of a faculty member’s performance within the classroom (Galbraith & Merrill, 2012). The findings of this study are contrary to prior findings on this topic, suggesting that there is a relationship between research productivity and teaching effectiveness. The results indicate that students learn more from faculty who have higher research productivity, than from faculty who are not active or as active in research.

There are three primary limitations to the study however: no theory is used as a basis for their hypothesis, the data utilized was collected from one institution that is classified as a teaching focused Master’s degree granting institution, and the classes utilized were upper level undergrad and graduate classes (Galbraith & Merrill, 2012). Given the last two, it is not reflective of the typical college class, thus limiting the usability or generalizability of the findings. With that said however, the findings do suggest further research into the relationship between research productivity and teaching effectiveness is warranted. Further development of a more accurate representation of teaching effectiveness is also needed, as the current practice is to use course evaluations which many argue are based on biases (Boysen, 2008; Galbraith & Merrill, 2012; Smith, 2007).

In a slightly different approach to understanding the link between research and teaching, Magi and Beerkens (2016) explore the concept of research-related teaching, suggesting that faculty who are engaged in research, and incorporate that research into the classroom provide a better learning environment for their students. The study sought to highlight the benefits to students who are taught in research-engaging environments. The concept of research-related practices includes providing access to research facilities for students, engaging students in
research-related activities that are incorporated into the course curriculum, and even publishing research with students. This process has been shown to improve the learning experience for students, thus encouraging the adoption of deeper and more meaningful learning approaches (Trigwell, 2005).

One of the significant findings stemming from this research is the identification that interest in teaching or research is a key factor in determining if faculty are willing to incorporate research-related practices into their classrooms (Magi & Beerkens, 2016). Faculty, whose primary interest is in teaching, are less likely to incorporate research-related practices within their classroom. This makes sense, if they are not actively engaged in research their abilities to incorporate research into the classroom would be hampered by their own inexperience. However, the opposite is also true. Faculty, whose primary interest is in research, are also less likely to incorporate research-related practices within the classroom. There is one exception to this however, faculty who are primarily interested in research are more likely to co-author publications with their students. The best practice then suggests that a balance of teaching and research interests is most effective to engage students in research-related experiences.

Factors that Impact Faculty

Just like in any other field, faculty in higher education have competing demands for their time (Trower, 2002). While the role of faculty varies across institutional type, the demands remain significant. There are many elements that can have an impact on faculty including their role within the institution, the institutional type that defines that role, their worklife, and the satisfaction they have within their job. Each of these areas will be explored in turn.

Faculty role. The role of faculty in higher education is often thought of in three parts: research, teaching, and service (Hendrickson et al., 2013). With service comes participation in
institutional decision making. There is plenty of literature that speaks to the importance of faculty in decision making, specifically when it comes to the academic side of the institution (Hendrickson et al., 2013; Kater & Levin, 2005; Minor, 2004; Minor, 2005; Rosser, 2002). With the view of faculty as the facilitators of education, their role in the establishment of curriculum, academic programs, and graduation standards/requirements is essential (Birnbaum, 1988; Rosser, 2002). Faculty should also play the primary role in the hiring of new faculty, and the review of faculty in the promotion and tenure process.

Hendrickson and colleagues (2013) present the idea of faculty as “boundary spanners”, where their reach goes beyond the institution (p. 313). In preparing students in the various programs to serve their communities, faculty need to reach out to businesses and industry to understand what is needed, and what should be included within the curriculum to best meet industry needs. Through their research, faculty members also engage with external constituents to further knowledge, theory and practice. The responsibilities of the faculty are significant, but currently the burden is not being shared. A majority of the aforementioned responsibility falls to faculty who are tenured or on the tenure-track (Bowen & Tobin, 2015). Contingent faculty have been limited in their role; some limited by personal desire (Levin & Montero-Hernandez, 2014), some by administrative and board oversight (Gerber, 2014), and others by tenure/tenure-track faculty themselves (Cronin & Smith, 2011).

**Institution type.** Utilizing the Carnegie Classifications as a guide, three different institutional types will be outlined to show the differences that exist between institutional types, and the influence of those differences for faculty within those institutional types (Indiana University Center for Postsecondary Research, 2016). The first institutional type is that of Doctoral Universities which are classified not only based on the number of research/scholarship
doctoral degrees awarded (at least 20 per year), but also on their level of research activity. Three sub classifications exist based on research productivity (highest research activity, higher research activity, and moderate research activity). The second classification is that of Master’s Colleges and Universities which include institutions that award more than 50 master’s degrees per year. This classification has three sub classifications based on the size of the institution’s programs (larger programs, medium programs, and smaller programs). The final classification utilized is Associate’s Colleges. These are often community colleges wherein the highest degree awarded is an associate’s degree. There are many sub classifications to this category, each a function of the disciplinary focus (transfer, career and technical, or mixed) and the dominant student type (traditional, nontraditional, or mixed).

**Worklife.** The importance of worklife issues to faculty members’ overall satisfaction, morale, and intent to leave is an area that saw significant coverage in the mid 1990’s and early 2000’s, yet since then it has been more limited in examination (Blackburn & Lawrence, 1995; Hagedorn, 1996; Johnsrud & Sadao, 1998; Johnsrud & Rosser, 2002; Rosser, 2004). In more recent years, climate has become the new word for similar studies (Victorino, Nylund-Gibson, & Conley, 2013). Various elements play into a faculty member’s worklife, including one’s motivation (Blackburn & Lawrence, 1995), the rewards and salary structure (Hagedorn, 1996), equality issues for minority populations (Johnsrud & Sadao, 1998), and his/her satisfaction (Rosser, 2004). Worklife can also be viewed as a combination of professional and institutional issues, and their influence on the individual faculty member (Rosser, 2004).

Building on previous research, Rosser (2004) utilized a measure of faculty worklife that consisted of four dimensions: professional development, committee and service work, administrative support, and technology support. The aim in the study was to utilize faculty
perceptions of their worklife and satisfaction to investigate intent to leave one’s institution. Utilizing structural equation modeling, the results of the study suggest that perceptions of worklife, while not directly linked to intent to leave, does have a direct and positive influence on one’s satisfaction within their job, thus reiterating the idea that the quality of one’s worklife has significant meaning for faculty. In addition, the satisfaction piece of the study does have a direct and negative link to intent to leave, suggesting that those who are less satisfied within their jobs and with elements of their work lives are more likely to seek careers at other institutions or in another field all together.

In another study that focuses on climate/worklife, the primary focus was to examine the relationships between faculty satisfaction and the racial climate of the campus (Victorino et al, 2013). Utilizing three dimensions of campus racial climate (structural diversity, psychological climate, and behavioral climate) the study also sought to determine if institutional type influenced the response of faculty to the institutional climate. Utilizing multi-level structural equation modeling, the results of the study reveal a strong and positive relationship between faculty satisfaction and their perceptions of the racial climate of the institution. When perceptions suggested a positive view of the racial climate, higher levels of satisfaction were observed.

In breaking out the demographic profiles of the participants within the study, it was revealed that women and minority faculty had much less positive perceptions of the racial climate of the campus than their colleagues (Victorino et al., 2013). These results are in line with prior research that looked at women and minorities and their views of climate/worklife and satisfaction (August & Waltman, 2004; Johnsrud & Sadao, 1998). Institutional type, while not
statistically significant, did show a positive relationship to faculty attitudes (Victorino et al., 2013).

While previous research has focused on how motivation impacts worklife (Blackburn & Lawrence, 1995), no research has been identified that looks at how worklife issues may influence motivation to teach. The one-way exploration of motivation implores a question; can motivation be bi-directional, thus uncovering a reciprocal relationship between worklife and motivation to teach? If so, what bearing does one’s worklife have on their motivation to teach, and what if any role does satisfaction play in this intricate relationship?

**Job satisfaction.** Job satisfaction as a construct has been defined as an interaction between the individual and their specific job-related role (Locke, 1976). For faculty, measures of satisfaction are often aligned with elements of worklife or institutional climate (Maynard & Joseph, 2008; Rosser, 2004; Waltman, Bergom, Hollenshead, Miller, & August, 2012). Where some studies include elements like salary, benefits, promotional opportunities, security, and coworkers into their description of factors that influence job satisfaction (Maynard & Joseph, 2008; Waltman et al., 2012), other research looks at job satisfaction in relation to one’s enthusiasm toward their work, or the autonomy they feel have within their work (Rosser & Slife, 2012).

In an attempt to determine if faculty status played a role in their job satisfaction, Maynard and Joseph (2008) studied three distinct groups of faculty (voluntary part-time, involuntary part-time, and full-time faculty). The study was conducted at a mid-sized public four year institution in the northeastern United States. The entire faculty \(N = 586\) within the institution were contacted for participation, of which 167 responded. Satisfaction was measured utilizing the Minnesota Satisfaction Questionnaire (MSQ), which is a 100-item instrument. In addition, the researchers utilized the Organizational Commitment Questionnaire (OCQ) a 12-item instrument.
to measure affective commitment, and the Scale of Perceived Over-Qualification (SPOQ), a nine-item scale used to measure over-qualification.

Data analysis was conducted utilizing multivariate analyses of variance (MANOVA) and analyses of variance (ANOVA) with Tukey post hoc tests (Maynard & Joseph, 2008). In general, faculty who were considered involuntary part-time were much less satisfied with advancement and security than either the full-time or voluntary part-time faculty. In addition, they also reported significantly lower satisfaction with compensation than full-time faculty, however this did not differ significantly from voluntary part-time faculty. In other aspects, however (i.e., achievement, authority, co-workers, creativity, independence, and working conditions), each of the faculty groups reveal relatively similar satisfaction levels. This suggests that when conditional factors that influence only full-time faculty members are accounted for (higher salary, job security, benefits, etc.), faculty as a whole are generally satisfied with their work.

Some research suggests that the changing priorities within academia can have a negative effect on non-tenure track faculty (Waltman et al., 2012). For tenure track faculty, their job security is tied to their ability to do research and get published, which often means teaching is given lower priority and less time is focused on preparing for class or making adjustments to curriculum. As a result of these shifting priorities, over 70% of the faculty members at U.S. degree granting institutions are non-tenure track (AAUP, 2015). Non-tenure track faculty (adjuncts, contract faculty, visiting scholars, etc.) have been brought in to carry the teaching load, allowing tenure track faculty more time to focus on their research (Waltman et al., 2012).

This study utilized Herzberg’s two-factor theory that suggests that which satisfies one within their job is separate from that which dissatisfies one within their job (Waltman et al., 2012). This was a qualitative study that utilized focus groups and thematic analysis to identify
factors that influence job satisfaction for non-tenure track faculty. There were four major themes that emerged from this research, the first two, teaching and students, and personal life and flexibility, were identified as sources of job satisfaction. The second two, terms of employment, and respect and inclusion, were identified as sources of job dissatisfaction. It is suggested that those who teach as non-tenure track are more passionate about their topics and student learning, however the lack of pay, respect and job security are major issues. The results of this study support prior research on job satisfaction among non-tenure track faculty, however the results do not reflect the true populations of non-tenure track faculty. In this study, 79% of the participants were full time non-tenure track, while in reality a majority (over 50%) of non-tenure track faculty members are considered part-time (AAUP, 2015).

**Intent to leave.** The act of leaving one’s position has been found to be significantly predicted by intent to leave (Bluedorn, 1982). Research on why faculty leave their position has found that much turnover is the result of dissatisfaction with one’s position or work environment (Johnsrud & Rosser, 2002; O’Meara, Lounder, & Campbell, 2014; Rosser & Townsend, 2006). In their examination of faculty members’ morale and their intent to leave, Johnsrud and Rosser (2002) identified that both worklife and morale had significant impacts on intent to leave. In situations where faculty had a positive perspective of their worklife, their intent to leave was reduced. In addition, faculty status (e.g., being a full professor) played a role in intent to leave, with those who attained full professor status being less likely to leave. This research also supports prior research that suggests that faculty do not leave their positions if they are completely satisfied with their current role (Matier, 1990).

In a study focused specifically on community college faculty, a significant finding indicated that part-time faculty were more likely than full-time faculty to leave their position or
institution (Rosser & Townsend, 2006). This was attributed in part to a reduction in job security as compared to those who held full-time positions. Further, length of employment at the institution also has an impact on intent to leave, with those who have been employed longer being less likely to leave. This study also served to highlight the importance of a positive perspective on worklife within the community college setting and its impact on improved job satisfaction which in turn impacts intent to leave. This finding is similar to that of another examination of intent to leave, in which data from faculty at both 2-year and 4-year, as well as public and private institutions were examined (Rosser, 2004). This study found that perspectives on worklife significantly predict job satisfaction; further low job satisfaction has a negative impact on intent to leave.

A recent article approached the topic of faculty leaving from a different perspective, in that they attempted to make sense of the reasons that faculty leave, or why colleagues perceive they left (O’Meara et al., 2014). Most interesting is that administrators and colleagues suggested more prestige-oriented (e.g., pay, moving up, etc.) reasons as to why a faculty member had left, whereas the faculty members who left often cited poor working environments as a primary reason. Another different perspective in the literature looked at type of discipline taught in as one factor that may impact intent to leave, with those who taught in areas such as the arts and humanities being more likely to leave (Ryan, Healy, & Sullivan, 2012). In addition, this study found that the more productive faculty were from a scholarship standpoint the greater the likelihood of leaving than their less productive peers.

**Faculty Demographics**

Over the past century, the landscape of higher education has shifted dramatically. Not only in terms of the makeup of administration and faculty, but also in terms of what faculty
members within an institution are expected to achieve (Tierney, 1999). Changes within higher education in recent years have revealed that the traditional sense of the faculty appointment is no longer appropriate (Gappa, Austin & Trice, 2007). The tenure-track appointment is no longer considered the norm, as institutions have been forced to cut costs (Geiger, 2011).

**Contingent faculty.** Contingent faculty are individuals who do not hold a tenured/tenure-track position within their institution (Kezar & Sam, 2013). Contingent faculty may be full-time or part-time faculty. Full-time contingent faculty, also called Full-Time Non-Tenure Track (FTNTT) faculty (Gappa et al., 2007; Geiger, 2011), are individuals brought in as teaching staff, who typically receive some institution benefits (healthcare, retirement, etc.), but do not have the security of a consistent job (Bowen & Tobin, 2015; Mazurek, 2012). Full-time contingent faculty earn on average $47,500, which is significantly less than their tenure-track peers (Clery, 2015; Desrochers & Kirshstein, 2014). Part-time contingent faculty may only teach one or two courses at an institution, and they may have a full-time job elsewhere (Mazurek, 2012). In addition, part-time contingent faculty members are not guaranteed a teaching position from semester to semester, as it is a course by course appointment, and in most cases they are not eligible for any institution benefits (Bettinger & Long, 2010; Bowen & Tobin, 2015). Data shows that the mean salary for part-time contingent faculty in 2010 was only $2,700 per course (Clery, 2015; Desrochers & Kirshstein, 2014; Mazurek, 2012).

**Tenure/tenure-track faculty.** “Tenure track faculty are generally paid more, enjoy costlier benefits and teach less than other staff” (Bowin & Tobin, 2015, p. 104). With tenure, however, come the responsibilities of service to the institution and research. Tenure/tenure-track faculty working on a 9/10-month contract earned on average over $78,000 in 2013-2014 (Clery, 2015). Salary varies depending on rank and institution type, but range from an average of
$60,000 to $100,000 for tenure/tenure-track faculty (Desrochers & Kirshstein, 2014). Above and beyond the typical benefits of insurance and retirement plans, tenure/tenure-track faculty members have additional benefits that are often not afforded to contingent faculty. These benefits include monetary support for research, professional development and travel expenses (Bowin & Tobin, 2015). Faculty who achieve tenure also have job security that contingent faculty will never experience. Typically, they cannot lose their job in tough economic times, nor can they be forced out due to old age. One difference is if the governing body has established policies where financial hardship allows them such flexibility.

**Faculty rank.** With the changing role of faculty over the last few centuries comes a shift in the ranks of faculty. Now, a majority of faculty members in higher education hold positions that are not tenure/tenure-track (Gappa et al., 2007). With the differences between contingent faculty and tenure/tenure-track faculty established, there is still the need to realize that even within the tenure/tenure-track ranks (assistant professor, associate professor, and full professor), there are different challenges that may have an influence on one’s motivation.

A recent study sought to determine if differences existed between contingent faculty (full or part time faculty in non-tenure track positions, contract faculty, adjunct professors, lecturers, etc.) and tenure/tenure-track faculty in terms of their motivation to teach distance education (DE) courses (Chapman, 2011). This was with hopes of determining motivational and incentive criteria to positively influence retention and improve course delivery. To do this, Chapman (2011) surveyed 294 DE faculty within one large (over 31,000 students), research-intensive institution located in the southern portion of the United States.

The survey design includes both motivation and incentive options designed to gauge not only what does motivate these individuals to teach DE courses, but what might be added to
positively influence continued teaching of DE courses (Chapman, 2011). Of the 294 surveyed, 142 responded giving a 48% response rate. Of the 142 respondents, 68% (97) were tenure/tenure track and 32% (45) were contingent faculty. Chapman (2011) conducted this research as a mixed methods model, with more emphasis being placed on quantitative methods. Data was analyzed using response frequencies and chi-square tests to compare the groups surveyed. The qualitative method was limited to an “other” response within the survey that required a description; afterwards, responses were placed into common themes.

In regards to the motivators, the highest response was the same for both groups (tenure/tenure track and contingent), in that the most selected motivator was the flexibility in scheduling that online teaching allows (Chapman, 2011). Additional motivators ranking high within both groups include: self-satisfaction, financial rewards, and opportunities to use new technology. Beyond similarities, there were some motivators that resulted in significant differences between groups. Contingent faculty were more likely to cite a better balance between work and family, supplement to other career/job, and an entry point for a teaching career as motivators for teaching DE courses. While not significantly different, contingent faculty also cited more pressure from administration to teach DE courses than tenure/tenure track faculty. Another interesting result of the study, which did not reveal a significant difference, was that more tenure/tenure track faculty were motivated by the intellectual stimulation of teaching DE courses than were contingent faculty.

Within this study, Chapman (2011) also addressed incentives that may aid in the retention of DE faculty. In both groups (tenure/tenure track and contingent), the top three incentives were the same: free professional development opportunities, stipends for professional development, and higher pay. Several significant differences emerged in regards to the incentives, as more
contingent faculty thought incentives like: tuition reimbursement at the institution, access to office space on campus, a designated mentor from more experienced faculty, opportunities to conduct research, more job security, and an online community for DE instructors would positively influence their decision to continue teaching DE courses (Chapman, 2011). In regards to these significant differences, these are mostly with regards to benefits that tenure/tenure track faculty already receive.

Research by Tien and Blackburn (1996) sought to understand the motivational factors within the faculty ranks, and the relationship between those factors and the promotion and tenure process. Based on the understanding that research is the major criterion for promotion within doctoral-granting institutions, their research looked at the motivating effects that rewards have on faculty research. Utilizing the perspective of behaviorism (behavioral reinforcement theory), the authors sought to better understand the levels of research motivation across years for assistant professors, associate professors and full professors.

Data used was from the Carnegie national survey data (1989), where Tien and Blackburn (1996) were able to align employment status and rank with research productivity based on number of publications. Data was broken down by institutional type, rank, and discipline. The results of this study suggest that promotion does have a motivating effect on faculty research. As an individual nears their promotion window (Assistant to Associate, and Associate to Full), their research (in terms of publications) tends to increase. On the downside however, faculty productivity will then typically fall off for a few years after a promotion has been achieved. For faculty who have achieved promotion to full professor, their research suggests that they are often more productive (again in terms of the number of publications) than either associate or assistant
professors. This finding could be a result of reduced pressure, as they have already achieved full promotion.

**Faculty Motivation to Teach**

In a study by Wilkesmann and Schid (2013), individuals within German higher education were surveyed in an attempt to identify factors that might influence motivation to teach. This study sought to determine if external incentives for teaching (pay-for-performance, management by objectives, performance-related budgeting, and teaching awards) improved motivation for teaching activities. Conducted across German higher education, faculty from both research universities and universities of applied sciences were surveyed. In total 2,061 or six percent of all German faculty members across the two institutional types responded to the survey (1,119 from research universities and 942 from universities of applied sciences). The primary difference between institutional types in this study is that of teaching load; at research universities faculty have a nine hour per week requirement and at universities of applied sciences, faculty have an 18 hour per week requirement (Wilkesmann & Schid, 2013).

The survey design includes questions related to motivation to teach, reasons why one became a professor, and effort involved in teaching (Wilkesmann & Schid, 2013). In line with the Self Determination Theory (SDT) research by Ryan and Deci (2000a), this study focused on the variables of perceived autonomy, relatedness, and competence, with teaching load. Prior research (Wilkesman & Schid, 2012) had identified that external rewards and incentive systems actually served to reduce teaching motivation, thus this research sought to validate those findings. All survey questions were answered on a five-point Likert scale (one being totally disagree; five being totally agree) and the analysis of results was conducted utilizing multivariate regression (Wilkesmann & Schid, 2013).
The results of the study indicate that teaching is primarily an intrinsically motivated activity in both institutional types (Wilkesmann & Schid, 2013). A slight difference did exist between the two institutional types however; at universities of applied sciences, faculty were identified to be more “consciously dedicated” to a career in teaching (p. 18). One possible reason as to why this result exists is due to the process of entering the professorate at the different types of institutions in Germany. Within universities of applied sciences, individuals are required to show evidence of working at least three years full-time in the private sector prior to moving to the educational arena. This is not a requirement for faculty at research institutions. While this study further informs the literature on the intrinsic nature of motivation for teaching, it does not include the element of research requirements and how those requirements may impact motivation for teaching.

