

Faculty motivation and scholarly work: Self-determination and self-regulation perspectives

Vicente M. Lechuga
Texas A&M University

Deborah C. Lechuga
Texas A&M University

***Abstract:** Much of the research on faculty motivation utilizes frameworks that examine a variety of factors that can lead to greater productivity. In this review essay, the authors do not consider faculty members merely as producers (and disseminators) of knowledge. Instead, they regard faculty as learners and view research as a learning activity. They draw upon self-determination theory and the notion of self-esteem to argue that these underutilized frameworks provide an alternate approach to explore faculty motivation to engage in research because these frameworks focus on fulfilling basic individual needs. The authors also discuss self-regulated learning theory as a tool to examine how faculty can maintain their motivation, and suggest that utilizing learning motivation frameworks can help to reconcile the extrinsic-intrinsic dichotomous view of faculty motivation in the current literature.*

Faculty members are central to the functioning of colleges and universities. For nearly 50 years, researchers have attempted to find ways to understand the factors that motivate faculty to work and ways in which to keep them invigorated to remain productive and contributing members of the academic community. Aside from faculty promotion, tenure evaluations, and the occasional sabbatical leave, faculty often rely upon

Vicente M. Lechuga is an Assistant Professor of Higher Education Administration at Texas A&M University.

Deborah C. Lechuga is a Research Associate for the Texas Center for the Advancement of Literacy and Learning in the Department of Educational Administration and Human Resource Development at Texas A&M University.

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themselves to remain vibrant and productive in their teaching and research. As early as 1975, Brown and Hanger (1975) suggested that most faculty spend between 10-25 percent of their time keeping current in their field. For those faculty whose work responsibilities include research, such activities are of critical importance. "Journals are read, and conventions are attended. Colleagues are constantly exchanging new information. Symposia, workshops, and special enclaves are often undertaken at personal expense" (Brown & Hanger, 1975, p. 202). Maintaining the motivation to engage in research activities, whether it is fieldwork, laboratory work, or library research, is crucial to many faculty members' success.

Although higher education research to date provides a useful foundation for understanding faculty motivation, many of the claims made pay little attention to contemporary learning motivation theories on either self-determination or learning motivation regulation. For instance, in addressing issues related to faculty motivation to engage in research activities, researchers suggest that demographic status, educational experience, and institutional background are significant factors that help to explain differences in faculty performance (Blackburn & Lawrence, 1995; Creswell, 1985; Finkelstein, 1984; Fox, 1983; Lawrence & Blackburn, 1988; Long, 1978; Bruer, Cole & Zuckerman, 1991). Schuster and Finkelstein (2006) also noted gender differences as a factor that influences publication output, "...academic women at all types of institutions consistently published less than men, although the vast majority of both men and women at research universities do publish" (p. 99). Long (1978) sought to explain the gap in publication output in the sciences by inquiring why "some scientists succeed, publishing widely-acclaimed work year after year, while other scientists publish almost nothing throughout their careers?" (p. 889). His work suggests that institutional reputation significantly affects faculty output, asserting that "change in publication rate is most strongly affected by the prestige of the scientist's academic location—scientists in prestigious departments increase their publication rate while those in less prestigious departments begin to publish relatively less" (p. 898). Although informative in understanding the *characteristics* of productive and motivated faculty, such research does not contribute to a thorough understanding of *what* motivates faculty to engage in research activities, financial rewards notwithstanding.

In what follows, we offer readers an essay in the most fundamental sense of the word, *Essai*, – first introduced by 16th Century French philosopher, Michel de Montaigne – which literally translates to an “attempt” or “trial” of ideas. We explore three theoretical perspectives on learning motivation that offer motivational researchers an alternate conceptual framework from which to understand what motivates faculty to engage in research, focusing on individual rather than contextual needs. Our intent is to extend the existing literature on faculty motivation and argue that faculty motivation towards research ought to be considered from a learning motivation perspective in which faculty members are viewed as learners and research is viewed as a learning activity. This theoretical perspective also helps reconcile the intrinsic-extrinsic views of motivation in the literature. We begin by offering readers our definition of research and scholarly work that frames our discussion, before outlining the methodological framework that served as the foundation for the development of our discussion – the integrated literature review. We follow with an overview of the current research pertaining to faculty motivation, much of which has focused on faculty work responsibilities outside of research, e.g., teaching, professional development, and service activities. Using the literature on faculty behavior and learning motivation, we explore the issue of faculty motivation and scholarly work through the lens of self-determination theory. We expand upon the self-determination framework with the additional component of self-esteem based on the work of Sheldon, Elliot, Kim, and Kasser (2001), arguing that the motivation to engage in research activities draws upon notions of self-worth and self-esteem. To better understand how faculty members *maintain* their motivation to engage in research we draw upon an additional learning motivation theory, self-regulated learning. Finally, we close with a discussion of future research directions and implications to the area of faculty development and support.