The most salient finding stemming from this research is the need for a supportive culture within the institution (Wilkesmann & Schid, 2013). This study identified a positive correlation between intrinsic motivation to teach and the teaching culture within an institution. The supportive culture is suggested to be superior to any financial or external incentive for teaching. The results of this study further enforce the importance of teaching within the institution, and that a culture in which teaching is valued by students and management alike improves and promotes success. Feldman and Paulson (1999) have dedicated time to the importance of the teaching culture within an institution. They differentiate between the research culture and the teaching culture, maintaining that while research is becoming increasingly important within institutions of higher education, the teaching culture remains the dominate culture and it needs to be supported and valued.
Another study focused on teaching motivation in higher education was conducted in a University Medical Center (UMC) (Van den Berg et al., 2013). This study represents a unique environment for teaching, as very little in higher education can be compared to a medical school setting; however, it does embody one of few teaching motivation studies within the higher education literature. Nonetheless, the focus of this study is on the motivation for teaching within the UMC, and how it compares with faculty motivation for service (patient care) and research.

Van den Berg and colleagues (2013) first pilot tested their idea by conducting semi-structured interviews (qualitative) with a focus on the theories of self-determination and work engagement. The pilot study served as a framework for developing a survey instrument that would hit on items that would influence teaching motivation. The survey questions were then combined with the Utrecht Work Engagement Scale (UWES-9) and utilized in this follow-up study. The current study received a response rate from participants of nearly 50%, and the data was analyzed using parametric and nonparametric tests. While primarily a quantitative study, a few open-ended questions did lead to some qualitative data which was classified and categorized by the researchers. The findings of this research suggest that a lower level of engagement and motivation for teaching exists when other profession related activities (research and service) were in place (Van den Berg et al., 2013). This parallels findings that suggest that individual faculty who have intense research requirements, as in the tenure process, have lower motivation for teaching (Bailey, 1999; Visser-Wijnveen et al., 2014).

Effectiveness in teaching is essential to the learning and development of students. Van den Berg and colleagues (2013) suggest that faculty motivation can be viewed in a number of ways including faculty motivation to teach, faculty motivation to do research, and faculty motivation to participate in service activities. This furthers Maehr and Zusho’s (2009) notion
about how faculty members identify themselves within their profession, and the impact of that identification on their goals and values. Motivation in these areas is not a constant, as at different times throughout one’s career the various activities change in importance or significance (Van den Berg et al., 2013). This study further suggests that a higher engagement or motivational value for teaching may directly affect students’ ability to learn, as the primary focus of the faculty will be in areas other than teaching and teaching prep.

**Faculty Motivation to Teach and Student Motivation**

Research has suggested that if one perceives their students to be unengaged and uninterested/unmotivated for learning, their own motivation for teaching may be diminished (Hardre et al., 2006; Hardre et al., 2008). Along this line, Martin (2006) sought to determine if there was a relationship between teachers’ perceptions of student motivation, and their satisfaction and teacher efficacy. The study utilized a teacher form of the Student Motivation and Engagement Scale to measure teacher perceptions of their students’ motivation and engagement. Included in the scale were several factors of motivation including self-efficacy, value, mastery orientation, failure avoidance, persistence, and self-handicapping.

Martin’s (2006) study was conducted in the K-12 arena with teachers from 19 different schools participating. Looking specifically at the teacher as the level of analysis, teaching enjoyment and confidence was assessed through the survey instrument. With over 1,000 teachers responding, the results suggest that despite teachers’ perceptions that their students are high in self-efficacy, have mastery orientations, and value school, they also perceive them to be highly anxious, self-handicapping, and afraid of failure.

Perceptions of students’ mastery orientation was the strongest correlate for teacher enjoyment, and students’ persistence and planning lead to higher levels of teacher confidence.
(Martin, 2006). This research also suggests that student motivation is tied to faculty effectiveness; thus, indicating that if teaching is seen as an obligation, teacher effectiveness and student motivation will be decreased. Martin (2006) identifies professional development as a means to build teacher capacity leading to improvements in student motivation and engagement, which in turn will further teacher’s enjoyment of and confidence in their teaching.

**Theoretical Framework**

Due to limited research in the area of faculty motivation to teach in higher education, as well as the various avenues of motivation research and motivation theories available, there is not one specific theory that speaks to this topic. As a result, four different theories/lines of inquiry have been brought together in this research in hopes of not only increasing our understanding of faculty motivation to teach, but also enhancing the literature in this area. Teacher efficacy, achievement goals theory, task value theory and perceptions of student motivation are all utilized to try and understand what motivation to teach looks like, and the variables that may impact that motivation.

**Motivation**

The basic definition of motivation is, “That which influences the initiation, direction, magnitude, perseverance, continuation, and quality of goal-directed behavior” (Maehr & Zusho, 2009, p 77). As the definition indicates, motivation is a process, therefore it is not directly observable in an individual. Motivation orientation is also important to understanding the various aspects that may influence one’s motivation for a given task (Ryan & Deci, 2000b). Two distinct orientations have been discussed in the literature, both of which are important to this discussion. Intrinsic and extrinsic motivation can both play a role in a faculty member’s motivation to teach;
therefore it is important to understand what the differences between these two types of motivations are.

**Intrinsic motivation.** Intrinsic motivation relates to motivation that exists within an individual. It is a motivation to participate in an activity simply for the enjoyment it brings (Pintrich & Schunk, 2002). Since intrinsic motivations are based on individual interest, it may change over time. Of intrinsic motivation, Ryan and Deci (2000b) state: “This natural motivational tendency is a critical element in cognitive, social, and physical development because it is through acting on one’s inherent interests that one grows in knowledge and skills” (p. 56). What is intrinsically motivating differs from one individual to another. Intrinsic motivation can be undermined by external reward structures, thus making an activity that was once completed for the enjoyment it brought, completed merely for external gain.

**Extrinsic motivation.** Extrinsic motivation is derived from outside the individual. Extrinsicly motivated individuals complete objectives because they believe that by doing so they will gain something positive (i.e., reward or praise) or they will avoid something negative (i.e., punishment) (Pintrich & Schunk, 2002). It has been suggest that the autonomy with which one pursues an extrinsically related task can vary greatly based on the source of the extrinsic motivation (Ryan & Deci, 2000b). With the SDT framework, four levels of extrinsic motivation were identified: external regulation, introjection, identification, and integration. External regulation is based solely out of a fear of punishment or the value of a reward itself. Introjection is based on the approval one seeks from within or from others with whom they have contact regarding the task. Identification relates to the value of the task for the individual themselves; while they may not enjoy the task, they see the benefit in its completion. Integration, which is most closely associated with intrinsic motivation as it primarily derives from internal sources,
occurs when one understands that the completion of the task is essential to meeting other goals, needs, or objectives they may have.

**Self-Efficacy**

Self-efficacy refers to one’s beliefs and judgment about their own capabilities (Bandura, 1977, 1997). Self-efficacy is not a fixed factor; it can change from day to day and from task to task. Success in one area relies not only on an individual possessing the skills necessary, but also on their efficacy for the task at that point in time. It has also been suggested that self-efficacy beliefs have an influence on one’s thought process (Bandura, 1997). For example, say a faculty member enters a classroom at the beginning of the semester with a high sense of self-efficacy related to their abilities within that classroom. Now midway through the semester, despite using a variety of teaching methods and catering to different learning styles, some students are just not getting the material. The faculty member blames themself; the students may also blame the faculty member. This negative experience may lead the faculty member to question their abilities, potentially resulting in a lower sense of self-efficacy for teaching than they had prior.

**Teacher-efficacy.** Teacher efficacy is also known as a teachers’ belief about their abilities to promote learning within the classroom (Hoy & Spero, 2005; Tschannen-Moran et al., 1998; Tschannen-Moran & Hoy, 2001). The idea of capabilities within the classroom goes beyond personal ability and includes the support necessary to be successful (Bandura, 1997; Hoy & Spero, 2005). Teacher efficacy appears “to affect the effort teachers invest in teaching, their level of aspiration, and the goals they set” (Hoy & Spero, 2005, p. 345).

Research was conducted by Tschannen-Moran and colleagues (1998) with the intent to better understand teacher efficacy as a construct, and how it can be measured. Upon examination of multiple efficacy constructs, the authors introduce a model of teacher efficacy that unites
some previously competing lines of inquiry into teacher efficacy. The motivation element of self-efficacy is the theoretical construct being utilized, again with the intent of developing a teaching efficacy instrument to further the field of study. Teacher efficacy has been shown to relate to student outcomes with regards to their motivation (Gibson & Dembo, 1984), sense of self-efficacy and achievement, thus making this line of research essential to improving student outcomes.

The researchers examined correlates of efficacy, first completed by the RAND organization, as well as teacher locus of control (Rose & Medway, 1981), responsibility for student achievement (Guskey, 1981), the Webb Efficacy Scale (Ashton, Olejnik, Crocker, & McAuliffe, 1982), social cognitive theory (Bandura, 1977), and the Teacher Efficacy Scale (Gibson & Dembo, 1984), to aid in the development of a more current, cohesive and unified teacher efficacy scale (Tschannen-Moran et al., 1998). The elements included, in the now frequently utilized scale, are similar to that which prior researchers have utilized (Bandura, 1977; Gibson & Dembo, 1984). However, the focus is on the teaching task and its context, and in assessing self-perceptions of teaching competence. Once called the Ohio State Teacher Sense of Efficacy Scale, the authors have renamed the instrument Teacher Sense of Efficacy Scale, which will be modified and adapted in this research (Tschannen-Moran & Hoy, 2001).

It is through an understanding that humans direct their own behavior, that we can connect achievement goals to self-efficacy (Hoy & Spero, 2005; Locke & Latham, 2002). Research has suggested that individuals who have high self-efficacy tend to set higher goals for themselves than those who have low self-efficacy. Further, setting higher goals often leads to more effort and persistence than low goals. Given this knowledge it is important to connect the elements of teacher efficacy with the goals they establish for themselves within their role as an educator.
Achievement Goals Theory

The outcomes we experience throughout our lives are derived from the actions we take (Bandura, 1997). As a result it was stated, “Performance is thus causally prior to outcomes. Similarly, the outcomes people anticipate depend largely on their judgments of how well they will be able to perform in given situations” (Bandura, 1997, p. 21). To understand this a little differently, what is suggested is that our performance may ultimately reflect our beliefs about our abilities. Therefore if a faculty member perceives their abilities (i.e., efficacy) within the classroom to be limited, the goals they set for themselves within the classroom and the results of their subsequent performance may naturally align. As if one is setting themselves up to fail.

Decades of research has led to an improved understanding about goal directed behavior. What was initially thought to be a subconscious need for achievement (McClelland, Atkinson, Clark, & Lowell, 1953), later developed into an understanding that conscious planning drives human behavior (Ryan, 1970). Dweck’s (1986) research on achievement goals focused on two distinct types of goals, mastery goals which were focused on competence and success, and performance goals which were focused on one’s competence in relation to others. Taking the two goal approach further, others have suggested the use of approach and avoidance states to further the understanding of mastery and performance goals, as each leads to different outcomes (Elliot & McGregor, 2001; Pintrich, 2000b). A group of pioneers in achievement goal theory research have collaborated and endorsed a multiple goal perspective, much like that mentioned above (Harackiewicz, Barron, Pintrich, Elliot & Thrash, 2002).

The multi-goal perspective endorsed by Harackiewicz and colleagues (2002) looks at a model including mastery approach, mastery avoidance, performance approach, and performance avoidance goals. The main difference here when compared to Dweck’s (1986) research is the
inclusion of approach and avoidance goals. The initial idea of the multi-goal model was suggested by Elliot (1999). The theory behind the inclusion of approach and avoidance goals was that the motivation behind each goal stems from either positive (approach) or negative (avoidance) stimuli. Since behavior is directed by the motivation behind it, the inclusion of a multi-goal model improves opportunities for clarity and understanding goal driven activities. While there has been much controversy and discussion about different model perspectives and the future direction of the theory, one cannot say that the discussion has not aided in driving the theory forward (Harackiewicz et al., 2002; Midgley, Kaplan, & Middleton, 2001; Senko, Hulleman, & Harackiewicz, 2011).

With the connection between one’s efficacy and the goals they create for themselves established (Hoy et al., 2009; Locke & Latham, 2002), we begin to transition to another connection that achievement goal theory researchers have highlighted, and that is the connection between goals and expectancy value theory (Wigfield, 1994). Research suggests that for children, what one expects and values are often tied to other achievement beliefs including their achievement goals (Eccles et al., 1983; Wigfield, 1994). This was furthered in research of high school students where student’s task values were positively related to mastery goals (Liem, Lau & Nie, 2008). Achievement goals, expectancy value theory and interest have been utilized together to predict student performance at the college level (Hulleman, Durik, Schweigert & Harackiewicz, 2008).

**Task Value Theory**

Task value is a piece of expectancy value theory (EVT) which originally looked at one’s expectation of either success or failure following a task, activity or performance, and the value one placed on the task, activity, or performance itself (Atkinson, 1957; Wigfield, 1994).
Expectancy value theory can be viewed as a three-stage theoretical frame that focuses on beliefs about an object or action as step one, then attributes value to the object or action based on the belief as step two, and finishes by generating an expectation for success in step three (Wigfield et al., 2009). Task value, as a motivational construct, has been adapted out of EVT, and focuses not only on the value one attributes to a given task, but also how the qualities of that influence the desire to complete the task (Eccles et al., 1983).

Task value as a construct is composed of four distinct elements: intrinsic value, utility value, attainment value, and cost (Eccles et al., 1983). Intrinsic value is viewed similarly to intrinsic motivation as it deals with the enjoyment an individual receives from completing the task. Utility value looks at the significance of the task to one’s future, for example, will completing the task benefit the individual by improving skills, adding knowledge, or in some other way positioning them for success in the future. Attainment value has been defined by how important it is to one to do well on the task. In this case it is suggested that an individual who finds it important to do well on the task will put in more time and effort to make that happen (Eccles et al., 1983; Wigfield, 1994). Cost relates to what an individual perceives they must give up if they are to complete the task (Eccles et al., 1983). Cost can be associated with time requirements as well as effort necessary to complete the task. In some research cost has begun to be explored not as a single element, but as three separate elements that make up the cost construct (Battle & Wigfield, 2003). To better understand perceived cost, the elements of effort cost (is the work necessary worth it), opportunity cost (what do I have to give up to be successful), and psychological cost (negative state resulting from struggle or failure) are sometimes viewed independently, rather than as a single construct (Battle & Wigfield, 2003; Eccles et al., 1983; Perez, Cromley, & Kaplan, 2014).
The relationship between the motivational constructs of self-efficacy, achievement goal theory, and task values has been supported in student achievement research (Hulleman et al., 2008; Liem et al., 2007; Wigfield, 1994). Despite the theoretical connections however, they have not been utilized together in research on motivation for teaching. Given the impact that any one of these motivational constructs can have on another, it makes sense to incorporate each of them if we want to improve our understanding of motivation to teach in higher education.

**Perceptions of Student Motivation**

While not a motivational theory in and of itself, the desire to understand the perceptions that faculty have towards their students’ motivation within the classroom is important. Research has shown that there is a connection between one’s perceptions and actions, thus suggesting that a faculty member’s actions within the classroom may be tied to the level of motivation and engagement they perceive his/her students to have (Hardre et al., 2006). The research into perceptions of student motivation is not new, in fact some is even presented as perceptions of students’ lack of motivation (Atkinson, 2000; Dolezal, Welsh, Pressley, & Vincent, 2003). One more recent line of inquiry brings elements of various motivational theories together in the Perceptions of Student Motivation Scale (PSM) (Hardre et al., 2008).

The ability that teachers’ have to address their students’ motivation within the classroom, for example through motivational interventions, is tied to the accuracy of their perceptions of student motivation and their response to those perceptions (Hardre et al., 2008). The PSM utilizes two distinct elements, a general motivation scale to address teachers’ perceptions as to the strength of their students’ academic motivation, and a reasons scale that addresses a teachers’ beliefs about why their students’ may be unmotivated. The scale development and testing process saw the instrument tested in both the United States and East Asia, in which high
consistency between the populations was observed. The authors have noted the potential uses for such a scale beyond the K-12 arena, with postsecondary and adult learners.

**Conceptual Framework**

Given the theoretical frameworks to be utilized in this research, and the findings that have been presented by scholars from across multiple fields, it seems realistic that each element discussed above contributes to a faculty member’s motivation to teach. Figure 2.1 presents how this study connects theory and the various substantive elements that are hypothesized to influence the latent construct of faculty motivation to teach.

![Diagram](image)

*Figure 2.1. The hypothesized model indicating the impact of specific elements and theories on faculty motivation to teach.*

**Summary**

Throughout this chapter, the literature surrounding the elements included within this research has been discussed. Where possible, connections have been made to elements that have not previously been investigated together. The need to better understand faculty members’
motivation to teach within higher education is evident. Better understanding can lead to improvements in how institutions serve their faculty, and also how they address the needs of their student population. The following chapter will discuss the methodological approach to conducting this research, and identify the data analysis techniques that will be employed to answer the questions that drive this research study.
Chapter 3

Research Methods

Introduction

The results of a literature review reveal limited research on faculty members’ motivation to teach in higher education, as well as the factors that may play into that motivation. Previous research suggests that faculty who have a higher motivation for teaching tend to have more success within their classrooms (Naz et al., 2012) and also tend to invest more time into the preparation and development of their courses (Umbach, 2007; Van den Berg et al., 2013). Martin (2006) further suggests that student motivation for learning is tied to a faculty member’s motivation and effectiveness within the classroom. Earlier research has shown that there are many factors that contribute to motivation for teaching, including how faculty define themselves within their career/profession (Hoy et al., 2009), the value they place on teaching and teaching related tasks (Maehr & Zusho, 2009), the professional goals they establish for themselves (Wigfield et al., 2009), and how they perceived their students’ motivation and engagement within their class (Hardre et al., 2008). What is currently missing from the literature is an understanding of what explains motivation to teach in higher education. In better understanding what explains motivation to teach in higher education, there may be policy implications for administrators regarding the role and use of faculty within the institution. The objective of this chapter is to outline how this research study was conducted, including how participants were selected, the instruments that were utilized, administration of the survey instrument, security of the data, and the analysis of the collected data.

The purpose of this study is to examine those characteristics that may have an impact on a faculty member’s motivation to teach in higher education. This study used the motivational
theories of teacher efficacy (mastery experience, physiological arousal, vicarious experience, and verbal persuasion), achievement goals (master, performance, ability, and work), task values (attainment, intrinsic, utility, and cost) and perceptions of student motivation.

Research Design

This cross-sectional survey design study is quantitative in nature, utilizing self-report survey measures to collect data from voluntary participants (Creswell, 2005). Participants were asked to complete a survey containing six specific sections: institutional demographics, individual demographics, achievement goals, teaching values, teacher efficacy, and faculty perceptions of student motivation. This research study sought to investigate possible relationships among the aforementioned characteristics. As a cross-sectional study, data was collected from participants at only one point in time (Babbie, 2013).

According to Creswell (2005), survey research is used “in order to describe the attitudes, opinions, behaviors or characteristics of the population” (p. 354). This study seeks to explain faculty motivation to teach in higher education. Motivation to teach has been described as an intrinsic motivation (Bailey, 1999), meaning that external rewards or incentives are trivial since intrinsic motivation manifests and stems from within the individual (Deci, 1975). Since motivation for teaching is intrinsic and unique to each individual, it is necessary to collect information from a large population if it is to be explained. Survey research is primarily utilized to describe trends in a given population (Babbie, 2013; Creswell, 2005), thus making this method a good fit for the given study.

Unit of Analysis

According to Babbie (2013), the unit of analysis is “the what or whom being studied” (p. 97). In this case, the unit of analysis is individuals, specifically the faculty members who teach in
public higher education institutions. The term faculty is not limited by rank/status in this case; as it is possible that the faculty member’s rank or status (tenured/tenure-track faculty, non-tenure track faculty, full-time or part-time contingent faculty, etc.) may have an effect on their motivation to teach (Naz, et al., 2012).

**Population and Sample**

Stratified sampling was utilized, in this study, as a means to assure desired sampling outcomes (Gay, Mills & Airasian, 2012). Stratified sampling is often used to produce a sample more reflective of the population under study (Fowler, 1993). For this study, using stratified sampling, individuals were identified and classified into one of three institutional type groups (research institution, teaching institution, and community college). Utilizing the Carnegie classification system, the three institutional types selected were public Doctoral Universities (R1 or R2 and based on Land Grant designation), public Master’s Colleges and Universities (M1 or M2), and public Associates College (traditional focus). The end result was to select one institution from each of these three institutional types within a given state, which was also randomly selected from each of nine regions within the United States (New England, Mid-Atlantic, South Atlantic, East South Central, East North Central, West North Central, West South Central, Mountain, and Pacific).

The result was individuals from 27 different institutions across the country being asked to participate in this research. Employing institutional websites as a resource, a database was constructed of all faculty employed by the institutions. Representatives from all status/rank subgroups (tenured faculty, tenure-track faculty, full-time contingent faculty and part-time contingent faculty) within institutional type groups were randomly selected and contacted for participation in this study (Babbie, 2013; Creswell, 2005; Gay et al., 2012).
According to the National Center for Education Statistics (2014), as of 2013, 48.8% of all postsecondary educators teaching at degree-granting institutions in the United States were women. With a total population of over 1.5 million postsecondary educators, just over 576,000 taught in private institutions (for-profit and not-for-profit), and just under 394,000 taught at two-year institutions. Full-time employment for all faculty ranks was 51.3% across all degree-granting postsecondary institutions.

One goal in this study was to achieve a sound sample size (Fowler, 1993). To determine an appropriate sample size, a power analysis was conducted utilizing alpha equals .05, a power level of .95, with an effect size of .15. Effect sizes in motivation research are often lower than in other fields. Two meta-analyses, one on motivation and physical activity \( N = 46, \text{ effect sizes: } -.48 \text{ to } .53 \) and one on teachers’ self-efficacy \( N = 43, \text{ effect sizes: } -.25 \text{ to } .70 \) reveal significant variation in effect sizes across a sample of motivation research (Klassen & Tze, 2014; Owen, Smith, Lubans, Ng, & Lonsdale, 2014). The average effect size from these meta-analyses was used to establish an appropriate expected effect size for this study. A power analysis conducted in G*Power (3.1) suggested a total sample no less than 441 participants based on a multiple regression test, as calculations of sample size for structural equation modeling (SEM) tests are not currently available in the software. Due to expected low response rates based on the target population, 6000 participants were randomly selected from the database for the first round of sampling. After the first round of individuals were contacted and provided ample opportunity to respond, more individuals were needed. The generated database of faculty was randomly sampled again to request additional participation.
Data Collection Procedures

A database was constructed containing the contact information for individuals across the United States that fit into the various institution types mentioned above. Participants were contacted via email to inquire about participation within this study. The email provided ample information related to the research and its objectives, verification of Institutional Review Board (IRB) approval, as well as contact information if they had questions or any concerns. Additionally, the email contained a link to the online survey for them to complete at their convenience. The first question/item within the survey asked for consent to participate in the research.

Research suggests that contacting individuals multiple times is the most effective way to encourage survey completion (Dillman, 2000). Two weeks after the initial email was distributed, participants who had not yet responded were sent a follow up email and reminder to complete the survey (Creswell, 2005). After an additional two weeks, they were sent a final reminder to complete the survey. Participants were contacted on a rotating basis until a desired number of participants had completed the survey.

Research Questions

1. How do faculty members perceive student motivation and engagement within their classes?

2. Are there differences between faculty demographic and professional characteristics and faculty perceptions of student motivation and engagement?

3. Is there a relationship among faculty demographic and professional characteristics, faculty members’ perceptions of student motivation and engagement, and faculty
members' motivation as measured through teacher efficacy, achievement goals and task values?

4. Is there an underlying structure to teacher efficacy, achievement goals, and task values that can be defined and measured as faculty motivation to teach?

5. What combination of demographic and professional characteristics and faculty perceptions of student motivation and engagement explain faculty motivation to teach and intent to leave?

Instrumentation and Variables

Four motivational instruments were identified, modified (with permission), or created and then combined into one survey along with demographic, professional, and institutional related questions. The different scales that were identified are described in more detail below. Some motivational elements like goal theory and teaching values are looked at differently in this study than in prior research. As a result, modifications to old survey instruments and the development of new survey elements were required. See Appendix A for the complete survey utilized in this research study. In addition, a pilot test was conducted on the scale that was developed which combined each of the motivational elements. Some of the reliability data from the pilot test is reflected below.

Teacher efficacy. Faculty members were asked to evaluate their teacher efficacy by answering questions related to instructional strategies, classroom management, and student engagement. This research used a modified form of the Teacher Sense of Efficacy Scale (TSES) which is a 24 item instrument utilizing a 9-point scale (1 – nothing, 3 – very little, 5 – some influence, 7 – quite a bit, and 9 – a great deal) that includes three subscales (instruction, management, and engagement) (Tschannen-Moran & Hoy, 2001). Reliability measures
previously conducted on this instrument were 0.91 for instruction, 0.90 for management, and 0.87 for engagement.

The modified form of this scale, which was utilized within this research contains 12 items, and is measured on a 6-point scale (1 – Strongly Disagree, 2 – Disagree, 3 – Slightly Disagree, 4 – Slightly Agree, 5 – Agree, and 6 – Strongly Agree). Cronbach’s alpha derived from the pilot test data for these 12 items was 0.83. Examples of teacher efficacy statements include: “I use a variety of assessment strategies in my teaching” and “It is easy for me to control disruptive behavior in the classroom” (Tschannen-Moran & Hoy, 2001; Bandura, 1997).

**Achievement goals.** A goal theory instrument was utilized to ask questions related to the achievement goals of faculty, using the ideas of mastery orientation, ability approach, ability avoidance and work avoidance (Elliot, 1999). Measures were generated and modified from the 16 item Goal Orientations for Teaching Scale (Retelsdorf, Butler, Streblow & Schiefele, 2010). Previously, this scale had only been utilized for research outside of the United States. Reliability measures conducted on this instrument by previous researchers were 0.76 for mastery, 0.82 for ability approach, 0.71 for ability avoidance, and 0.78 for work avoidance.

The modified form of the achievement goals scale that was utilized in this research is 13 items and measured on a 6-point scale (1 – Strongly Disagree, 2 – Disagree, 3 – Slightly Disagree, 4 – Slightly Agree, 5 – Agree, and 6 – Strongly Agree). Cronbach’s alpha derived from the pilot test data for these 13 items was 0.85. Participants are prompted with the statement “I would feel that I had a successful day of teaching if…”, followed by statements such as “I learned something new about myself” and “I didn’t make any mistakes when being observed by a peer” (Retelsdorf et al., 2010).
**Teaching values.** Teaching values relate specifically to the value each faculty member places on required tasks within their profession. An existing scale could not be identified that directly assessed teaching values, therefore the Valuing of Education Scale (VOE) developed by Battle and Wigfield (2003) was used as a guide in the development of questions that focus on the value of teaching and teaching related tasks to aid in the measurement of this construct. The original VOE scale is a 50 item scale that is measured on a 5-point scale (1 – Strongly Disagree, 2 – Somewhat Disagree, 3 – Not Sure, 4 – Somewhat Agree, 5 – Strongly Agree). Reliability measures for this instrument as found by Battle and Wigfield (2003) were 0.96 for intrinsic and attainment value, 0.76 for utility value, and 0.85 for perceived cost.

The newly generated form of the task values scale, specific toward teaching values and costs, that was utilized in this research is 18 items and measured on a 6-point scale (1 – Strongly Disagree, 2 – Disagree, 3 – Slightly Disagree, 4 – Slightly Agree, 5 – Agree, and 6 – Strongly Agree). Cronbach’s alpha derived from the pilot test data for these 18 items was 0.88. Participants are prompted with statements including “Teaching as a career is appealing to me” and “I need to teach to fulfill my potential” (Battle & Wigfield, 2003).

**Perceptions of student motivation and engagement.** The Perceptions of Student Motivation (PSM) questionnaire includes two parts that assess the overall perceptions of students’ motivation, and the strengths of faculty’s perceived reasons that students are unmotivated (Hardre et al., 2008). The PSM scale consists of 20 items that are measured on a 7-point scale (1-2 Not at all true, 3-4 More not true than true, 5-6 More true than not, and 7 Very much true). Reliability in previous research was loaded into one factor including perceptions of students’ effort, engagement and interest and resulted in a reliability value of 0.90.
The modified form of the PSM scale that was utilized in this research is 13 items and measured on a 6-point scale (1 – Strongly Disagree, 2 – Disagree, 3 – Slightly Disagree, 4 – Slightly Agree, 5 – Agree, and 6 – Strongly Agree). Cronbach’s alpha derived from the pilot test data for these 13 items was 0.87. Participants are prompted with the statements including “The students in my class really try to learn” and “In general, my students are not interested in what they are asked to learn in my class” (Hardre et al., 2008).

**Worklife and satisfaction.** Worklife and satisfaction items were adapted from an institutional climate study survey (Rosser & Slife, 2012). While the originally developed scale included many dimensions of professional, institutional and personal worklife issues, climate issues, department relations, personal factors/responsibilities, satisfaction, morale and intent to leave, this research has a much smaller focus. Items were selected from a few different areas to constitute the worklife and satisfaction scale utilized in this research.

The worklife and satisfaction scale that was used here consists of 23 items that are measured on a 7-point scale (1 – Strongly Disagree, 2 – Disagree, 3 – Slightly Disagree, 4 – Slightly Agree, 5 – Agree, and 6 – Strongly Agree). Different from the other scales discussed to this point, this scale has an additional option (7 – Not Applicable), as in some cases the worklife questions may not apply to faculty who fall in the contingent (full or part-time) category. Cronbach’s alpha derived from the pilot test data for these 23 items was .83. Participants are asked to respond to statements including “I am intellectually stimulated by my work” and “There are individuals within my department who mentor me” (Rosser & Slife, 2012).

**Intent to leave.** The items measuring intent to leave were adapted from prior research that focused on faculty worklife issues and morale, and the impact of those factors on a faculty member’s intent to leave (Johnsrud & Rosser, 2002; Rosser & Slife, 2012). The scale consists of
four items, which ask faculty the likelihood to which they will leave their current position, their current institution, the teaching profession, and higher education. Items were measured on a 6-point scale (1 – Highly Unlikely, 2 – Unlikely, 3 – Somewhat Unlikely, 4 – Somewhat Likely, 5 – Likely, and 6 – Highly Likely), where higher scores reflect individuals who possess a greater intent to leave. Items have proven valid and reliable in prior research.

**Demographic and profile characteristics.** Beyond the motivational instruments and worklife and satisfaction scales, professional demographics and institutional data were collected. Individuals were asked to provide information regarding what discipline they teach in, their current rank, employment status, what level they typically teach at, their preferred teaching methods, years of experience in higher education, and how they view themselves within their profession (scholar, educator, professor, teacher, researcher, etc.). Each question that results in categorical/nominal data will be dummy coded for ease of use (Nussbaum, 2015). In this case gender was dichotomously coded (1 = Female, 0 = Male). This was also completed with employment status (1 = full time, 0 = part-time), and rank (1 = Tenured/Tenure Track, 0 = Contingent). The level in which individuals primarily teach at was coded as 1 = undergraduate, 2 = undergraduate and graduate, and 3 = graduate. For differences between faculty, tenure status was coded as 0 = non-tenure track, 1 = assistant professor, 2 = associate professor, and 3 = full professor. In regards to teaching methods primarily utilized, 1 = lecture, 2 = discussion/seminar, 3 = interactive lab, and 4 = student led. Five identification categories were identified, and were coded as 1 = professor, 2 = researcher, 3 = teacher, 4 = scholar, and 5 = educator.

For institutional data, individuals were asked to provide information regarding their institutional type (coded as 1 = public doctoral university, 2 = public master’s college and university, and 3 = public associates college), their primary responsibilities (1 = only teaching, 2
= mostly teaching, but some research, 3 = half teaching, half research, 4 = mostly research, but some teaching, 5 = only research), teaching load (based on credits/units per semester), and institution size. These elements were then utilized to determine if differences exist among the institutional characteristics, individual characteristics, faculty perceptions of student motivation, and worklife and satisfaction, generating values of faculty motivation to teach (Keith, 2015).

**Validity and Reliability**

Reliability “is a matter of whether a particular technique, applied repeatedly to the same object, yields the same results each time” (Babbie, 2013, p. 148). In other words, reliability means that the scores generated from the instrument used within the study are stable and consistent (Creswell, 2005). In the case of this research, reliability measures were calculated on the different instruments above, and show their ability to consistently measure the construct in which they are designed to measure. However one important note is that the scales that exist and were adapted had been utilized on different populations than this research sought to study. As a result, a pilot test was conducted to test the reliability and validity of the new instrument with the population in question (Babbie, 2013). Reliability values for existing instruments and the pilot test are discussed within the instrumentation section above.

Validity refers to whether or not the measures utilized actually measure what they intend to measure (Babbie, 2013; Creswell, 2005). If a study does not have validity, it prohibits the researcher from drawing meaningful conclusions about the population of study (Creswell, 2005). In this case it was essential to make sure that the instrument created accurately measures elements of faculty goals, values, and efficacy. Prior research (Hardre et al., 2008; Retelsdorf et al., 2010; Tschannen-Moran & Hoy, 2001) had already validated some of the elements to be used in this study, however as other scholars’ scales were adapted and a new instrument was
developed, a pilot test was necessary to test the reliability and validity of the new instrument (Babbie, 2013).

**Data Analysis**

Data was collected via an online survey utilizing Qualtrics (2016). Data was then entered into IBM SPSS Statistics (version 24) for analysis of the descriptives, correlations, and relationships (ANOVAs) between different variables. In addition, Mplus (version 8) was used to conduct the exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and structural equation modeling (SEM).

**Descriptives**

IBM SPSS Statistics (version 24) was utilized to run descriptive analyses on the data collected. The desire here was to present the distribution of respondents across our individual and institutional characteristics (gender, institutional type, rank, employment status, etc.). This was achieved through frequency counts. T-tests were also conducted to determine if representative balance was achieved across categories (i.e., institutional category or rank, distribution across gender). The primary focus was retaining a representative sample of participants across institutional type, rank and status, as well as gender to aid in the generalizability of findings within public higher education.

**ANOVAs**

Analyses of variance were used to compare the means of different variables to determine if statistically significant differences existed (Tabachnick & Fidell, 2013). One way analyses of variance (ANOVAs) were utilized to address some of the research questions that seek to identify if differences existed among the demographic and institutional characteristics and the motivation data collected. For example, research question two asks, “Are there differences between faculty
demographic and professional characteristics and faculty perceptions of student motivation and engagement?”. In this instance, we utilized several ANOVAs to determine if differences existed between males and females, full-time and part-time faculty, and faculty at different institutional types across the PSM scale data. This same process was replicated to address other questions that arose throughout the data analysis process.

**Factor Analysis**

Factor analysis is said to be one of the oldest statistical techniques used to identify and describe latent variables (Kline, 2016; Raykov & Marcoulides, 2000). A latent variable is one that, due to the inability to observe the characteristic or trait, cannot be measured independently. As a result, we utilized elements that were identified or observed as possible indicators that may potentially explain the latent variable. In factor analysis, the latent variable is known as a factor (Kline, 2016). Factor analysis utilizes the variance-covariance matrix to identify the variance within a model, and determine if that variance is unique (error or specific variance) or systematic (common or specific variance). There are two overarching types of factor analysis, exploratory factor analysis (EFA), and confirmatory factor analysis (CFA). Due to the fact that our outcome variable (faculty motivation to teach) was a latent variable, the desire here was to utilize the aspects of teacher efficacy, achievement goals, teaching values, and perceptions of student motivation within factor analysis to determine if these indicators may work together to explain faculty motivation to teach.

**Exploratory factor analysis.** EFA is considered an unrestricted measurement model, where there is no specification to the number of factors expected, and the software itself generates factors and loadings based on the indicators specified (Kline, 2016). In EFA, you could
theoretically produce as many factors as indicators specified, or any number of factors that is less than the total number of indicators specified.

Figure 3.1 reflects a rough idea of what an unrestricted EFA model could look like. In this instance, there are eight indicators that load onto three distinct factors. Being that it is an unrestricted model, the indicators are able to cross load onto the different factors, meaning they may load onto or explain some of the variance in more than one factor (Kline, 2016). To keep the figure simple, aspects of error measurement and correlations among indicators and among factors have been withheld, but know they are a possibility. By utilizing an unrestricted EFA model with the motivation data collected, we can see how the data would typically fall out, if cross loading(s) exist, if there are too many high correlations among the indicators, and how many factors may be observed based on the indicators.

For the purposes of this research, four separate EFAs were conducted to validate the constructs of teacher efficacy, achievement goals, task values, and perceptions of student motivation. While most of these measurement items were validated in previous studies, changes were made to specific items and scale design in order to adapt them for a new population. This required retesting to ensure the scale would hold together given the new population, and provided an opportunity to make adjustments if needed. This was an initial step in determining
if the three indicators could explain a single factor that theoretically could be described at faculty motivation to teach, and to determine if perceptions of student motivation have an influence on faculty motivation to teach.

**Confirmatory factor analysis.** Differing from EFA, CFA requires that the researcher specify the number of factors desired or expected from the data (indicators) submitted to the analysis (Kline, 2016). Additionally, in CFA, indicators are only allowed to load onto the factor or factors that are pre-specified by the researcher. As a result, CFA is classified as a restricted measurement model. Raykov and Marcoulides (2000) suggest that the use of CFA is problematic at times due to the demand that so much be specified by the researcher prior to beginning. The use of EFA to help identify potential models from the data as the first step helped combat some of the problems when it came to confirming the best model fit from the data.

![Figure 3.2](image.png)

*Figure 3.2. A visual representation of a restricted CFA Model.*

Figure 3.2 reflects a simple restricted CFA model that can be compared to the unrestricted EFA model presented in Figure 3.1. As can be observed, each of the eight indicators have been restricted to load onto only one factor. While again there may still be error measures and correlations among the indicators and among the factors, they are not reflected in Figure 3.2 as a means to simplify the differences between EFA and CFA. The validity of the proposed model within CFA was tested using the maximum likelihood fitting function (Kline, 2016). Most
common within CFA is the use of the chi-square test statistic and a series of fit indices (i.e., RMSEA, CFI, and TLI) to determine fit and provide indicator loadings on the factors specified. Multiple CFAs were conducted to test competing models and determine if teacher efficacy, achievement goals, and task values represent the hypothesized factor of faculty motivation to teach. This process tested multiple model configurations to determine which was the best fit, and to confirm that the data was not being misrepresented. Exploratory structural equation modeling (ESEM) was also used to test competing model configurations. Since a theoretically driven model was identified that fit the data, the analysis moved forward to determine what elements of the individual characteristics, institutional characteristics, worklife and satisfaction elements and perceptions of student motivation were predictors of faculty motivation to teach.

**Structural Equation Modeling and ESEM**

Structural equation modeling (SEM) is not so much a statistical technique, as it is a statistical methodology that is made up of various techniques (Raykov & Marcoulides, 2000). The statistical models identified in SEM are based on theory, and used to explain different phenomenon within a variety of frameworks (Kline, 2016). SEM requires the identification of a priori specifications that reflect theory and hypotheses, and the combination of all such specification make up the model that is to be analyzed. Further, this required one to specify what variables were expected to have a causal effect on other variables, and specify them accordingly. Since it is based on a priori specifications, this was not so much a test of what works better (i.e., x on y, or y on x), rather a confirmatory process to determine if hypotheses and theory hold.

As stated, there was the need to explore ESEM techniques beyond the CFA framework for model identification. While the same models were tested in ESEM as in CFA (i.e.,
hierarchical, bifactor, hierarchical bifactor, etc.), ESEM models are unrestricted, meaning each indicator can load (or cross-load) on each proposed factor (Kline, 2016). Target loadings (based on theory and the identification of factors within the EFAs mentioned above) were still specified as in CFA, however cross-loadings can exist. A primary reason for entertaining such cross-loadings of items was that this research hypothesizes a relationship between the theories of teacher efficacy, achievement/teaching goals, and task values. The ESEM framework provided a better test of these relationships above and beyond the CFA models.

The last stage in the data analysis process was to propose and test a structural model that measured the influence of various characteristics on faculty motivation to teach and intent to leave. It was hypothesized within this research that faculty motivation to teach could in part be identified through the aspects of teacher efficacy, teaching goals, task values, which is what was being tested within the EFA and CFA analyses. To further this though, it was also hypothesized that there were additional factors that may influence one’s motivation to teach in higher education. To give one example, it was suggested within this research that tenure track faculty who teach within a R1 (research very high) institution would have lower motivation for teaching or teaching related activities due to the pressures associated with research, than a tenure track faculty member who teaches at a strictly associates degree granting institution. Other factors may also influence motivation to teach including gender, employment status, rank, years of experience, worklife issues, and satisfaction.

The variables that were introduced into the proposed SEM model were those outlined above within the individual and institutional demographics section as well as the perceptions of student motivation, worklife and satisfaction scales. In this case, the proposed model was a
single factor model that was tested utilizing the maximum likelihood fitting function (Kline, 2016; Raykov & Marcoulides, 2000). Figure 3 represents the proposed SEM model.

Should an ESEM model provide the best fit to the data, a transition to an ESEM-within-CFA (EWC) model would be necessary (Morin, Marsh, & Nagengast, 2013). ESEM was beneficial in that it provided unrestricted models, however this was not ideal when moving to a predictive model as they were based on a priori specifications. Currently ESEM is limited when compared to CFA models, in that you cannot specify a single variable to load on one factor, they must be enabled to load onto all potential factors. EWC allows for the use of parameter estimates from the ESEM model as starting values to conduct further analyses. By fixing referent indicators for each specific factor based on the largest target loadings, a near exact match in terms of parameter estimates and standard errors is provided.

*Figure 3.3. Proposed structural equation model of faculty motivation to teach in higher education settings.*
Summary

This chapter presented the methodological approach that took place to explore faculty motivation to teach within public higher education, as well as outlined the reasons this research is necessary. This research presents a new line of inquiry into aspects of faculty motivation by combining elements that have previously been studied independent of one another. In the upcoming chapter, the results of the various data analysis procedures will be presented, and a theoretically driven model depicting the effect of teacher efficacy, teaching goals, task values, and perceptions of student motivation on faculty motivation to teach will be presented.
Chapter 4

Results

In chapter three, the process and procedures for sampling, survey distribution, data collection, and data analysis were presented. In this chapter, the results of the study will be presented. To begin, the response data and demographic profile of the population who responded to the survey will be presented. This is followed by a report and explanation of the exploratory factor analyses (EFAs) that were conducted to confirm the scales created for this study. This was a necessary second step in the process as it aided in reducing the number of items within each scale, but it also provided information related to potential problem areas that could use improvement for the future. Most importantly, the EFAs were necessary for addressing research questions four and five of this study. Following the presentation of the EFAs, the research questions are addressed in sequence.

Twenty-seven institutions representing nine states (one within each region of the US), were identified and selected for participation in this study. Within each state, one research intensive university, one master’s college or university, and one community college were identified. From the 27 institutions selected, over 25,000 faculty were identified for possible participation in this study. Over the course of the Fall 2017 semester, two rounds of sampling were conducted, in which 12,795 emails were sent to randomly selected faculty. Of those contacted, 1,148 individuals responded to the survey for a total response rate of 8.97%.

Demographic Data of Respondents

Descriptive statistics were conducted using SPSS (version 24). In total 1,148 individuals responded to the survey, though some chose not to respond to the demographic questions. Descriptive statistics are reported in full in Table 4.1 for the total population who chose to
### Table 4.1

**Number and Percentage of Respondents by Demographic Category**

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>497</td>
<td>43.3%</td>
</tr>
<tr>
<td>Male</td>
<td>406</td>
<td>35.4%</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>755</td>
<td>65.8%</td>
</tr>
<tr>
<td>Asian</td>
<td>22</td>
<td>1.9%</td>
</tr>
<tr>
<td>African American/Black</td>
<td>21</td>
<td>1.8%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>15</td>
<td>1.3%</td>
</tr>
<tr>
<td>Native American</td>
<td>1</td>
<td>.1%</td>
</tr>
<tr>
<td>Mixed Race</td>
<td>29</td>
<td>2.5%</td>
</tr>
<tr>
<td><strong>Academic Rank</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contingent/Non-Tenure Track</td>
<td>316</td>
<td>27.5%</td>
</tr>
<tr>
<td>Assistant Professor (Tenure Track)</td>
<td>143</td>
<td>12.5%</td>
</tr>
<tr>
<td>Associate Professor (Tenure Track)</td>
<td>216</td>
<td>18.8%</td>
</tr>
<tr>
<td>Professor (Tenure Track)</td>
<td>237</td>
<td>20.6%</td>
</tr>
<tr>
<td><strong>Employment Status</strong></td>
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<td></td>
</tr>
<tr>
<td>Part Time</td>
<td>127</td>
<td>11.1%</td>
</tr>
<tr>
<td>Full Time</td>
<td>787</td>
<td>68.6%</td>
</tr>
<tr>
<td><strong>Institutional Type</strong></td>
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<td></td>
</tr>
<tr>
<td>Research Intensive</td>
<td>519</td>
<td>45.2%</td>
</tr>
<tr>
<td>Master’s College/University</td>
<td>436</td>
<td>38%</td>
</tr>
<tr>
<td>Community College</td>
<td>193</td>
<td>16.8%</td>
</tr>
<tr>
<td><strong>Level Taught</strong></td>
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<td></td>
</tr>
<tr>
<td>Undergraduate</td>
<td>587</td>
<td>51.1%</td>
</tr>
<tr>
<td>Graduate</td>
<td>117</td>
<td>10.2%</td>
</tr>
<tr>
<td>Both Undergraduate and Graduate Equally</td>
<td>210</td>
<td>18.3%</td>
</tr>
<tr>
<td><strong>Academic Area</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hard, Nonlife, Pure</td>
<td>93</td>
<td>8.1%</td>
</tr>
<tr>
<td>Hard, Life, Pure</td>
<td>164</td>
<td>14.3%</td>
</tr>
<tr>
<td>Hard, Nonlife, Applied</td>
<td>50</td>
<td>4.4%</td>
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<tr>
<td>Hard, Life, Applied</td>
<td>48</td>
<td>4.2%</td>
</tr>
<tr>
<td>Soft, Nonlife, Pure</td>
<td>222</td>
<td>19.3%</td>
</tr>
<tr>
<td>Soft, Life, Pure</td>
<td>118</td>
<td>10.3%</td>
</tr>
<tr>
<td>Soft, Nonlife, Applied</td>
<td>127</td>
<td>11.1%</td>
</tr>
<tr>
<td>Soft, Life, Applied</td>
<td>84</td>
<td>7.3%</td>
</tr>
<tr>
<td><strong>Primary Responsibility</strong></td>
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<td></td>
</tr>
<tr>
<td>Only Teaching</td>
<td>287</td>
<td>25%</td>
</tr>
<tr>
<td>Mostly Teaching, Some Research</td>
<td>328</td>
<td>28.6%</td>
</tr>
<tr>
<td>Half Teaching, Half Research</td>
<td>206</td>
<td>17.9%</td>
</tr>
<tr>
<td>Mostly Research, Some Teaching</td>
<td>84</td>
<td>7.3%</td>
</tr>
<tr>
<td>Only Research</td>
<td>3</td>
<td>.3%</td>
</tr>
</tbody>
</table>
respond to the demographic questions. The percentages presented reflect total respondents and may not total 1,148 or 100% due to missing data. Respondents were a majority female (497 or 43.3%) and predominantly White (755 or 65.8%). Academic ranks were split to differentiate between non-tenure track and tenure track positions. Of those who were tenured or tenure track, Professor was the largest category (237 or 20.6%), followed by Associate Professor (216 or 18.8%) and Assistant Professor (143 or 12.5%). Individuals who did not hold a tenured or tenure track position included a host of possible titles including but not limited to: Assistant Professor in Residence, Visiting Professor, Contingent Faculty, Contract Faculty, and Lecturer. The Contingent/Non-Tenure Track category was overall the largest based on rank (316 or 27.5%).

A large majority of respondents (787 or 68.6%) were full time faculty within their higher education institutions. Institutional type was represented via three categories with those from Research Intensive institutions representing the largest group (519 or 45.2%) followed by Master’s Colleges/Universities (436 or 38%) and Community Colleges (193 or 16.8%). Just over half of respondents taught only at the Undergraduate level (587 or 51.1%), with just over 10% teaching at only the Graduate level (117 or 10.2%). When it came to primary job responsibilities, the largest group of respondents indicated their role comprised of mostly teaching with some research (328 or 28.6%), followed by only teaching (287 or 25%), half teaching, half research (206 or 17.9%), mostly research with some teaching (84 or 7.3%), and only research (3 or .3%).

To help categorize academic fields/areas, Biglan’s (1973) model of clustering academic task areas was used for this study. Academic areas were classified into one of eight categories including: hard, nonlife system, pure (e.g., chemistry, geology, math); hard, life system, pure (e.g., microbiology, physiology, entomology); hard, nonlife system, applied (e.g., engineering, computer science); hard, life system, applied (e.g., horticulture, agricultural economics, dairy
science); soft, nonlife system, pure (e.g., English, philosophy, communications); soft, life system, pure (e.g., political science, psychology, anthropology); soft, nonlife system, applied (e.g., accounting, finance, economics); and soft, life system, applied (e.g., educational administration and supervision, vocational/technical education, secondary education). The largest classification in this study was soft, nonlife system, pure (222 or 19.3%), followed by hard, life system, pure (164 or 14.3%). Academic areas falling in the hard sciences region make up approximately 39.2% of respondents, those falling in the pure areas make up approximately 52% of respondents, and those in nonlife systems make up approximately 42.9% of respondents.

**Scale Reliability**

Reliability was measured using Cronbach’s Alpha for each scale and subscale. The final version of the Teacher’s Sense of Self-Efficacy Scale (TSES) consisted of 10 items, with alpha values of .710 for efficacy for classroom instruction, .835 for efficacy for classroom management, and .537 for efficacy for student engagement. The final version of the Goal Orientations for Teaching Scale consisted of 11 items, with alpha values of .736 for mastery, .512 for ability approach, .787 for ability avoidance, and .672 for work avoidance. The final version of the teaching task values scale consisted of 16 items, with alpha values of .828 for intrinsic value, .801 for value beliefs, .755 for importance value, and .652 for cost.

The Cronbach’s Alpha reliability measure for the perceptions of student motivation and engagement scale was .833. Similar reliability measures were attained for the worklife (.820) and satisfaction (.825) scales. Finally reliability for the intent to leave scale was .912. It is important to acknowledge that some of the alpha levels are rather low, suggesting high measurement error. However, concerns of measurement error are addressed within SEM models.
Exploratory Factor Analysis

Since each of the motivational scales utilized in this study were adapted and/or modified for this research, Exploratory Factor Analysis (EFA) was utilized to confirm the factor structures that underlie the individual constructs. One major dilemma in this process was the realization that while constructs have been adapted or modified, the intent was to, if possible, adhere to the underlying framework of the individual theories. In each EFA conducted, maximum likelihood factor extraction was used. Maximum likelihood extraction estimates factor loadings through maximization of probability sampling based on the observed correlation matrix of the given population (Lawley & Maxwell, 1971; Tabachnick & Fidell, 2013).

Teaching/teacher efficacy. Exploratory factor analysis of responses to 10 observed variables (labeled E1-E10) was conducted in Mplus (version 8). Keeping in mind theory, which suggests a three-factor solution (Tschannen-Moran & Hoy, 2001), multiple models were tested to validate this solution. Competing one-factor, two-factor, three-factor, and four-factor models were examined to aid in determining the number of factors underlying the observed data. In the one-factor model, each of the 10 observed variables was specified to load onto a single teacher efficacy factor. For the two and subsequent factor models, all variables were stipulated to load onto the specified number of factors subject to identification based on restriction imposed in the initial unrotated solutions. Promax rotation was utilized to aid in achieving approximate simple structure of the factor solutions.

Model fit evaluation included consideration of fit indices as well as theoretical consistency to the literature and prior research. Since the $\chi^2$ is characterized by oversensitivity to minor model misspecification even given the large sample ($N > 1,000$), and contains a restrictive hypothesis test (that of exact fit), the Root Mean Square Error of Approximation (RMSEA) was
considered. Values ≤ .050 and .080 typically indicate a close or reasonable fit, respectively. To test the competing models, the $\chi^2$ difference test was used.

Table 4.2

*Factor Loadings, Correlations, and Communalities from the Retained Three-Factor Teacher Efficacy EFA Solution*

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>$h^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>0.764</td>
<td>-0.067</td>
<td>-0.101</td>
<td>0.447</td>
</tr>
<tr>
<td>E2</td>
<td>0.388</td>
<td>0.162</td>
<td>0.132</td>
<td>0.331</td>
</tr>
<tr>
<td>E3</td>
<td>0.427</td>
<td>0.147</td>
<td>0.084</td>
<td>0.321</td>
</tr>
<tr>
<td>E4</td>
<td>0.700</td>
<td>-0.071</td>
<td>0.062</td>
<td>0.493</td>
</tr>
<tr>
<td>E5</td>
<td>0.066</td>
<td>0.780</td>
<td>-0.063</td>
<td>0.608</td>
</tr>
<tr>
<td>E6</td>
<td>-0.029</td>
<td>0.031</td>
<td><strong>0.291</strong></td>
<td>0.087</td>
</tr>
<tr>
<td>E7</td>
<td>-0.065</td>
<td><strong>0.844</strong></td>
<td>0.016</td>
<td>0.678</td>
</tr>
<tr>
<td>E8</td>
<td>-0.030</td>
<td><strong>0.753</strong></td>
<td>0.101</td>
<td>0.637</td>
</tr>
<tr>
<td>E9</td>
<td>-0.009</td>
<td>-0.026</td>
<td><strong>0.764</strong></td>
<td>0.556</td>
</tr>
<tr>
<td>E10</td>
<td>0.020</td>
<td>0.001</td>
<td><strong>0.659</strong></td>
<td>0.449</td>
</tr>
</tbody>
</table>

Factor Correlations
- Factor 1: 1
- Factor 2: 0.475
- Factor 3: 0.523

The test of the one-factor model resulted in a poor fit to the data, $\chi^2 (35) = 878.310$, $p < .001$, RMSEA = .145 (90% CI: .137, .153). The test of the two-factor model also resulted in a poor fit to the data $\chi^2 (26) = 356.327$, $p < .001$, RMSEA = .105 (90% CI: .096, .115). The two-factor model did represent a statistically significant improvement in fit relative to the one-factor model, $\chi^2 (9) = 521.983$, $p < .001$. The test of the three-factor model represented the best fit to the data, although the fit indices values are not indicative of a well-fitting model, $\chi^2 (18) = 153.254$, $p < .001$, RMSEA = .081 (90% CI: .069, .093). Overlooking the hypothesis of exact fit ($\chi^2$), the RMSEA is very close (approximately .001 away) to that of a close-fitting model. The three-factor model also represented a statistically significant improvement in fit relative to the two-factor model, $\chi^2 (8) = 203.073$, $p < .001$. The four-factor model failed to converge. Given
the fact that the three-factor model represented the best fit to the data, and due to the three-factor solution being consistent with the theoretical framework established (Tschannen-Moran & Hoy, 2001), this model was retained for further analyses.

Estimates from the three-factor solution are shown in Table 4.2. The first factor is characterized by considerable loadings from E1, E2, E3, and E4, and near-zero loadings from E5-E10. Given the nature of these loadings and the items represented, the first factor reflects teacher efficacy for instructional strategies. The second factor was characterized by considerable loadings from E5, E7, and E8, and near-zero loadings from E1, E4, E6, E9, and E10. E2 and E3s loadings on the second factor (< .2 but > .1) while lower, should not be overlooked. Given the loadings on the second factor and the items represented, the second factor reflects teacher efficacy for classroom management. The non-insignificant loadings of E2 and E3 on the second factor suggest that a faculty members’ perceived ability to provide alternative explanations and their perceived ability to craft good questions that enable students to show their understanding, in part aid in the overall management of the classroom environment. The third factor was characterized by considerable loadings from E9 and E10, and a moderate loading from E6, with weaker loadings from all other items. Given the loadings on the third factor and the items represented, the third factor reflects teacher efficacy for student engagement. Given the marginal loading (.291) on the third factor by E6 and its low communality (9%), there appears to be room to improve this item for future research. Excluding E6, estimates of communalities show that 32% to 68% of the variation in observed variables is accounted for by the factors. Finally, there are strong, positive correlations between each of the three factors.

Achievement goals. Exploratory factor analysis of responses to 11 observed variables (labeled G1-G11) was conducted in Mplus (version 8). Keeping in mind theory, which suggests a
four-factor solution (Elliot, 1999; Retelsdorf et al., 2010), multiple models were tested to validate this solution. Competing one-factor, two-factor, three-factor, four-factor, and five-factor models were examined to aid in determining the number of factors underlying the observed data. In the one-factor model, each of the 11 observed variables was specified to load onto a single achievement goal factor. For the two and subsequent factor models, all variables were stipulated to load onto the specified number of factors subject to identification based on restriction imposed in the initial unrotated solutions. Promax rotation was utilized to aid in achieving approximate simple structure of the factor solutions.

Model fit evaluation included consideration of fit indices as well as theoretical consistency to the literature and prior research. Since the $\chi^2$ is characterized by oversensitivity to minor model misspecification even given the large sample (N > 1,000), and contains a restrictive hypothesis test (that of exact fit), the Root Mean Square Error of Approximation (RMSEA) was considered. Values $\leq .050$ and .080 typically indicate a close or reasonable fit, respectively. To test the competing models, the $\chi^2$ difference test was used.

The test of the one-factor model resulted in a poor fit to the data, $\chi^2 (44) = 1060.525$, $p < .001$, RMSEA = .148 (90% CI: .141, .156). The test of the two-factor model also resulted in a poor fit to the data $\chi^2 (34) = 377.972$, $p < .001$, RMSEA = .098 (90% CI: .089, .107). The two-factor model did represent a statistically significant improvement in fit relative to the one-factor model, $\chi^2 (10) = 682.553$, $p < .001$. The test of the three-factor model represented a better fit to the data, $\chi^2 (25) = 109.396$, $p < .001$, RMSEA = .057 (90% CI: .046, .068). The three-factor model did represent a statistically significant improvement in fit relative to the two-factor model, $\chi^2 (9) = 268.576$, $p < .001$. The test of the four-factor model resulted in the best fit to the data, $\chi^2 (17) = 38.801$, $p < .002$, RMSEA = .035 (90% CI: .020, .050). The four-factor model also
represented a statistically significant improvement in fit relative to the three-factor model, $\chi^2 (8) = 70.594, p < .001$. The five-factor model failed to converge. Given the fact that the four-factor model was the best fit to the data, is considered a close fit per the RMSEA, and since the four-factor solution is consistent with the theoretical framework established (Elliot, 1999; Retelsdorf et al., 2010), this model was retained for further analyses.

Table 4.3

*Factor Loadings, Correlations, and Communalities from the Retained Four-Factor Achievement Goal EFA Solution*

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
<th>$h^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>0.743</td>
<td>-0.002</td>
<td>-0.026</td>
<td>-0.042</td>
<td>0.525</td>
</tr>
<tr>
<td>G2</td>
<td>0.772</td>
<td>0.051</td>
<td>-0.055</td>
<td>0.034</td>
<td>0.574</td>
</tr>
<tr>
<td>G3</td>
<td>0.563</td>
<td>-0.049</td>
<td>0.122</td>
<td>0.035</td>
<td>0.404</td>
</tr>
<tr>
<td>G4</td>
<td>0.150</td>
<td>0.012</td>
<td><strong>0.445</strong></td>
<td>-0.082</td>
<td>0.243</td>
</tr>
<tr>
<td>G5</td>
<td>0.005</td>
<td>-0.109</td>
<td><strong>0.412</strong></td>
<td>0.079</td>
<td>0.190</td>
</tr>
<tr>
<td>G6</td>
<td>-0.068</td>
<td>0.002</td>
<td><strong>0.659</strong></td>
<td>0.118</td>
<td>0.500</td>
</tr>
<tr>
<td>G7</td>
<td>0.000</td>
<td>0.026</td>
<td>0.184</td>
<td><strong>0.657</strong></td>
<td>0.623</td>
</tr>
<tr>
<td>G8</td>
<td>0.020</td>
<td>0.070</td>
<td>0.148</td>
<td><strong>0.691</strong></td>
<td>0.678</td>
</tr>
<tr>
<td>G9</td>
<td>-0.067</td>
<td><strong>0.471</strong></td>
<td>0.352</td>
<td>-0.051</td>
<td>0.405</td>
</tr>
<tr>
<td>G10</td>
<td>0.013</td>
<td><strong>0.605</strong></td>
<td>0.022</td>
<td>0.054</td>
<td>0.408</td>
</tr>
<tr>
<td>G11</td>
<td>0.045</td>
<td><strong>0.750</strong></td>
<td>-0.107</td>
<td>0.015</td>
<td>0.525</td>
</tr>
</tbody>
</table>

Factor Correlations

<table>
<thead>
<tr>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>0.023</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>0.452</td>
<td>0.345</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>0.214</td>
<td>0.401</td>
<td>0.581</td>
<td>1</td>
</tr>
</tbody>
</table>

Estimates from the four-factor solution are shown in Table 4.3. The first factor is characterized by considerable loadings from G1, G2, and G3, a low but non-insignificant loading from G4 (0.150), and near-zero loadings from G5-G11. Given the nature of these loadings and the items represented, the first factor reflects mastery goals. The second factor was characterized by considerable loadings from G9, G10, and G11, and near-zero loadings from G1-G8. Given the loadings on the second factor and the items represented, the second factor reflects work
avoidance. The third factor was characterized by considerable loadings from G4, G5, G6, and G10, and non-insignificant loadings from G3, G7, and G8, with weaker loadings from all other items. Given the loadings on the third factor and the items represented, the third factor best reflects ability approach. The fourth factor was characterized by considerable loadings from G7 and G8 and low or near-zero loadings from all other items. Given the two items represented, this factor best reflects ability avoidance.

High factor loadings from G9 on both factor two (0.471) and factor three (0.352) in combination with non-insignificant loadings from multiple items (G3, G7, and G8) on factor three suggest there may be some room for improvement in this scale. Additional work may also be needed to add items to the ability avoidance factor to strengthen the construct. Estimates of communalities show that 19% to 68% of the variation in observed variables is accounted for by the factors. Finally, there are moderate to strong, positive correlations between most of the factors with exception to the correlation between factor one and factor two. This low correlation (0.023) makes sense theoretically given that one reflects mastery (factor one) and the other reflects work avoidance (factor two) which suggest opposite perspectives on goal development and organization.

**Task/teaching values.** Exploratory factor analysis of responses to 16 observed variables (labeled V1-V16) was conducted in Mplus (version 8). Keeping in mind theory, which suggests a four-factor solution (Battle & Wigfield, 2003), multiple models were tested to validate this solution. Competing one-factor, two-factor, three-factor, four-factor, and five-factor models were examined to aid in determining the number of factors underlying the observed data. In the one-factor model, each of the 16 observed variables was specified to load onto a single task value factor. For the two and subsequent factor models, all variables were stipulated to load onto the
specified number of factors subject to identification based on restriction imposed in the initial unrotated solutions. Promax rotation was utilized to aid in achieving approximate simple structure of the factor solutions.

Model fit evaluation included consideration of fit indices as well as theoretical consistency to the literature and prior research. Since the $\chi^2$ is characterized by oversensitivity to minor model misspecification even given the large sample (N > 1,000), and contains a restrictive hypothesis test (that of exact fit), the Root Mean Square Error of Approximation (RMSEA) was considered. Values ≤ .050 and .080 typically indicate a close or reasonable fit, respectively. To test the competing models, the $\chi^2$ difference test was used.

The test of the one-factor model resulted in a poor fit to the data, $\chi^2 (104) = 1725.472$, $p < .001$, RMSEA = .124 (90% CI: .119, .129). The test of the two-factor model also resulted in a poor fit to the data $\chi^2 (89) = 824.925$, $p < .001$, RMSEA = .096 (90% CI: .090, .102). The two-factor model did represent a statistically significant improvement in fit relative to the one-factor model, $\chi^2 (15) = 800.546$, $p < .001$. The test of the three-factor model represented a better fit to the data, $\chi^2 (75) = 547.872$, $p < .001$, RMSEA = .079 (90% CI: .073, .085). The three-factor model did represent a statistically significant improvement in fit relative to the two-factor model, $\chi^2 (14) = 377.053$, $p < .001$. The test of the four-factor model resulted in the best fit to the data, $\chi^2 (62) = 243.348$, $p < .001$, RMSEA = .054 (90% CI: .047, .061). The four-factor model also represented a statistically significant improvement in fit relative to the three-factor model, $\chi^2 (13) = 304.524$, $p < .001$. The five-factor model failed to converge. Given the fact that the four-factor model represented the best fit to the data, is considered a reasonable fit per the RMSEA, and since the four-factor solution is consistent with the theoretical framework established (Battle & Wigfield, 2003), this model was retained for further analyses.
Estimates from the four-factor solution are shown in Table 4.4. The first factor is characterized by considerable loadings from V1, V5, V8, V10, V11, and V15, with all other loadings being markedly smaller (<.22). Due to the composition of the first factor, which is comprised of multiple task value elements (intrinsic, attainment, and utility value as well as cost), this factor has been labeled TV_1 or value beliefs. While not what was hoped for, the fact that the first factor is comprised of multiple elements of task values is not uncommon. Prior research provides evidence of similar results with different populations. For example, in the Battle and Wigfield (2003) study that was the guiding framework for the development of this scale, intrinsic value and attainment value collapsed into a single factor. In addition, other
research specifies that while each component of task values can be independently defined, they may also overlap with one another representing a general sense of value(s) for specific tasks (Eccles & Wigfield, 2002; Guo et al., 2016).

The second factor is characterized by considerable loadings from V1, V2, V3, and V4, with V5-V16 all loading near-zero or below 0.150. Note the high cross-loading of V1 on both the first and second factor (.421 and .322 respectively). Considering the high loading from each of the first four items, the second factor best represents intrinsic values. Factor three is characterized by strong loadings from V6, V7, and V9, and a non-insignificant loading from V8 (.265) with near-zero loadings from all other items. Again, we note the cross-loading of V8 on both the first and third factor (.522 and .265 respectively). Factor three like factor one does not represent one specific area of task values, rather it is a blend of utility and attainment value items. Given this, the factor will be identified as TV_2 or importance value for further analyses. Factor four is characterized by considerable negative loadings from V12, V13, V14, and V16, and a weaker albeit non-insignificant positive loading from V15 (0.225). Item 15 happens to be a positively worded, cost item; a simple change in the wording of this item from positive to negative, as cost typically is represented, may change how this item fits into the current EFA structure. Taken together this factor best represents the cost element of task values. Estimates of communalities show that 17% to 83% of the variation in observed variables is accounted for by the factors. Finally, there are moderate to strong, positive correlations between most of the factors, with exception to a weaker, positive correlation (0.167) between factor three and factor four.
Research Questions

Question one. Research question one asked: How do faculty members perceive student motivation and engagement within their classes? Faculty perception of student motivation was measured by a shortened form of the Perceptions of Student Motivation (PSM) scale (Hardre et al., 2008). The 13 item PSM scale is divided into two sections: the motivation scale (comprised of effort, engagement, and general interest) with seven items, and the causes scale (comprised of home factors, current relevance/value, and personal factors) with six items. Higher scores on the PSM scale reflect higher levels of perceived student motivation.

Several items within the PSM scale were reverse coded due to being negatively worded. As a result, for items 4-12, lower values are indicative of strongly agree (1) to strongly disagree (6), whereas the remaining items are indicative of a strongly disagree (1) to strongly agree (6) association. All means and standard deviations for perceptions of student motivation can be found in Table B1 within Appendix B. For the motivation scale items (PSM 1-6, and 13), mean scores ranged from 3.93 to 4.92 (SD 1.207 and SD .692 respectively) indicating perceived level of motivation to be moderately positive. This suggests that when it comes to effort, engagement and general interest, faculty perceive students to be more motivated and engaged than not. For the causes scale items (PSM 7-12), mean scores ranged from 2.60 to 3.88 (SD 1.036 and SD 1.334 respectively) suggesting that faculty perceive a student’s personal life and situation dictates much of their motivation and engagement within the classroom.

Question two. Research question two asked: Are there differences between faculty demographic and professional characteristics and faculty perceptions of student motivation and engagement? To identify differences, several one-way analyses of variance (ANOVAs) were conducted in which the demographic and professional characteristics (i.e., rank, level taught,
employment status, years of experience, primary teaching methods, gender, ethnicity, institutional type, etc.) served as the independent variable, and the scores on the 13 item PSM scale served as the dependent variable.

The first demographic characteristic examined was that of gender (male or female). The statistical test was significant, $F_{(1,872)} = 9.242$ [MS$_E = .383$], $p < .01$. Females were identified to have a higher perception of their student’s motivation and engagement as compared to their male counterparts. Differences of perceptions of student motivation was also assessed across six ethnic categories (White, Asian, African American/Black, Hispanic/Latino, Native American, and Mixed), however no statistically significant differences were found, $F_{(5,813)} = 2.192$ [MS$_E = .378$], $p > .05$. A comparison based on employment status (full-time vs. part-time) was also conducted, though again no statistically significant differences were found, $F_{(1,880)} = 0.002$ [MS$_E = .383$], $p > .05$. Years of teaching experience in higher education was also submitted to a one-way ANOVA with number of years of experience being broken out in the following ranges: 0-5 years, 6-10 years, 11-15 years, 16-20 years, 21-25 years, 26-30 years, and 31+ years of experience. Once again, no statistically significant differences were observed when perceptions of student motivation when compared across years of experience, $F_{(6,876)} = 1.314$ [MS$_E = .383$], $p > .05$.

Faculty rank, teaching level, and number of credits taught were also analyzed for differences on perceptions of student motivation. Faculty rank was separated into four classifications for comparison: Contingent/Non-Tenure Track, Assistant Professor (Tenure Track), Associate Professor (Tenured), and Professor (Tenured). The statistical test showed no statistically significant differences across rank, $F_{(3,876)} = 1.563$ [MS$_E = .383$], $p > .05$. Faculty who responded to this study identified their primary teaching level in one of three ways:
undergraduate, graduate, or both undergraduate and graduate equally. A statistically significant difference was identified across teaching level, $F_{(2,879)} = 30.563 \ [MS_E = .360]$, $p < .001$. Tukey HSD follow-up tests show that faculty who primarily teach at the graduate level tend to perceive student motivation and engagement to be higher than faculty who teach primarily at the undergraduate level and those who have a joint teaching responsibility (undergraduate and graduate equally). In addition, faculty with a joint teaching responsibility perceive student motivation and engagement to be higher than their faculty peers who primarily teach at the undergraduate level. The number of credits taught per semester/term was categorized into three classifications: 0-6 credits, 7-12 credits, and 13+ credits. No statistically significant differences were found based on the number of credits taught per semester, $F_{(2,859)} = .893 \ [MS_E = .384]$, $p > .05$.

Differences on faculty perceptions of student motivation was also assessed based on primary job role and responsibilities focused around teaching and research. Five possible areas were identified for faculty to select: only teaching, mostly teaching but some research, half teaching half research, mostly research but some teaching, and only research. The test statistic revealed no significant difference across role, $F_{(4,872)} = .323 \ [MS_E = .385]$, $p > .05$. Institutional type was also considered when looking at differences across faculty demographic and professional characteristics and how it may relate to perceptions of student motivation and engagement. Three institutional types were identified: public research-intensive institutions, public master’s colleges/universities, and public community colleges. No significant differences were identified across institutional types, $F_{(2,935)} = 2.755 \ [MS_E = .387]$, $p > .05$. Academic area that faculty teach within was considered based on Biglan’s (1973) classification of task areas. Significant differences were identified across academic areas $F_{(7,874)} = 8.451 \ [MS_E = .361]$, $p <$
Tukey HSD follow-up tests show that faculty within soft, life, applied fields typically have higher perceptions of their students’ motivation than in any other academic task area. Similarly, faculty within hard, nonlife, pure fields typically have a lower perception of their students’ motivation than five of seven remaining fields (only hard, life, applied and hard, nonlife, applied were not statistically significantly different).

Finally, faculty perceptions of student motivation and engagement was assessed based on faculty identified/selected primary teaching methods, and based on how they define themselves within their profession/career. Teaching methods were categorized in four ways: direct instruction/lecture, inquiry-based/discussion or seminar, student centered/interactive lab, and cooperative/student led. Statistically significant differences were identified across types of teaching methods, $F(3,880) = 13.879$ [MS $= .368$], $p < .001$. Tukey HSD follow-up tests show that faculty who teach primarily via the direct instruction/lecture method perceive significantly lower student motivation and engagement than any of the three other teaching methods identified.

When it came to how faculty define themselves within their profession, faculty were asked to select from one of five descriptors: professor, researcher, teacher, scholar, and educator. In assessing the perceptions of student motivation and engagement based on how faculty define themselves within their profession, statistically significant differences were identified, $F(4,878) = 2.823$ [MS $= .379$], $p < .01$. Tukey HSD follow-up tests found that the sole significant difference existed between those who defined themselves as a teacher compared to an educator. Faculty who defined themselves as teacher were significantly more likely to have a lower perception of their students’ motivation and engagement.

**Question three.** Research question three asked: Is there a relationship among faculty demographic and professional characteristics, faculty members’ perceptions of student
motivation and engagement, and faculty members’ motivation as measured through teacher
efficacy, achievement goals, and task values? Correlations were produced to measure the
relationship between the demographic and professional characteristics, perceptions of student
motivation, and the constructs of teacher efficacy (including efficacy for classroom instruction,
efficacy for classroom management, and efficacy for student engagement), achievement goals
(including mastery goals, ability approach goals, ability avoidance goals, and work avoidance
goals), and task values (including two composite task value factors: TV_1 comprised of utility,
intrinsic, and attainment value as well as cost, and TV_2 comprised of utility and attainment
value; in addition TV_I composed of intrinsic value, and TV_C comprised of cost). While only
some of the most interesting relationships will be discussed here, all correlation results can be
found in Table B2 within Appendix B. The structural equation model (SEM) that addresses
question five will highlight in more detail most of the relationships examined.

Ten of the 11 motivational factors contained within the teacher efficacy, achievement
goals, and task value constructs show a significant relationship with the perceptions of student
motivation construct. The three teacher efficacy factors were positively related: efficacy for
classroom instruction (.297, p < .001), efficacy for classroom management (.339, p < .001), and
efficacy for student engagement (.518, p < .001). This suggests that the higher a faculty
members’ efficacy in each of these areas, the more likely they are to perceive that their students
are highly motivated and engaged. Ability approach goals was the only one of the 11
motivational factors that was not significantly related to faculty perceptions of student
motivation. Mastery goals was positively related to faculty perceptions of student motivation
(.187, p < .001), but as expected both ability avoid (-.083, p < .05) and work avoidance (-.264, p
< .001) goals were negatively related to faculty perceptions of their student motivation,
suggesting that the higher a faculty members score on avoidance goals the more likely they are to perceive their students’ motivation and engagement to be lower. This is also true for faculty who score high on the cost construct of task values (-.333, p < .001), which has a moderate and negative relationship to perceptions of student motivation. Each of the other task value constructs was positively associated to perceptions of student motivation: task value factor one (.209, p < .001), intrinsic value (.267, p < .001), and task value factor two (.088, p < .01).

Question four. Research question four asked: Is there an underlying structure to teacher efficacy, achievement goals, and task values that can be defined and measured as faculty motivation to teach? Multiple confirmatory factor analyses (CFA) and exploratory structural equation models (ESEM) were tested to examine the underlying latent structure of the 37 items that compose the motivational constructs of teacher efficacy, achievement goals, and teaching task values. Five different models were tested in line with theoretical expectations including a hierarchical CFA featuring the 37 items which will represent the base model for comparison (see Figure 4.1). In addition, a bifactor CFA, hierarchical bifactor CFA, bifactor ESEM, and hierarchical bifactor ESEM were also tested.

For the hierarchical CFA, each of the 37 items was specified to load onto the dominant motivational sub-factor as indicated in the EFAs previously examined. Further, the three efficacy items (efficacy for classroom instruction, efficacy for classroom management, and efficacy for student engagement) were specified to load onto the teacher efficacy factor, the four achievement goal items (mastery, ability approach, ability avoid, and work avoid) were specified to load onto the achievement goals factor, and the four task value items (task values factor 1, intrinsic value, task values factor 2, and cost) were specified to load onto the task value factor. Further, the
teacher efficacy, achievement goals, and task value factors were specified to load onto a latent factor of faculty motivation to teach (see Figure 4.1).

*Figure 4.1. Hierarchical CFA Model.*

The bifactor CFA model (see Figure 4.2) has all 37 motivational items specified to load onto a general faculty motivation to teach factor as well as the dominate motivational sub-factor identified through the EFAs. A primary difference between the bifactor and hierarchical model is that the general factor in the bifactor model directly affects the individual items, but is orthogonal to or statistically independent of the sub-factors (Kline, 2016). Correlations between the motivation sub-factors and the general faculty motivation to teach factor were constrained to zero.

*Figure 4.2. Bifactor CFA Model.*
The hierarchical bifactor CFA model accounts for the specific motivational constructs as in the hierarchical CFA, while maintaining the presence of a general factor (see Figure 4.3). The ESEM bifactor and hierarchical bifactor models follow the same format as the CFA models, however ESEM estimates potential cross-loadings beyond what is specified in the CFAs (See Figure B1 and B2 in Appendix B). ESEM solutions utilized a target orthogonal rotation in which cross-loadings were specified to be approximately zero but were not constrained to zero (Asparouhov & Muthén, 2009). The hierarchical bifactor ESEM model was estimated using the ESEM-within-CFA (EWC) approach, as current software applications are not capable of higher order ESEM modeling (Morin, Marsh, & Nagengast, 2013; Perera, 2015).

Factor identification was achieved via the fixed-mean-referent-loading approach. Model fit evaluation included consideration of fit indices, examination of parameter estimates, as well as theoretical consistency to the literature and prior research. Since the $\chi^2$ is characterized by oversensitivity to minor model misspecification even given the large sample ($N > 1,000$), and contains a restrictive hypothesis test (that of exact fit), three approximate fit indices were used: the Root Mean Square Error of Approximation (RMSEA) was considered, where values $\leq .050$. 

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure4.3.png}
\caption{Hierarchical Bifactor CFA Model.}
\end{figure}
and .080 typically indicate a close or reasonable fit, respectively; the Comparative Fit Index (CFI), and the Tucker-Lewis Index (TLI) were also considered, where ≥ .900 and .950 represent acceptable and excellent fit, respectively.

The five measurement models were compared to determine which model should be retained for further analysis. While fit indices are a primary method of model comparison, examination of factor loadings and cross loadings becomes an essential secondary component with the addition of the ESEM models. Model results are shown in Table 4.5. The two ESEM models provided excellent fit to the data, with the hierarchical bifactor model representing the best statistical fit based on fit indices. To test the competing models, the $\chi^2$ difference test was used. The hierarchical bifactor ESEM model did not represent a statistically significantly better fit to the data than that of the bifactor ESEM model, $\chi^2 (52) = 2.91, p > .05$.

Table 4.5

*Model Fit Statistics for the Measurement Structures*

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>$df$</th>
<th>CFI</th>
<th>TLI</th>
<th>RMSEA</th>
<th>90% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hierarchical CFA</td>
<td>2536.496*</td>
<td>610</td>
<td>.855</td>
<td>.841</td>
<td>.052</td>
<td>[.050, .055]</td>
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<tr>
<td>BiFactor CFA</td>
<td>2107.163*</td>
<td>577</td>
<td>.885</td>
<td>.867</td>
<td>.048</td>
<td>[.046, .050]</td>
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<tr>
<td>Hierarchical BiFactor CFA</td>
<td>1716.982*</td>
<td>572</td>
<td>.914</td>
<td>.899</td>
<td>.042</td>
<td>[.039, .044]</td>
</tr>
<tr>
<td>BiFactor ESEM</td>
<td>561.765*</td>
<td>288</td>
<td>.979</td>
<td>.952</td>
<td>.029</td>
<td>[.025, .032]</td>
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<tr>
<td>Hierarchical BiFactor ESEM</td>
<td>564.675*</td>
<td>340</td>
<td>.983</td>
<td>.967</td>
<td>.024</td>
<td>[.020, .027]</td>
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</tbody>
</table>

*Note.* *p* < .001.

Significant parameter estimates from the retained bifactor ESEM model are shown in Table 4.6 (all parameter estimates can be found in Table B3 within Appendix B). The general factor is relatively well defined with most loadings being moderate to strong and all but two loadings being statistically significant ($p < .05$). Significant loadings ranged from 0.102 to 0.750, with the mean loading being .370. Each of the specific factors were also relatively well defined
### Table 4.6

**Completely Standardized Factor Loading Estimates from the Retained Bifactor ESEM Model**

<table>
<thead>
<tr>
<th>Item</th>
<th>GF</th>
<th>CI</th>
<th>CM</th>
<th>SE</th>
<th>M</th>
<th>AP</th>
<th>AA</th>
<th>WA</th>
<th>TVI</th>
<th>TV1</th>
<th>TV2</th>
<th>TVC</th>
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<tbody>
<tr>
<td>E1</td>
<td>.538</td>
<td>.295</td>
<td>-1.23</td>
<td>-1.01</td>
<td>-1.16</td>
<td>-1.48</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>E2</td>
<td>.315</td>
<td>.537</td>
<td>0.203</td>
<td>0.146</td>
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<td></td>
<td></td>
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<tr>
<td>E3</td>
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<td>.700</td>
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<td>0.092</td>
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<tr>
<td>E4</td>
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<tr>
<td>E5</td>
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<td>.115</td>
<td>.674</td>
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<td>-0.069</td>
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<tr>
<td>E6</td>
<td>.169</td>
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<td>.251</td>
<td>-1.14</td>
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<td>E7</td>
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<td>-0.075</td>
<td>-0.061</td>
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<tr>
<td>E8</td>
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<tr>
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<tr>
<td>E10</td>
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<td>.162</td>
<td>.505</td>
<td>0.082</td>
<td>0.079</td>
<td>-0.055</td>
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<tr>
<td>G1</td>
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<td></td>
<td>.610</td>
<td>0.099</td>
<td>-0.060</td>
<td>-0.051</td>
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<td>G2</td>
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<tr>
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<tr>
<td>G6</td>
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<td>.140</td>
<td>0.084</td>
<td>.514</td>
<td>0.383</td>
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<tr>
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<tr>
<td>G8</td>
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<td>V1</td>
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<td>-0.075</td>
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<tr>
<td>V6</td>
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<td>V8</td>
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<tr>
<td>V9</td>
<td>.378</td>
<td>-0.055</td>
<td>-0.081</td>
<td>0.054</td>
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<tr>
<td>V10</td>
<td>.511</td>
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<tr>
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<td>V14</td>
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<td>-0.166</td>
<td>-0.085</td>
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<td>V15</td>
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<td>-0.082</td>
<td>-1.150</td>
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<td>.427</td>
<td>0.065</td>
<td>-1.43</td>
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<td>V16</td>
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<td>-1.122</td>
<td>0.066</td>
<td>0.099</td>
<td>0.077</td>
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<td></td>
</tr>
</tbody>
</table>

*Note.* Target factor loadings are bolded. GF = General Factor; CI = Efficacy for Classroom Instruction; CM = Efficacy for Classroom Management; SE = Efficacy for Student Engagement; M = Mastery Goals; AP = Ability Approach Goals; AA = Ability Avoidance Goals; WA = Work Avoidance Goals; TVI = Intrinsic Value; TV1 = Combined Intrinsic, Attainment, and Utility Values plus Cost; TV2 = Combined Intrinsic, Attainment, and Utility Values; TVC = Cost. Cross-loadings shown are significant at $p < .05$ or better.
with moderate to strong and statistically significant loadings on the target variables (p < .001). The size of non-target cross-loadings (|λ| = .001-.383, M = 0.064) suggests that while some items cross-load onto other factors, the coexistence of a general as well as specific motivational constructs are being captured through the bifactor ESEM model. Taken together, the general factor and well-defined specific factors suggest that through a bifactor representation, the theories of teacher efficacy, achievement goals, and task values can work together to inform an underlying motivational factor that can be defined as faculty motivation to teach in higher education. As a result, and based on the model fit of the bifactor ESEM model, the definition within the general and specific factors, and given that the specific factors conform to theory, this model was retained for further analyses.

**Question five.** Research question five asked: What combination of demographic and professional characteristics, and faculty perceptions of student motivation and engagement explain faculty motivation to teach and intent to leave? To answer this question, the retained bifactor ESEM model was transitioned to an EWC framework for examination. This framework allows for the specification of certain predictor variables to be regressed on specific latent factors or dependent variables in accordance with expectation and theory. The model predicting motivation to teach and intent to leave provided an acceptable fit to the data, $\chi^2 (940) = 1422.202$, $p < .001$, CFI = .961, TLI = .936, RMSEA = .025, 90% CI [.022, .027]. Table 4.7 shows the regression coefficients on the general factor for the specified model. As with the general factor, all predictors were regressed onto the specific motivational sub-factors, many of which were significant. Significant regression coefficients for the motivation specific sub-factors can be found in Table B4 within Appendix B.
Table 4.7

*Regression Coefficients on the General Factor*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>GF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceptions of Student Motivation</td>
<td>.177 (.051)**</td>
</tr>
<tr>
<td>Worklife</td>
<td>.037 (.036)</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>.297 (.035)**</td>
</tr>
<tr>
<td>Working at Masters College/University</td>
<td>.039 (.051)</td>
</tr>
<tr>
<td>Working at Research University</td>
<td>.056 (.062)</td>
</tr>
<tr>
<td>Number of Credits Taught per Quarter/Semester</td>
<td>.103 (.040)**</td>
</tr>
<tr>
<td>Contingent Faculty Status</td>
<td>.017 (.045)</td>
</tr>
<tr>
<td>Rank of Associate Professor</td>
<td>-.027 (.034)</td>
</tr>
<tr>
<td>Teach Only Undergraduate Students</td>
<td>.074 (.050)</td>
</tr>
<tr>
<td>Teach Both Undergraduate and Graduate Students Equally</td>
<td>.057 (.048)</td>
</tr>
<tr>
<td>Holds a Full Time Position</td>
<td>.023 (.040)</td>
</tr>
<tr>
<td>Primarily Teaches in Lecture Format</td>
<td>-.155 (.042)**</td>
</tr>
<tr>
<td>Primarily Teaches in Student Led Format</td>
<td>-.010 (.033)</td>
</tr>
<tr>
<td>Primarily Teaches in Discussion Format</td>
<td>.035 (.041)</td>
</tr>
<tr>
<td>Contract Specifies Mostly Teaching but Some Research</td>
<td>-.018 (.050)</td>
</tr>
<tr>
<td>Contract Specifies Mostly Research but Some Teaching</td>
<td>-.191 (.049)**</td>
</tr>
<tr>
<td>Contract Specifies Half Teaching and Half Research</td>
<td>-.110 (.055)*</td>
</tr>
<tr>
<td>Sees Self as a Researcher within Career</td>
<td>-.158 (.036)**</td>
</tr>
<tr>
<td>Sees Self as an Educator within Career</td>
<td>.055 (.040)</td>
</tr>
<tr>
<td>Sees Self as a Professor within Career</td>
<td>-.028 (.041)</td>
</tr>
<tr>
<td>Years of Experience in Higher Education</td>
<td>.003 (.036)</td>
</tr>
</tbody>
</table>

*Note.* GF = General Factor. Coefficients are completely standardized with standard errors in parentheses. Significance at: *** p < .001; ** p < .01; * p < .05.

Intent to leave is positively and significantly predicted by higher levels of cost, as well as lower motivation to teach, lower levels of attainment, intrinsic and utility value, negative perspectives on institutional worklife, and low levels of satisfaction (See Table 4.8). Those who are full-time employees are less likely to leave the current position, institution, or higher education as a collective. This model explains 30.5% ($R^2$=0.305, S.E. = 0.030, p < .001) of the variance in intent to leave.
### Table 4.8

*Regression Coefficients on Intent to Leave*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Intent to Leave</th>
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<tbody>
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<td>-.193 (.044)***</td>
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<tr>
<td>Efficacy for Classroom Instruction</td>
<td>.007 (.042)</td>
</tr>
<tr>
<td>Efficacy for Classroom Management</td>
<td>.032 (.036)</td>
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<tr>
<td>Efficacy for Student Engagement</td>
<td>.024 (.046)</td>
</tr>
<tr>
<td>Mastery Goals</td>
<td>.067 (.041)</td>
</tr>
<tr>
<td>Ability Approach Goals</td>
<td>-.086 (.079)</td>
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<tr>
<td>Ability Avoidance Goals</td>
<td>-.020 (.055)</td>
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<tr>
<td>Work Avoidance Goals</td>
<td>.014 (.044)</td>
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<tr>
<td>Intrinsic Value</td>
<td>-.022 (.044)</td>
</tr>
<tr>
<td>TV Number One</td>
<td>-.168 (.042)***</td>
</tr>
<tr>
<td>TV Number Two</td>
<td>-.151 (.039)***</td>
</tr>
<tr>
<td>Cost</td>
<td>-.166 (.045)***</td>
</tr>
<tr>
<td>Worklife</td>
<td>-.261 (.040)***</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>-.112 (.044)***</td>
</tr>
<tr>
<td>Full Time Employee</td>
<td>-.164 (.037)***</td>
</tr>
</tbody>
</table>

*Note.* Coefficients are completely standardized with standard errors in parentheses. Significance at: *** $p < .001$.

### Table 4.9

*Regression Coefficients on Worklife and Satisfaction*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Worklife</th>
<th>Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceptions of Student Motivation</td>
<td>.221 (.031)**</td>
<td>.246 (.032)**</td>
</tr>
<tr>
<td>Worklife</td>
<td></td>
<td>.249 (.033)**</td>
</tr>
<tr>
<td>Working at Masters College/University</td>
<td>-.165 (.045)**</td>
<td></td>
</tr>
<tr>
<td>Working at Research University</td>
<td>-.343 (.048)**</td>
<td></td>
</tr>
<tr>
<td>Contingent Faculty Status</td>
<td>.117 (.036)**</td>
<td>-.090 (.034)*</td>
</tr>
<tr>
<td>Holds a Full Time Position</td>
<td>-.151 (.037)**</td>
<td></td>
</tr>
<tr>
<td>Sees Self as a Professor within Career</td>
<td>.115 (.033)**</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Blank cells were not calculated. Coefficients are completely standardized with standard errors in parentheses. Coefficients shown are significant at: ** $p < .001$; * $p < .05$ or better.

Worklife was significantly and positively predicted by higher perceptions of student motivation and being a contingent faculty member in higher education. Worklife was negatively and significantly predicted by being a full-time employee, as well as by working at either a
research institution (R1) or a Master’s College/University. Satisfaction was significantly and positively predicted by higher perspectives on institutional worklife, higher perceptions of student motivation, and identification of oneself as a professor within their career. Satisfaction was negatively and significantly predicted by being a contingent faculty member in higher education. Regression coefficients for worklife and satisfaction can be found in Table 4.9.

**Summary of Results**

The primary aim of this study was to test a proposed model of faculty motivation to teach that encompassed the three theories of teacher efficacy, achievement goals, and task values. To do this, a focus was placed on the process and steps necessary to reach a final predictive model. Unlike in previous studies where motivation to teach has been examined with a single theory, this study proposed a combined method to highlight the relationship between the constructs. To further our understanding of these relationships, multiple factor analysis and structural equation models were tested to find a means to best represent the data.

This chapter presented the results of the various analyses used to define and measure faculty motivation to teach in higher education. The results indicate that faculty motivation to teach can be defined and measured via a general factor that underlies the theories of teacher efficacy, achievement goals, and task values. Above and beyond the general factor, the 11-specific motivational sub-factors can still be identified and measured as unique theoretical factors. Furthermore, institutional and individual characteristics were used as predictors added into the motivation to teach model to explain faculty motivation to teach and intent to leave, as well as to further explore faculty worklife and satisfaction.
Chapter 5

Discussion, Implications, and Conclusion

The purpose of this study was to define and measure faculty motivation to teach in higher education, and to examine the variables that may impact motivation to teach. Further, intent to leave was examined as a potential outcome variable, where aspects of motivation to teach, faculty worklife and satisfaction were hypothesized as predictors. The focus of this chapter is to discuss the findings of this study. Each research question will be used as a guide to address and discuss the results of the analyses conducted. Implications for theory and methodology will be discussed along with implication for future research regarding faculty motivation to teach.

Overview of Research

Faculty members are an integral piece of every higher education institution. Without faculty, students’ educational needs cannot be met (Brubacher & Rudy, 1968; Hendrickson et al., 2013). Both teaching and learning are necessary to consider as we begin to explore what motivation to teach is, and how quality teaching might impact the education of students. Prior research suggests that faculty who are highly motivated to teach may be more successful at engaging students in their classrooms, may see greater learning outcomes (Naz et al., 2012), and may be willing to invest more time into developing and preparing their courses (Umbach, 2007; Van den Berg et al., 2013) than faculty who are not motivated to teach.

Research on faculty perceptions of student motivation suggests that there is a connection between student motivation for learning and faculty effectiveness and motivation in the classroom (Martin, 2006). In addition to the notion of faculty motivation to teach, some research suggests that student outcomes are improved when taught by full-time faculty as compared to part-time faculty (Carrell & West, 2010; Ehrenberg & Zhang, 2005; Jaeger & Eagan, 2011), and
that when faculty research requirements are combined with teaching, educational quality improves (Galbraith & Merrill, 2012).

Limited research has been identified that speaks specifically to a faculty members’ motivation to teach in the higher education setting, or the factors that may have an impact on that motivation. This study tried to address this by examining the value faculty place on teaching and teaching related tasks (Maehr & Zusho, 2009), how faculty view themselves as educators (Hoy et al., 2009), the goals they set for themselves within their profession (Wigfield et al., 2009), and their perceptions of their own students’ motivation and engagement in the classroom (Hardre et al., 2008). Further, this study intended to bring together three motivational constructs (teacher efficacy, achievement goals, and task values) to determine if collectively they could comprise a measure that would better identify motivation for teaching and teaching related tasks beyond what each theory currently measures on its own.

In identifying a measure for faculty motivation to teach, it was important to understand what factors impact motivation to teach, so institutional characteristics (size, classification, etc.), professional characteristics (ranks, years of experience, classes taught per semester, etc.), faculty demographics (sex, race, etc.), teaching characteristics (teaching methods, discipline, professional identification, etc.), faculty worklife, job satisfaction, intent to leave, and perceptions of student motivation were all considered. In addition, faculty motivation to teach, institutional worklife, job satisfaction, and perceptions of student motivation were assessed in terms of how they relate to intent to leave.

This national study surveyed faculty from 27 different public higher education institutions: nine research intensive institutions, nine master’s colleges/universities, and nine community colleges. One institution of each institutional type was selected from one state within
each of the nine regions of the United States. In total, over 1,100 faculty members responded to the survey. Data were submitted to a series of statistical analyses to answer the research questions put forth for this study. A discussion of the results of those analyses follows.

**Discussion**

Each research question will be addressed and discussed based on the empirical findings of the analyses conducted in this study. Discussion will include connections to prior research and theory to make meaning of results and further this line of inquiry in the field of higher education. Implications will follow to discuss the impact of the findings to current practice and address the need for further examination of faculty motivation to teach.

**Research Question One**

*How do faculty members perceive student motivation and engagement within their classes?*

Perceptions of student motivation and engagement speak to the way in which faculty within higher education not only gauge their students’ motivation within the classroom, but also the reasons why faculty believe their students are either motivated or not (Hardre et al., 2008). Regarding the motivation subset of the PSM scale, faculty within this study had a generally positive perception of their students’ motivation and engagement within the classroom indicating that they perceive their students to typically work hard and try to learn new things. Some of the highest perceptions came related to students’ attention and focus on course content. Whereas the lower perceptions suggest that the amount of effort that faculty perceive students put forth is a bit lower than what they would like. This could, in part, be attributed to the changing workload and demands of college academics. Faculty may not know or understand the class load or assignment load each student faces in a week’s time, thus presuming their course and assignments will be a priority. Just as faculty have competing demands, students’ classes are often competing for time
and attention with each other, as well as with job and family obligations. Further, prior research suggests that some students will expend more time and energy on classes where stress associated with evaluation (exams) is high, as compared with courses where they perceive room for growth and development, yet consequences of poor performance are perceived as lower (Blumenfeld, 1992). This could result in some assignments or projects receiving less attention than necessary to be completed adequately. From the faculty perspective, extra-curricular activities and social media often seem to take preference and priority, causing some to believe that students really do not care about what is happening in the classroom. To address this, some faculty have brought social media and virtual worlds into the classroom to better meet the current generation where they are (Berger, 2008; Wankel, 2009). Use of social media and other technology in the classroom comes with its own set of challenges, however it may be a necessary element to engage the current generations who were born in this new age of technology.

In the PSM scale, faculty perceived external factors that may impact student motivation and engagement are addressed. One of the more interesting and addressable findings related to faculty perceptions of student motivation, is that on average faculty agree that if students do not see the point in learning specific course content, they are less motivated to engage with that content. If faculty have identified this as a potential problem, and faculty want to improve the value of course content, then context, application, and relevance needs to be specified (Bainbridge-Frymier & Shulman, 2009). Simple considerations like what will a specific activity provide for the student in terms of learning outcomes, or how will it impact/help them as they progress through college or in their future career, could serve to emphasize the why of each task. Highlighting application of content outside the class environment provides context for students to see and understand the importance of what they are being asked to do.
Research Question Two

Are there differences between faculty demographic and professional characteristics and faculty perceptions of student motivation and engagement?

Significant differences in perceptions of student motivation were identified across a range of demographic and institutional characteristics including: gender, teaching level, academic area, teaching method, and identification of self within the profession. No major differences were identified based on ethnicity, years of experience, employment status, rank, credits taught, job responsibilities, or institutional type. Women were significantly more likely than their male counterparts to perceive a higher level of their students’ motivation and engagement within the classroom. The reasons for this could be extensive; prior research suggests that women typically put forth more effort than males to try and re-engage students they feel are not currently engaged in the curriculum (Demetriou, Wilson, & Winterbottom, 2009). If putting in this effort works to re-engage students, it stands to reason that they would have a differing view of their students’ motivation and engagement than their male peers.

As expected, faculty who teach only undergraduate students are significantly less likely to perceive high levels of student motivation and engagement. Similarly, even faculty who have a joint appointment teaching both undergraduate and graduate students equally tend to perceive lower levels of student motivation and engagement than those who teach only at the graduate level; however, they are significantly more likely to perceive higher perceptions of student motivation than their peers who teach only at the undergraduate level. This difference makes sense, as teaching at the graduate level is much different than at the undergraduate level. Faculty who teach at the graduate level typically have more direct interaction with their students, often entering mentor/mentee relationships that may serve to emphasize levels of engagement.
(Lechuga, 2011). Although more challenging at the undergraduate level, prior research shows that the types of faculty/student relationships often found in graduate school could serve to improve both the intrinsic and extrinsic motivation of students at all levels (Komarraju, Musulkin, & Bhattacharya, 2010). Beyond the faculty/student relationships, graduate level class sizes are also typically smaller and teaching is more discussion based or student focused. In addition, graduate education is often more of a choice for the student, so their motivation and engagement within the class may in fact be higher than that of their undergraduate peers who were “forced” to attend college.

Academic areas were specified based on Biglan’s (1973) model of clustering academic tasks. This study found that faculty who teach within hard, nonlife, pure areas (i.e., chemistry, math, geology, etc.) were significantly more likely to perceive low levels of motivation and engagement within their classrooms than peers in other areas. There are two exceptions to this, and they relate to peers in both the hard, non-life, applied and the hard, life, applied areas (i.e., engineering, dairy science, horticulture, etc.), where no statistically significant differences were identified. Alternatively, faculty who taught in soft, life, applied areas (i.e., education related fields) were significantly more likely than their peers in the seven remaining categories to perceive higher levels of student motivation and engagement within the classroom.

There may be a variety of reasons for these differences, but first the typical structure of these classes needs to be acknowledged. Education based classes are very different from courses like chemistry and math. Prior research has applied the terms teacher-centered and student-centered to one’s teaching style, where teacher-centered is a focus on transmission of knowledge, and student-centered is focused on facilitating student learning (Lindblom-Ylänne, Trigwell, Nevgi, & Ashwin, 2006; Lueddeke, 2003). Education is often more hands on and application
based, whereas hard sciences are frequently assessed through quizzes and exams. Lueddeke’s (2003) research suggests that faculty who teach in hard disciplines are more likely to use a teacher-center approach than their peers in soft disciplines. Considering how faculty in this study go about teaching these different types of courses, will also highlight some of these differences. In this study, nearly 69% of faculty within the hard, nonlife, pure disciplines taught primarily through direct instruction or lecture, as compared to 71.4% of faculty within soft, life, applied disciplines who taught primarily via discussion or student led methods. The following comparison will offer more insight into the importance of this difference.

Since lesson preparation is an essential teaching related task, method of instruction was of importance to this study. Faculty who taught primarily through lecture were significantly less likely to perceive high levels of student motivation and engagement within their classrooms when compared to their peers who taught primarily in another format (i.e., inquiry-based/discussion or seminar, student center/interactive lab, and cooperative/student led). This could easily be explained by the limited student/faculty engagement that traditional lecture style classes allow. With fewer interactions with the students, opportunities are limited to determine if they are engaged in the content. Further, the literature suggests that students also view lectures to be less stimulating and have a more limited impact on changing attitudes or behaviors (Hill, Lomas, & MacGregor, 2003; Lammers & Murphy, 2002).

Lectures can often be used from one semester to another with little to no modification, which also provides an easy means of teaching with limited effort for those who want to spend more time focusing on other tasks. It is also important to note that lectures are often seen as an essential format for teaching in larger classes where engaging with students in a more discussion or interactive lab approach does not seem feasible; however, more interactive means for larger
classes are not impossible. Research out of a university in New Zealand identified award
winning faculty who taught in large courses (over 850 students) often used problem-based
learning and small-group discussion approaches to engage students (Exeter et al., 2010).
Concerning the students, prior research identified a connection between lectures and student
boredom, the consequences of which were missing classes and lower GPA (Mann & Robinson,
2009). Both consequences could also add to faculty perceptions of lack of motivation and
engagement.

**Research Question Three**

*Is there a relationship among faculty demographic and professional characteristics, faculty
members’ perceptions of student motivation and engagement, and faculty members' motivation
as measured through teacher efficacy, achievement goals and task values?*

One of the premises of this study was the necessity to look at motivation to teach from a
different perspective; a perspective that encompassed more than one dimension of motivation. It
was hypothesized that different aspects of motivation (efficacy, goals, and values) all interact in
some way to make faculty who they are. Prior research supported this perspective as at times two
or three unique aspects have been investigated together within a variety of populations (Eccles et
al., 1983; Hoy & Spero, 2005; Hulleman et al., 2008; Liem et al., 2008; Locke & Latham, 2002;
Maehr & Zusho, 2009; Wigfield, 1994). Despite these combined perspectives, few if any studies
were identified that brought these three aspects together in one study to examine motivation to
teach.

**Motivational variables.** As expected, significant relationships were identified between a
majority (50 of the 55 unique relationships) of the efficacy, goals, and values factors. It is
important to note however, that none of the relationships were so high as to suggest items or
constructs were measuring similar things. Also, while the existence of a relationship does not mean much in and of itself, it is essential as we move into predictive measures when examining how this all relates to motivation to teach (Coladarci, Cobb, Minium, & Clark, 2008).

When examining the specific sub-factors of the motivational theories, cost was of specific interest based on its association with what one must give up for teaching or teaching related tasks (Eccles et al., 1983). As expected there were significant negative relationships between cost and efficacy for classroom management, efficacy for classroom instruction, efficacy for student engagement, and mastery goals. The higher the perceived cost associated with teaching related activities, the lower one’s efficacy for teaching related tasks, and development of mastery goals. Significant positive relationships existed between cost and the achievement goal aspects of ability avoidance goals and work avoidance goals. This too was expected given that aspects of avoidance such as avoiding taking on additional responsibilities, avoiding encounters with problematic students, and using old/unchanged teaching materials allows one to save time thus avoiding some of the high costs (e.g., less time with family and stress of lesson prep and delivery) often associated with the act of teaching (Hemer, 2014).

**Perceptions of student motivation.** Perceptions of student motivation also showed several significant relationships when examined with the motivational constructs. All but one of the 11 relationships proved significant, with faculty who had higher levels of efficacy in each category also reflecting higher perceptions of their students’ motivation and engagement. The same is also true for faculty who exhibited higher levels of attainment, utility, and intrinsic values. This suggests that perhaps those faculty members who have greater teacher efficacy and who place higher value on the act/art of teaching, get greater satisfaction from teaching than their peers who typically have lower levels of efficacy and values, and associate higher costs with
teaching or teaching related tasks. This is supported by Wilkesmann and Schid (2013), who suggest that teaching is a primarily intrinsically motivated activity; for some outside factors and extrinsic rewards have little impact on their teacher efficacy or values associated with teaching activities.

Cost and avoidance goals are negatively related to perceptions of student motivation, meaning that as faculty associate higher costs with teaching, and as their goals shift toward more avoidance goals rather than mastery or ability approach goals, their perceptions of their students’ motivation and engagement decreases. This suggests that lower levels of faculty motivation for teaching related activities, brought on by high costs and a greater desire to avoid some teaching related tasks, influences how faculty view their students’ motivation and engagement within the classroom. Importantly, this may also have a true negative impact on their students’ motivation and engagement. This idea, while not directly examined within this study, does have support in the literature (Hardre et al., 2006; Hardre et al., 2008; Martin, 2006), and could be an important next step in the examination of faculty motivation to teach. Motivation within the classroom may be a reciprocal process where students and faculty feed off (or diminish) the motivation of one another. For example, if students perceive a low level of motivation from faculty, it may diminish their own motivation for the course and its content; this could further diminish the faculty members’ motivation to teach if they perceive their students’ motivation slipping.

Demographic and institutional variables. Rank, institutional type, employment status, and years of teaching experience were all significantly related to aspects of achievement goals. Within each rank and institutional type, different contractual obligations arise, so it makes sense that the goals faculty set, and their approach to meeting those goals would also change. As many perceive the faculty role to encompass research, teaching, and service (Hendrickson et al., 2013),
we also see that those roles shift based on institutional type and rank. Tenure-track faculty at Doctoral Universities tend to have more pressure put on them to produce high quality research than their tenure-track peers at Master’s Colleges and Universities or Associate’s Colleges. Contingent faculty at Doctoral Universities may take on more teaching responsibilities than their tenure-track peers, however this doesn’t mean that they are solely dedicated to this task; depending on their institution, they may also be required to participate in research or service related activities.

Within this study, 25% of faculty held roles where research was not a requirement of their job. Bailey (1999) suggests, this could serve to improve motivation for teaching, as much of their job becomes centered around this task. Alternatively, with such high teaching responsibilities (in this study over 13% of respondents taught 13 or more credits per semester/quarter) burnout may become an issue, possibly leading to a reduction in motivation to teach or even the consideration of leaving the profession. Recent research has highlighted the changing dynamic in higher education, where the increasing demands on faculty are positively related to and strong predictors of burnout (Zábrodská et al., 2017). Additionally, we need to consider the impact of high teaching requirements on the learning environment, as prior research shows mixed results when it comes to research requirements and teaching quality (Bak & Kim, 2015; Galbraith & Merrill, 2012; Marsh & Hattie, 2002). This may require further examination into what high quality teaching means or looks like, as well as what we desire for our students. Only through a close examination of these characteristics can we, as members within higher education institutions, determine if we are fulfilling our institutional mission and our obligations to the students we enroll.
One’s experience and employment status may also affect the goals they set for themselves within their careers. Faculty with more years of experience may spend less time on teaching preparation due to their experience and prior preparation than faculty who are newer to teaching. Alternatively, they may put more effort into teaching related tasks through the development of new courses or the updating of existing courses. Contingent faculty who only hold part-time status in their position will perceive their goals and objectives significantly different than their full-time peers (Kezar & Bernstein-Sierra, 2016). Perhaps they seek to secure a full-time position, or maybe more of their focus and efforts are on an alternative career and teaching part-time is supplemental.

**Research Question Four**

*Is there an underlying structure to teacher efficacy, achievement goals, and task values that can be defined and measured as faculty motivation to teach?*

While at the beginning of this study the structure of faculty motivation to teach seemed simple, what resulted was far more complex. The reason behind this complexity stems from the current state of motivational research, which seeks to better understand aspects of motivation through the examination of previously unexplained or unexamined variance. The dimensionality of motivational constructs has been a major topic in the literature as of late (Duffin, French, & Patrick, 2012; Klassen & Chiu, 2010; Perez et al, 2014), and with the desire to explain more through the use of such motivational constructs, comes more complexity. The dimensionality of teacher efficacy data has encountered mixed results, where some studies have identified a single or unidimensional structure of teacher efficacy (Duffin et al., 2012; Tschannen-Moran & Hoy, 2001), others have identified a multidimensional structure with the three primary factors of efficacy for classroom instruction, efficacy for classroom management, and efficacy for student
engagement (Klassen & Chiu, 2010; Klassen, Tze, Betts, & Gordon, 2011). Further, more recent research has examined teacher efficacy as a bifactor structure, with the specific factors of efficacy for classroom instruction, efficacy for classroom management, and efficacy for student engagement, as well as a general factor of teacher efficacy (Calkins, Perera, McIlveen, & McLennan, 2018; Perera, Calkins, & Part, under review).

Similarly, task values have undergone their own examination of dimensionality, specifically with regard to how cost fits with values in the overall model, and if cost is a single unique construct or a multidimensional construct (Flake, Barron, Hulleman, McCoach, & Welsh, 2015; Perez et al., 2014). Interestingly, value as specific constructs of utility value, attainment value, and intrinsic value have at times collapsed into a single factor (Perez et al., 2014), or two value factors (Battle & Wigfield, 2003), rather than holding as three specific factors. Achievement goals are a little different in that there are varying perspectives on what approach is best. While founding research suggested a two-goal approach (mastery and performance) (Dweck, 1986), others have suggested taking this approach to a new level by investigating approach and avoidance states in combination with mastery and performance goals (Elliot & McGregor, 2001; Pintrich, 2000b). Still further, multi-goal perspectives have been endorsed as a means to improve understanding of goal directed activities (Elliot, 1999; Harackiewicz et al., 2002; Senko et al., 2011). Recent dimensionality research on achievement goals has suggested an ideal model to be four specific, correlated factors (Sánchez-Rosas, 2015).

Given the direction of dimensionality research in each of these specific theoretical areas, and the hypothesis that there is an underlying structure or dimension of motivation that encompasses these theories, a multidimensional approach to model identification was logical. Each aspect of motivation was submitted to an EFA where per theoretical expectations the
specific factors of teacher efficacy for classroom instruction, classroom management, and student engagement, along with mastery, ability approach, ability avoidance, and work avoidance goals were identified. The task value construct was more complicated in that while a four-factor solution was specified, the items did not align specifically with the elements of intrinsic value, attainment value, utility value and cost. Instead, three of four intrinsic value items loaded onto one factor, four of five cost items loaded onto one factor, and the remaining two factors reflected some collapse across concepts, similar to what has been identified in prior research (Battle & Wigfield, 2003; Perez et al., 2014).

This study identified a bifactor model structure that retained the 11 specific motivational elements of the three theories (teacher efficacy, achievement goals, and task values), while identifying an underlying general factor of motivation to teach. The model fit was considered excellent, and the specification allowed for the expectation that aspects of these three motivational structures would in fact be related. All but two of the 37 specific items used to measure the three constructs loaded significantly onto the general factor. In addition, each of the 11 specific motivational factors were well defined based on expected target loadings from the EFAs. What this suggests is that there is a general construct, here termed motivation to teach, that exists as a single element that underlies that 37 original survey items. This general construct coexists with the 11 specific motivational factors that are further defined by aspects of the 37 items that are not explained by the general construct (Morin, Arens, & Marsh, 2016). This multidimensional perspective allows for the identification and examination of multiple sources of variance within the data.

Given the identification of a bifactor model, this suggests that above and beyond the ability to measure a general sense of motivation to teach that encompasses aspects of efficacy,
achievement goals, and task values, we can also retain the specific measures of efficacy for instruction, classroom management, and student engagement; mastery, ability approach, ability avoidance, and work avoidance goals; and intrinsic, attainment, and utility value and cost. In retaining this perspective and the bifactor model, we can still measure that which was deemed so important in prior research while gaining additional information through the measurement of an underlying, general construct utilizing variance from the items that was previously left unexplained.

**Research Question Five**

*What combination of demographic and professional characteristics and faculty perceptions of student motivation and engagement explain faculty motivation to teach and intent to leave?*

The retained bifactor ESEM model depicting a general factor of motivation to teach was brought into a more traditional SEM framework and examined as a predictive model. The predictive model encompassing faculty motivation to teach and intent to leave showed an acceptable fit to the data. A discussion of the two primary variables of interest follows.

**Motivation to teach.** There were three primary predictors that positively and significantly predicted motivation to teach: perceptions of student motivation, satisfaction, and credits taught per semester. Faculty who had higher perceptions of their students’ motivation and engagement within the classroom were significantly more likely to have a higher motivation to teach. Satisfaction was also a significant predictor of motivation to teach, suggesting that those who have higher levels of job satisfaction also have higher levels of motivation to teach. Finally, and perhaps most surprisingly, the number of credits one teaches per semester has an impact on motivation to teach, with those who are required to teach more having higher levels of
motivation to teach. This aligns in part with the work of Bailey (1999) who found that faculty who had lower research productivity had higher levels of teaching efficacy.

There were four predictors that negatively but significantly impact faculty motivation to teach, indicating that higher levels suggest lower motivation. First, teaching primarily in the lecture format is likely to reduce faculty motivation to teach. Prior research associated the use of traditional lecture style teaching to a lack of confidence that faculty perceive in their presentation skills and ability to explain complex concepts (Colbeck et al., 2002). Alternatively, we must consider that some classroom environments are not conducive to anything outside a traditional lecture format. For example, some of the large science and communication classes are based on a lecture/lab set up, in which it may be challenging to integrate alternative instructional strategies with 100+ students at a time. In cases like this, traditional formats may be seen as an only option to convey the necessary information to such a large student group at one time.

Research seems to have a negative impact on motivation to teach, at least in regards to the quantity of research required, and how one views themselves within their profession. Faculty in this study who had a split (50/50) teaching to research appointment, or who were primarily contracted as researchers with some teaching requirements (17.9% and 7.3% of this study’s population, respectively) were found to have a significantly lower motivation to teach. This aligns with prior research that showed lower levels of engagement and motivation for teaching when other professional related activities, like research and service, were necessary (Van den Berg et al., 2003).

In addition, this study found that when one identifies themselves as a researcher within their career, they are far less likely to be motivated to teach. This furthers the research of Hemer (2014) who, in researching professional identity, found a self-identified researcher who viewed
teaching as “a necessary evil” (p.847). To accommodate the teaching requirements, self-described researchers may use ability avoidance or work avoidance techniques in their teaching (using old course content without updating, canceling classes last minute, high use of technology for quizzing/testing, etc.) to free up time to focus on their research. A similar result was identified by Visser-Wijnveen and colleagues (2014) in their study that found that faculty who identified as researchers and had a stronger research focus, contributed less effort to teaching than faculty who identified as teachers. In this study, no significant improvement in motivation for teaching was identified in those who were self-identified as teachers or educators.

**Intent to leave.** To examine intent to leave, each of the 11 specific factors, the general factor (motivation to teach), worklife, satisfaction, and employment status were used as predictors. Faculty motivation to teach had a negative impact, suggesting that faculty who perceive lower student motivation and engagement are more likely to leave their position, institution, career, or higher education collectively. Similarly, the combined task value constructs show similar relationships to intent to leave, suggesting that lower levels of value (intrinsic, attainment, and utility) for teaching or teaching related activities reflect greater intent to leave. Cost, on the other hand, is positively related in that higher perceived cost reflects greater intent to leave. Employment status also plays a role, as those faculty members who are employed full-time are less likely to leave. This aligns with the research of Rosser and Townsend (2006), who also identified that part-time faculty were more likely to leave as compared to their full-time peers.

Both worklife and satisfaction were found to negatively impact intent to leave. As perceptions of worklife decrease and as job satisfaction is diminished, faculty members are more likely to seek out new opportunities outside their current role. This furthers and supports much of
the prior research on intent to leave, highlighting the importance of institutional worklife and satisfaction in the higher education setting (Johnsrud & Rosser, 2002; Matier, 1990; O’Meara et al., 2014; Rosser, 2004; Rosser & Townsend, 2006). Satisfaction focuses on personal perspectives about ones’ work; is it stimulating, are they enthusiastic about it, do they have autonomy, and are they in general satisfied with what they are doing. When faculty become bored in their careers or when they begin to feel too much pressure or oversight infringing on their academic freedom, they begin looking for opportunities elsewhere.

Worklife focuses on many aspects of a faculty member’s role including pay, mentoring, teaching, research and research support, service, and professional development. Faculty need to feel supported by their institution; they also need to feel that their contributions are valued. A negative view of ones’ worklife can encourage faculty to explore alternative jobs or careers (Johnsrud & Rosser, 2002; Rosser, 2004). For example, faculty who have heavy course loads but perceive teaching to be undervalued both within the institution and for salary considerations, may have a lower perception of their worklife than their peers in more research oriented roles who believe their research is highly valued and who have the financial support to carry out their research. Within this study, 42% of faculty respondents believed teaching was undervalued by their institution as compared to 33% who believed research to be overvalued by their institution. Further, 69% believed teaching to be undervalued in salary considerations.

**Worklife and satisfaction.** To connect some of these elements, part-time faculty were more likely to perceive their worklife negatively as compared to their full-time peers. Studies on adjunct faculty describe lack of opportunity for professional development and support, along with fewer opportunities to engage with students as significant pieces that negatively impact their work lives (Jolley, Cross, & Bryant, 2014; Umbach, 2007). Contingent faculty status was
found to have a negative impact on satisfaction. This is likely due to some of the same issues prior research has identified, where contingent faculty are not well integrated into the institutional environment (Kezar & Sam, 2010; Umbach, 2007). Contingent faculty are often limited in their roles within the institutions, some of their own accord (Levin & Montero-Hernandez, 2014), some due to the administration of their institution (Gerber, 2014), and other by their full-time faculty peers (Cronin & Smith, 2011).

This study also found that institutional type has an impact on worklife. Faculty who taught at Master’s colleges or universities and those who taught at research intensive universities had a more negative view of their work lives. This could be attributed to the increasing pressure put on faculty at these institutional types to advance research and bring in outside funding. The increase in job stress associated with reductions in funding, increasing workload has been shown to negatively impact faculty work lives and their personal lives (Bell, Rajendran, & Theiler, 2012; Rosser, 2004). Additionally, this study shows that perceptions of worklife positively predict satisfaction, indicating that faculty who perceive their work environment more positively, are more likely to be satisfied within their job. This too is supported by prior research in that Rosser (2004) had similar findings across faculty from two and four-year institutions.

Limitations

This study has several limitations that need to be considered. First and foremost, this study looked at a single point in time for the faculty who responded. Additionally, that point in time was focused more toward the start of the fall semester, after some faculty had just returned from a summer off. This could have implications for the levels of motivation to teach. Motivation is known to change, as it is not static; various factors even within a single day could change/impact our motivation for teaching and teaching related tasks. Therefore, a longitudinal
study might be a better fit to help us further understand motivation to teach. Additionally, there may be some nesting effects that are occurring within the data that cannot be accounted for due to the random and blind nature of the study. Faculty were not asked to identify what institution they work within, so if one institution from which many faculty responded has a strong teaching culture, and others do not, we cannot necessarily capture that unique aspect to separate or account for that culture.

The task values scale is a first of its kind, in that no other scale was identified that specifically looked at task values for teaching related tasks. As such, item fallibility needs to be considered in the context of some high cross-loadings within the motivation to teach model. In addition, the wording structure of some items (e.g., positively worded cost items) may have in part resulted in some of the factors not aligning with expectations. Given more recent research that identifies cost more broadly (i.e., psychological cost, effort cost, and opportunity cost), perhaps the cost portion of task values scale should be examined more closely and adapted to encompass a multidimensional framework (Battle & Wigfield, 2003; Flake et al., 2015; Perez et al., 2014).

An examination of the other motivational scales may also be warranted to identify possibilities for improvement as some of the theoretical aspects may not fully translate to the higher education arena. For example, efficacy for classroom management does not seem to be as big of a problem or concern for faculty in higher education as it is for teachers in K-12. Similarly, there is room to improve the PSM scale to have more direct application to the higher education context and the different struggles/challenges students face in college as compared to when they were in high school.
Further the demographic and ethnic makeup of the study population could be a limitation that may impact the generalizability of these results. First, despite every effort to attain a representative sample, over 90% of survey respondents who disclosed ethnicity data were white. This is not a true reflection of the current higher education population, as currently around 77% of all higher education faculty identify as white (NCES, 2017). Similarly, it was challenging to identify and reach contingent and part-time faculty (27.5% and 11.1% of sample population, respectively), as sometimes they are not identified through institutional websites, and their turnover is much higher. As a result, this sample consists of more full-time faculty and faculty who are tenure/tenure-track which doesn’t reflect the current population of higher education faculty, where only 52% of faculty are full-time (NCES, 2016a), and 36.4% of faculty hold the rank of instructor, lecturer, or other faculty (NCES, 2016b). Keep in mind this does not suggest that nearly 64% of faculty are tenure/tenure-track, as many contingent faculty may hold the title of assistant professor (e.g., visiting assistant professor and assistant professor in residence).

**Implications**

Drawing on the empirical evidence and the literature identified throughout this study, implications of this research will now be highlighted. Implications of this research will be discussed from three perspectives: implications for theory, implications for methodology, and implications for future research.

**Implications for Theory**

There are many studies that attempt to identify and explain teacher motivation in the K-12 area, but much more limited research on faculty in higher education. The literature that does exist within higher education, tends to focus on one or two dimensions of motivation while overlooking other important factors. The idea that our efficacy is connected to our goals and
values is not new; yet in the context of motivation to teach they have, until this point, not been examined together. This study was formed around the idea of the interconnectedness of these motivational theories. To truly understand motivation to teach, we should consider a transition from looking at mere pieces of the larger puzzle, to taking a more collective and holistic approach.

By utilizing three dimensions of motivation to assess and explore motivation to teach, this study takes a necessary next step towards better understanding what motivates faculty to teach in higher education, and the factors that impact that motivation. There were only two specific items that did not show to be statistically significant in regards to motivation to teach. One item stems from the ability avoidance area of goal theory, which suggests that messing-up in class does not negatively or positively impact motivation to teach. Determining what “messing-up” means in the context of teaching may very well vary from person to person, thus the item itself may be the reason it does not contribute to motivation to teach. A restructuring to a better-contextualized question could make a difference. The second item falls under the cost area of task values and relates to faculty members’ self-esteem and the impact of teaching evaluation on that self-esteem. The implication here is that the potential hit to ones’ self-esteem may result in a temporary low, however if there is a long-term impact, it is not represented by a reduction in motivation to teach.

Further, it is important to acknowledge that the identification of an underlying latent factor defined as motivation to teach does not take away from the original theories used. In the final model, each of the 11 motivational factors are well defined and measure the intended construct. Teacher efficacy holds as three specific factors: efficacy for classroom instruction, efficacy for classroom management, and efficacy for student engagement. Achievement goals
also holds to the original four factors representing mastery goals, ability approach goals, ability avoidance goals, and work avoidance goals. In the case of achievement goals, there was one item from the original scale that took the focus outside of the context of teaching and teacher, and placed it onto the perceptions of ones’ Department Chair. Given this divergence, it did not hold well with the other achievement goal items and was subsequently removed.

When it came to the task values scale, four factors were identified and held as per theoretical expectations; however, as in some prior research there were times when theoretically expected loadings did not occur due to a collapse among the theoretical areas (Battle & Wigfield, 2003; Eccles & Wigfield, 2002; Guo et al., 2016). Instead of having cleanly identified factors of intrinsic value, attainment value, utility value, and cost, there were two factors that came to include a combination of areas. While intrinsic value and cost held as specific factors, elements of utility and attainment value crossed with one intrinsic value item and one cost item to form the other two factors. While again this collapse has been observed in prior research, there is also a strong possibility of item fallibility since the scale is new. A further investigation of the wording and restructuring of the items to more specifically target the theoretical indicators could prevent the collapse of factors.

The major implication here however is that the measurement of motivation to teach does not take anything away from the original theories, rather it adds a new dimension that will enable a more thorough investigation of motivation to teach. Each theory on its own offers insight into specific dimensions of faculty motivation: their efficacy, their goals and their values; but we cannot ignore the fact that these dimensions of motivation are related. They build off one another, so in viewing the theories together, we provide further context and a more holistic view of motivation to teach.
Implications for Methodology

Motivation is a complex state; understanding as much as we can about how faculty are motivated for teaching and what impacts that motivation could serve to improve many aspects of the current higher education climate. This study highlights the interconnectedness and complexity of the three major motivational theories utilized. Due to the interconnectedness of the theories and the knowledge that each seeks to measure motivation, the restrictive nature of CFA (i.e., specification of items to one factor, and cross-loading constrained to zero) diminishes the multidimensional nature of the data (Morin et al., 2013; Morin et al., 2016).

Prior research suggests that there are two distinct sources of construct-relevant psychometric multidimensionality that should be considered: the hierarchical nature of the construct (i.e., the existence of comprehensive and specific components within a single model), and item fallibility (i.e., measuring similar or different components than specified) (Morin et al., 2016; Perera, 2015). Both sources needed to be considered for this data. First, each of the three motivational theories have previously been examined as hierarchical models; some studies have utilized single factors, while others have used a multi-factor approach (Elliot, 1999; Klassen & Chiu, 2010; Perez et al., 2014; Tschannen-Moran & Hoy, 2001). Second, the scale items have either been adapted and modified or generated as new for this study, so whether the items measure only what is anticipated needed to be considered. Morin and colleagues (2016) suggest that a solution to the first source of construct-relevant multidimensionality is the use of a bifactor model, and that ESEM is a solution to the second source of multidimensionality.

Given the considerations of multidimensionality, and the fit of the bifactor ESEM model, this does not discount the need to examine all potential model specifications. Logic and theory must guide the methodological approach, and the method should serve to add to ones’ theoretical
understanding. Multiple models were tested throughout this study, each with its own theoretical grounding and perspective. The process serves as evidence and support for the interconnectedness of the constructs and the value that advanced statistical techniques add to data analysis. Advanced statistical techniques (e.g., bifactor ESEMs) now allow us to understand more of the variability in our constructs through the identification of an underlying general factor. In the case of this research, instead of just assessing motivation to teach through the aspects of teacher efficacy, achievement goals, and task values, a general factor that encompasses each of these aspects was identified that partials out variance from each item that was previously left unexplained. This serves to use more of the information from each data point, and improves opportunities for understanding motivation to teach.

**Implications for Future Research**

The primary goal of this study was to define and measure faculty motivation to teach. While some work could be done to clean up the measure, this study did identify an underlying structure of motivation to teach. A next step would be to improve on a set of teaching related, and measurable predictors that could help advance our understanding of motivation to teach. With the increasing numbers of contingent faculty, decreasing state and federal budgets for higher education, increasing pressures at every institutional level for high quality research that will improve funding opportunities, and a growing view of higher education as a business, it is essential to better understand how we can harness the capabilities and motivations of faculty, to improve their work lives and satisfaction, and ensure the quality of education for future students.

While some aspects of motivation were covered in this study, motivation for research and service were not considered. Along with teaching, research and service complete the primary pieces of the faculty role, and thus should be considered in future research. Further, this line of
inquiry could have implications for opening an avenue to tenure (specifically in research institutions) that isn’t primarily focused on research quality and productivity. Prior research shows a link between quality teaching and involvement in research, however this study shows that faculty who identify as researchers, or faculty who have a majority research or 50/50 research to teaching appointment have lower motivation to teach. We need to consider the possible implications of such findings on student learning and outcomes.

With the increased cost of attending higher education and concern rising as to the necessity and effectiveness of higher education to prepare our future workforce, we need to make sure we have high quality faculty who are motivated to teach and dedicated to the education of our students. This then requires that we combine not only motivation to teach and perspectives of student motivation and engagement, but also students’ perspectives on the quality and effectiveness of faculty and teaching methods. The education of students is why higher education institutions exist in the first place, therefore we should consider their perspective if we are to improve higher education for all.

An important consideration for future research is the realization that motivation is not a trait like sex or ethnicity, rather it is a state that can and does change (Schunk, Pintrich, & Meece, 2008). Motivation for teaching should not be viewed any different. One bad experience in the classroom could negatively impact motivation to teach, whereas the opposite may also be true. Faculty at the start of a semester may have high motivation for teaching and teaching related tasks, but throughout the course of the semester that motivation may change. Snapshot data on motivation to teach is more limited in application, therefore a longitudinal study would be a great addition to this line of inquiry.
Conclusion

Over the years, motivation to teach has been explored from multiple perspectives, yet our understanding of the complexities of the state of motivation to teach and what impacts it continues to grow. Faculty motivation to teach within this study was defined and measured as one underlying latent construct, composed of the 11 specific motivational elements included in teacher efficacy, achievement goals, and task values. Where prior research typically focused on one or two of these aspects, this study moves motivation for teaching forward by utilizing a more collective approach to motivational research, acknowledging the interconnectedness of these theories. Advanced statistical techniques, such as bifactor exploratory structural equation modeling (BF-ESEM), allow for a more detailed understanding and thorough investigation of motivation to teach. Through ESEM, more of the variability within each construct can be explained. It also serves to further describe the multidimensional nature of motivation to teach, while highlighting the interconnectedness of the theories.

Throughout this study, a continuous thought was how this line of inquiry could, in the future, work to serve faculty and students within their institutions. Through a thorough understanding of what faculty motivation to teach is, and the factors that contribute to that motivation, there is the potential to transform the higher education setting to better meet each stakeholder’s needs. This research in combination with prior research suggests a reciprocal relationship between faculty motivation to teach, and student motivation and engagement within the classroom. Further, this study suggests that high research requirements have a negative effect on motivation to teach. Collectively, there is the potential that some faculty are better equipped for teaching, while others would be better served by engaging primarily in research and research
related tasks. In either situation, the institution must acknowledge, support, and value each faculty member for their unique contributions if they are to be retained.

Faculty are integral pieces of higher education, and their ability and desire to teach impacts (positively or negatively) each student they interact with. An understanding of faculty motivation to teach and factors that contribute to that motivation can only serve to improve the academic environment for both students and faculty alike. The knowledge gained may also have an impact on the way potential candidates are interviewed, as targeting distinct needs can be better achieved. The education of students should be a core element of each higher education institution’s mission; by embracing the knowledge we have gained regarding faculty motivation to teach, and utilizing what we have learned to benefit the institution, every stakeholder can better be served.
Appendix A

**Teacher/Teaching Efficacy:** These items are measured on a 6-point scale (1 – Strongly Disagree, 2 – Disagree, 3 – Slightly Disagree, 4 – Slightly Agree, 5 – Agree, and 6 – Strongly Agree).

Instructions: Please select the response that most closely matches your agreement with the following statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>I use a variety of assessment strategies in my teaching.</td>
<td></td>
</tr>
<tr>
<td>It is easy for me to provide alternative explanations when students are confused.</td>
<td></td>
</tr>
<tr>
<td>I can craft good questions that enable my students to show their understanding.</td>
<td></td>
</tr>
<tr>
<td>I use multiple teaching strategies in my classroom.</td>
<td></td>
</tr>
<tr>
<td>It is easy for me to control disruptive behavior in the classroom.</td>
<td></td>
</tr>
<tr>
<td>Helping my students to value learning in my class is challenging.</td>
<td></td>
</tr>
<tr>
<td>I can prevent a few problem students from ruining an entire class.</td>
<td></td>
</tr>
<tr>
<td>It is easy for me to establish classroom management with each new group of students.</td>
<td></td>
</tr>
<tr>
<td>Getting students to believe they can do well in my class is challenging.</td>
<td></td>
</tr>
<tr>
<td>Defiant students intimidate me.</td>
<td></td>
</tr>
<tr>
<td>I can do a lot to motivate students who show low interest in my class.</td>
<td></td>
</tr>
<tr>
<td>It is easy for me to improve the understanding of a student who is failing.</td>
<td></td>
</tr>
</tbody>
</table>
**Achievement Goals:** These items are measured on a 6-point scale (1 – Strongly Disagree, 2 – Disagree, 3 – Slightly Disagree, 4 – Slightly Agree, 5 – Agree, and 6 – Strongly Agree).

Instructions: Please select the response that most closely matches your agreement with the following statements. "I would feel that I had a successful day of teaching if..."

<table>
<thead>
<tr>
<th>I learned something new about myself.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I was interested all day.</td>
</tr>
<tr>
<td>Preparing and teaching a class gave me a deeper understanding of the subject matter.</td>
</tr>
<tr>
<td>I could teach more advanced level classes.</td>
</tr>
<tr>
<td>My students did exceptionally well on an exam.</td>
</tr>
<tr>
<td>I impressed my students with my command of the subject matter.</td>
</tr>
<tr>
<td>I didn't &quot;mess up&quot; in any of my classes.</td>
</tr>
<tr>
<td>The Department Chair conveyed that I am as competent as other professors.</td>
</tr>
<tr>
<td>I didn't make any mistakes when being observed by a peer.</td>
</tr>
<tr>
<td>I was busy all day.</td>
</tr>
<tr>
<td>I could use materials from previous years and did not have to prepare/change lessons.</td>
</tr>
<tr>
<td>Some of the problematic students were absent from class.</td>
</tr>
<tr>
<td>I was able to avoid taking on any additional responsibility that would involve extra work.</td>
</tr>
</tbody>
</table>
**Task Values:** These items are measured on a 6-point scale (1 – Strongly Disagree, 2 – Disagree, 3 – Slightly Disagree, 4 – Slightly Agree, 5 – Agree, and 6 – Strongly Agree).

Instructions: Please select the response that most closely matches your agreement with the following statements.

<table>
<thead>
<tr>
<th>Teaching as a career is appealing to me.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I enjoy improving my teaching by exploring new and challenging classroom techniques.</td>
</tr>
<tr>
<td>I like the challenge of doing the work required to teach.</td>
</tr>
<tr>
<td>Increasing my knowledge through the act of teaching is exciting to me.</td>
</tr>
<tr>
<td>I value the prestige that comes with being a faculty member in higher education.</td>
</tr>
<tr>
<td>I can attain a high sense of self-worth in my career without teaching.</td>
</tr>
<tr>
<td>I need to teach to fulfill my potential.</td>
</tr>
<tr>
<td>Becoming an educator was of great personal value to me.</td>
</tr>
<tr>
<td>My life goals cannot be met without teaching.</td>
</tr>
<tr>
<td>I wanted to teach so that I could earn more money.</td>
</tr>
<tr>
<td>As a career, teaching fits my values.</td>
</tr>
<tr>
<td>I teach because I wanted a job that would satisfy me.</td>
</tr>
<tr>
<td>I worry that the time spent on teaching related activities will take time away from other activities I want to pursue.</td>
</tr>
<tr>
<td>Teaching is not worth it, because of all the work required.</td>
</tr>
<tr>
<td>My self-esteem suffers if I get poor teaching evaluations.</td>
</tr>
<tr>
<td>Teaching would not be worth doing if it caused my family relationships to suffer.</td>
</tr>
<tr>
<td>Teaching is a worthwhile career even if I earn less money than I could in another field.</td>
</tr>
<tr>
<td>The stress of teaching is unmanageable at times.</td>
</tr>
</tbody>
</table>
**Perceptions of Student Motivation:** These items are measured on a 6-point scale (1 – Strongly Disagree, 2 – Disagree, 3 – Slightly Disagree, 4 – Slightly Agree, 5 – Agree, and 6 – Strongly Agree).

Instructions: Please select the response that most closely matches your agreement with the following statements.

| The students in my class really try to learn. |
| My students work hard at learning new things in my class. |
| My students generally focus on what I am teaching. |
| Most often, my students do not want to put forth much effort to learn the content. |
| My students are often distracted or off task, and I have to bring them back to focus on the topic or work at hand. |
| In general, my students are not interested in what they are asked to learn in my class. |
| When my students are not engaged in the class, it is because they do not see the value of what they are being asked to learn. |
| My students generally pay attention to me when I am teaching. |
| Some of my students just have too many personal problems to make school a priority. |
| Most often, if students are not engaged in my class, it is because they do not see the relevance of the content in their world. |
| If students do not see the point of learning the content, then they are not motivated to learn it. |
| Some students are just not motivated to learn because they are lazy. |
| Some students in my class just do not care about learning. |
**Worklife & Satisfaction:** These items are measured on a 7-point scale (1 – Strongly Disagree, 2 – Disagree, 3 – Slightly Disagree, 4 – Slightly Agree, 5 – Agree, 6 – Strongly Agree, and 7 – N/A or Unknown).

Instructions: Please select the response that most closely matches your agreement with the following statements.

<table>
<thead>
<tr>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am enthusiastic about my work.</td>
</tr>
<tr>
<td>I am intellectually stimulated by my work.</td>
</tr>
<tr>
<td>I have sufficient autonomy in my work.</td>
</tr>
<tr>
<td>I am satisfied with the work I do.</td>
</tr>
<tr>
<td>I feel supported by my institution.</td>
</tr>
<tr>
<td>Teaching is undervalued at my institution.</td>
</tr>
<tr>
<td>I perceive that there are &quot;special deals&quot; being made regarding teaching assignments.</td>
</tr>
<tr>
<td>Teaching loads are fairly distributed in my department.</td>
</tr>
<tr>
<td>Committee assignments are rotated fairly to allow for participation of all faculty members.</td>
</tr>
<tr>
<td>I am encouraged to participate in meetings and serve on committees.</td>
</tr>
<tr>
<td>My efforts are overlooked within my department and institution.</td>
</tr>
<tr>
<td>Workload is distributed equitably across all members of the department.</td>
</tr>
<tr>
<td>Institutional research funds are adequate for my work.</td>
</tr>
<tr>
<td>My Department Chair overvalues research.</td>
</tr>
<tr>
<td>My institution overvalues research.</td>
</tr>
<tr>
<td>I am encouraged by my institution to participate in professional development activities.</td>
</tr>
<tr>
<td>My research is progressing more swiftly than that of faculty of my rank and field at other institutions.</td>
</tr>
<tr>
<td>I have the equipment and supplies needed to conduct my research.</td>
</tr>
<tr>
<td>There are individuals within my department who mentor me.</td>
</tr>
<tr>
<td>I mentor individuals within my department.</td>
</tr>
<tr>
<td>I am provided constructive performance feedback on a regular basis.</td>
</tr>
<tr>
<td>I am paid appropriately.</td>
</tr>
<tr>
<td>Teaching is undervalued for salary considerations.</td>
</tr>
</tbody>
</table>
**Intent to Leave:** These items are measured on a 6-point scale (1 – Highly Unlikely, 2 – Unlikely, 3 – Somewhat Unlikely, 4 – Somewhat Likely, 5 – Likely, 6 – Highly Likely).

Instructions: Thinking about your near future (next two years), please select the response that best answers the following questions.

<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>How likely are you to leave your current position?</td>
</tr>
<tr>
<td>How likely are you to leave your current institution?</td>
</tr>
<tr>
<td>How likely are you to leave the teaching profession?</td>
</tr>
<tr>
<td>How likely are you to leave higher education as a whole?</td>
</tr>
</tbody>
</table>

Please indicate your sex.

Please indicate your ethnicity.

What is your current rank?

- Contingent/Contract Faculty (Non-Tenure Track)
- Assistant Professor (Tenure Track)
- Associate Professor (Tenured)
- Professor (Tenured)

At what level do you primarily teach?

- Undergraduate
- Graduate
- Both Undergraduate and Graduate equally

What is your current employment status?

- Full Time
- Part Time

Please indicate the number of years you have been teaching in Higher Education.
Which one of the terms below best describes how you primarily view yourself within your profession?

- Professor
- Researcher
- Teacher
- Scholar
- Educator

Which type of teaching methods do you primarily utilize?

- Lecture
- Discussion/Seminar
- Interactive Lab
- Student Led

Please indicate in which discipline you primarily teach.

At which institutional type do you primarily teach?

- Public Research University
- Public Teaching University/College
- Public Community College

Please indicate the number of credits/units you typically teach per semester.

What is your primary responsibility within your current position for this academic year?

- Only teaching
- Mostly teaching, but some research
- Half teaching, half research
- Mostly research, but some teaching
- Only research
Appendix B

Table B1. Descriptives of Faculty Perceptions of Student Motivation.

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSM 1 – The students in my class really try to learn.</td>
<td>4.61</td>
<td>0.875</td>
</tr>
<tr>
<td>PSM 2 – My students work hard at learning new things in my class.</td>
<td>4.56</td>
<td>0.881</td>
</tr>
<tr>
<td>PSM 3 – My students generally focus on what I am teaching.</td>
<td>4.75</td>
<td>0.794</td>
</tr>
<tr>
<td>PSM 4R – Most often, my students do not want to put forth much effort to learn the content.</td>
<td>3.93</td>
<td>1.207</td>
</tr>
<tr>
<td>PSM 5R – My students are often distracted or off task, and I have to bring them back to focus on the topic or work at hand.</td>
<td>3.96</td>
<td>1.167</td>
</tr>
<tr>
<td>PSM 6R – In general, my students are not interested in what they are asked to learn in my class.</td>
<td>4.54</td>
<td>1.057</td>
</tr>
<tr>
<td>PSM 7R – When my students are not engaged in the class, it is because they do not see the value of what they are being asked to learn.</td>
<td>3.37</td>
<td>1.157</td>
</tr>
<tr>
<td>PSM 8R – Some of my students just have too many personal problems to make school a priority.</td>
<td>3.10</td>
<td>1.237</td>
</tr>
<tr>
<td>PSM 9R – Most often, if students are not engaged in my class, it is because they do not see the relevance of the content in their world.</td>
<td>3.36</td>
<td>1.159</td>
</tr>
<tr>
<td>PSM 10R – If students do not see the point of learning the content, then they are not motivated to learn it.</td>
<td>2.60</td>
<td>1.036</td>
</tr>
<tr>
<td>PSM 11R – Some students are just not motivated to learn because they are lazy.</td>
<td>3.88</td>
<td>1.334</td>
</tr>
<tr>
<td>PSM 12R – Some students in my class just do not care about learning.</td>
<td>3.72</td>
<td>1.314</td>
</tr>
<tr>
<td>PSM 13 – My students generally pay attention to me when I am teaching.</td>
<td>4.92</td>
<td>0.692</td>
</tr>
<tr>
<td>PSM Composite Score</td>
<td>3.95</td>
<td>0.623</td>
</tr>
</tbody>
</table>

*Note.* Items 1, 2, and 4 represent effort, items 3, 5, and 13 represent engagement, and item 6 represents interest; collectively they make up the motivation subset of the PSM scale. Items 7, 9, and 10 represent relevance/value, item 8 represents home factors, and items 11 and 12 represent personal factors; collectively they make up the reasons subset of the PSM scale.
Table B2. Correlations Between Motivational Factors and Faculty Demographics, Profile Characteristics, and Perceptions of Student Motivation.

<table>
<thead>
<tr>
<th>Item</th>
<th>E_CM</th>
<th>E_CI</th>
<th>E_SE</th>
<th>G_M</th>
<th>G_AP</th>
<th>G_AA</th>
<th>G_WA</th>
<th>TV_1</th>
<th>TV_I</th>
<th>TV_2</th>
<th>TV_C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>-.059</td>
<td>.083*</td>
<td>.099**</td>
<td>.158**</td>
<td>.063</td>
<td>.121**</td>
<td>.058</td>
<td>.072*</td>
<td>.154**</td>
<td>-.015</td>
<td>.138**</td>
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Note. **p < .01 (2-tailed), *p < .05 (2-tailed). E_CM is efficacy for classroom management, E_CI is efficacy for classroom instruction, E_SE is efficacy for student engagement, G_M is mastery goals, G_AP is ability approach goals, G_AA is ability avoid goals, G_WA is work avoidance goals, TV_1 is the first task value construct comprising elements of utility, attainment, and intrinsic value as well as cost, TV_I is intrinsic value, TV_2 comprises attainment and utility value, and TV_C is cost.
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**Note.** Target factor loadings are bolded. GF = General Factor; all others are specific factors per theoretical expectations. CI = Efficacy for Classroom Instruction; CM = Efficacy for Classroom Management; SE = Efficacy for Student Engagement; M = Mastery Goals; AP = Ability Approach Goals; AA = Ability Avoidance Goals; WA = Work Avoidance Goals; TVI = Intrinsic Value; TV1 = Combined Intrinsic, Attainment, and Utility Values plus Cost; TV2 = Combined Intrinsic, Attainment, and Utility Values; TVC = Cost. Coefficients shown in italics are significant at p < .05 or better.
Table B4. Significant Regression Coefficients on the Motivation Specific Sub-Factors.

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Note. CI = Efficacy for Classroom Instruction; CM = Efficacy for Classroom Management; SE = Efficacy for Student Engagement; M = Mastery Goals; AP = Ability Approach Goals; AA = Ability Avoidance Goals; WA = Work Avoidance Goals; TV1 = Intrinsic Value; TV1 = Combined Intrinsic, Attainment, and Utility Values plus Cost; TV2 = Combined Intrinsic, Attainment, and Utility Values; TVC = Cost. Coefficients shown are significant at p < .05 or better.
Figure B1. Bifactor ESEM Model Depiction. Dotted lines represent potential cross-loadings.
Figure B2. Hierarchical Bifactor ESEM Model Depiction. Dotted lines represent potential cross-loadings.
References


Ginsberg, B. (2011). *Fall of the faculty: The rise of the all-administrative university and why it matters*. Oxford University Press, USA.


Rosser, V. J. & Slife, N. M. (2012). Faculty of arts and science worklife climate survey. Unpublished manuscript.


# Curriculum Vitae

## Celeste M. Calkins

University of Nevada, Las Vegas  
Department of Educational Psychology and Higher Education  
celeste.m.calkins@gmail.com

<table>
<thead>
<tr>
<th>EDUCATION</th>
<th>University of Nevada, Las Vegas</th>
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<tbody>
<tr>
<td><strong>May 2018</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Degree:</strong></td>
<td>Doctor of Philosophy</td>
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<tr>
<td><strong>Major:</strong></td>
<td>Higher Education</td>
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<tr>
<td><strong>Dissertation</strong></td>
<td><strong>Developing and Measuring Faculty Motivation to Teach in Higher Education.</strong></td>
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<tr>
<td><strong>Title:</strong></td>
<td>Dr. Vicki Rosser, Advisor.</td>
</tr>
<tr>
<td><strong>July 2011</strong></td>
<td>Ball State University</td>
</tr>
<tr>
<td><strong>Degree:</strong></td>
<td>Master of Arts</td>
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<tr>
<td><strong>Major:</strong></td>
<td>Adult and Community Education</td>
</tr>
<tr>
<td><strong>May 2010</strong></td>
<td>Ball State University</td>
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<tr>
<td><strong>Degree:</strong></td>
<td>Master of Arts</td>
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<td><strong>Major:</strong></td>
<td>Career and Technical Education</td>
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<tr>
<td><strong>Thesis Title:</strong></td>
<td><em>Green Printing Ink and Stock vs. Traditional Printing Ink and Stock: An Experiment in Quality.</em></td>
</tr>
<tr>
<td><strong>Dr. Samuel Cotton, Advisor.</strong></td>
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<tr>
<td><strong>May 2006</strong></td>
<td>University of Wisconsin - Stout</td>
</tr>
<tr>
<td><strong>Degree:</strong></td>
<td>Bachelor of Science</td>
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<tr>
<td><strong>Major:</strong></td>
<td>Graphic Communications Management</td>
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<tr>
<td><strong>May 2004</strong></td>
<td>Northeast Wisconsin Technical College</td>
</tr>
<tr>
<td><strong>Degree:</strong></td>
<td>Associates of Applied Science</td>
</tr>
<tr>
<td><strong>Major:</strong></td>
<td>Marketing and Graphic Communications</td>
</tr>
</tbody>
</table>
RELEVANT EXPERIENCE

Graduate Assistant
Educational Psychology and Higher Education
University of Nevada, Las Vegas
Las Vegas, Nevada
August 2014 - Present
- Teach COE 202 – Second Year Seminar
- Explore grant opportunities
- Data management and analysis
- Collaborate with faculty on multiple research projects
- Manage COE 102 and 202 end of semester surveys
- Participate in multiple institution level research projects

Assistant Professor
Department of Technology
Ball State University
Muncie, Indiana
August 2011 – June 2014
- Taught courses within the Graphic Arts Management program
- Conducted research on print related topics
- Advised Colleges Against Cancer student organization
- Advised the Technical Association of the Graphic Arts student organization
- Supervised and aided students in the graphic arts labs
- Developed and implemented improved curriculum
- Participated in program development and planning
- Performed First Year summer advising
- Designed and produced annual awards banquet program

Graduate Assistant
Department of Technology
Ball State University
Muncie, Indiana
August 2008 – June 2011
- Researched various print and education related topics
- Conducted Chemical Digestion and Atomic Absorption tests
- Participated in the development and implementation of curriculum
- Supervised and aided students in graphic arts labs
- Taught four introductory graphic arts classes
- Active participation in course certification meetings
Flexography Plate Mounting and Roll Label Inspection
Nosco Incorporated
Gurnee, Illinois

- Ran roll label inspection equipment including: vision system inspection, backside numbering, cut labels, sheeted labels, inserts, fix-a-form labels, RFID and variable data
- Mounted flexography plates
- Inventory control
- Mixed pantone colors
- Pit crew duties including: industrial cleanup, assisting on press, stock allocation, and press wash up

Peer-Reviewed Publications


Student Peer-Reviewed Publications


**National Presentations**


Regional Presentations


Grant Projects


Service Activities

University of Nevada, Las Vegas

Security Volunteer for the final 2016 Presidential Debate hosted at UNLV. 2016
Volunteer for COE’s Education Summit. 2015
Faculty Senate subcommittee: Researched and collected data on peer institution’s governance structure. 2015

Ball State University

Graphic Arts Management curriculum change and development to update the program and secure certification. 2013-2014
Faculty Advisor for Colleges Against Cancer (CAC) student chapter. 2011-2014
Faculty Advisor for the Technical Association of the Graphic Arts (TAGA) student chapter. 2011-2014
Summer freshmen advising. 2012-2013
Founder of Ball States Technical Association of the Graphic Arts (TAGA) student chapter. 2009

Academic Awards, Recognition, and Certifications

UNLV Graduate College Research Certificate 2017
UNLV Responsible Conduct of Research Certificate 2017
UNLV Graduate College Teaching Certificate 2016
Nominated for Outstanding Graduate Teaching Award 2015

Professional Memberships

Golden Key International Honour Society, Phi Kappa Phi, Association for Career and Technical Education (ACTE), American Educational Research Association (AERA).
University of Nevada, Las Vegas

COE 202 - Second Year Seminar
This course builds on the First-Year Seminar (FYS) to prepare students with skills and knowledge to promote academic success and retention. Major areas of focus include: inquiry and critical thinking skills, communication, global/multicultural awareness, intellectual and life-long learning perspectives, and citizenship and ethics. Anticipated outcomes are: connections with faculty and peers, overall college engagement, and improvement in academic skills.

Ball State University

ITGRA 184 - Computer Applications in Graphic Arts
Computer applications for design and graphic communication are examined and applied. Applications include: Windows and Macintosh operating systems, image illustration and manipulation, page layout, Web site, and other graphic design applications.

ITGRA 286 - Digital Photography 1
This digital photography course emphasizes design, exposure techniques, composition, basic digital image capture, and electronic image manipulation.

TGRA 480 - Commercial Printing
Integration of graphic communication processes from design, to production of print products, and services for clients. Emphasis is placed on managing the process and participating in a variety of roles utilizing skills learned in class. These skills include: customer service, design and layout, time management, planning, press production/supervision, and quality control.

TGRA 484 - Printing Management
Studies planning, organization, control, and motivation as they relate to managing a business. Emphasis is on human relations, marketing, decision making, problem solving, and coordination of management, sales, and production for successful management.

TDPT 380 - Internship in Technology
Emphasizes internal or external placement in a technology workplace. Provides opportunities to integrate and apply course content to the workplace. A paid or unpaid work experience for majors in the Department of Technology.