Defining Research as Scholarly Work

Before we proceed further, it is important to provide a rationale with regard to our use of the term ‘scholarship’. Blackburn and Lawrence (1995) assert that research is most conventionally defined as dealing with published outcomes of one’s work. Simply put, they view research as an “activity that leads to a concrete product (an article, report, monograph, book, grant proposal, software development)” (Blackburn & Lawrence, 1995, p. 321). We, however, broaden this notion of research to include

aspects of Boyer's (1990) notion of scholarship. Boyer conceptualizes scholarship as having four separate but overlapping components: the scholarship of discovery (most commonly thought of as research), the scholarship of integration (the process of synthesizing, situating, interpreting, and ascribing meaning to new knowledge), the scholarship of application (the idea of scholarly service), and the scholarship of teaching. For the purposes of this article, our use of the term "scholarly work", which we also use interchangeably with research, incorporates the first two of the four components of Boyer's concept of scholarship. Thus, scholarship refers to intellectual activities that utilize any aspect of either the scholarship of discovery or integration deemed appropriate to that individual's scholarly development or project. This expanded definition allows us to capture the ineffable aspects of the research process that faculty members experience while engaged in their scholarly work.

Methods

In developing our conceptual analysis of the literature pertaining to faculty motivation and scholarly work, we followed methodological guidelines related to the development of integrative research reviews (Cooper, 1982; Ganong, 1987; Jackson, 1980). Cooper (1982) defines an integrative review as a summary of past research on a particular topic that is used to formulate conclusions based on a number of studies. Its purpose is to present the current state of knowledge on a given topic and to highlight new areas for research. Taveggia (1974) asserts that the purpose of an integrative review is to underscore important issues of interest that have been left unresolved in a particular body of literature. With regard to the integrative review we present here, our purposes are to provide readers with an overview of the current literature on faculty motivation, self-determination, and self-regulated learning theory, and to formulate a conceptual model that demonstrates the utility of investigating faculty motivation to engage in research using both self-determination and self-regulated learning frameworks.

Jackson (1980) offers a methodology for integrative reviews premised on six basic tasks that authors should follow. The first task focuses on ensuring that an integrative review is based on the research question or hypothesis. As Walsh and Downe (2005) assert, "As with other research activities, an appropriate research question, purpose, or aim frames a

meta-analysis” for the development of an integrative review (p. 206). Our review focuses on questions concerning the extent to which faculty motivation to engage in research activities (and to sustain that motivation) can be explored by using two bodies of motivation theory. More specifically, we based our review on two fundamental questions:

1. What is the relationship between faculty motivation to engage in research activities and their pursuit of competence, autonomy, and relatedness (i.e. the three basic components of self-determination theory)?
2. In what ways might faculty be incorporating aspects of self-regulated learning to maintain their motivation?

Jackson’s (1980) second task centers on the manner in which authors choose the sample of reviews to be used, and the third task focuses on making sure the characteristics of the studies and their findings are appropriately presented. With regard to this review, we conducted an extensive search of the literature pertaining to the topics that frame our discussion. We limited our search to peer-reviewed journal articles, books, and book chapters. We conducted searches of several databases, including Academic Search Complete (EBSCO), JSTOR, Project Muse, ProQuest, Psych Info, Science Direct, and Wilson Complete, to locate peer-reviewed journal articles. To ensure that we gathered articles that would provide a thorough understanding of our chosen frameworks, our literature searches included materials that were published from 1970 to the present – given that research on faculty work life and faculty motivation spans at least 40 years. Through our review of the research conducted in the 1970’s, we identified three seminal studies conducted prior to 1970 (Eckert & Stecklein, 1961; French, Tupper, & Mueller, 1965; Gustad, 1960) that we incorporated into our review.

Jackson’s (1980) fourth and fifth tasks concern themselves with ensuring that care was taken during the analysis and interpretation of the representative study findings. Jackson asserts that it is common for findings from different studies on similar topics to be different. In analyzing the representative study findings, we found that conclusions from various studies offered a wide range of conclusions. Consequently, we discuss studies with diverse findings to provide readers with a full spectrum of the research on our particular areas of concern. Finally, Jackson’s sixth task involves ensuring that conclusions from the sample

of studies used to develop the integrative review are fairly presented. In researching the bodies of literature related to faculty motivation and motivation theory, we closely examined study conclusions, being careful neither to infer certain outcomes that would bolster our arguments nor to omit findings that were incongruent with our conceptual ideas.

We identified other relevant literature such as books and book chapters using an iterative process known as “berrypicking” (Bates, 1989). Bates defines berrypicking as a search process in which a variety of techniques are used to locate literature on a specific topic, utilizing multiple information sources. For example, when we located an article that was directly related to the specific body of literature, we used this “starter reference” (p. 417) to locate other relevant documents that were cited in the starter reference literature, which included books, book chapters, journal articles, etc. Bates refers to this particular berrypicking method as “Citation Searching”. We also utilized a technique known as “Area Scanning” that is most commonly associated with book retrieval. This technique is defined as the act of searching for relevant materials either by scanning the physical location in which a particular text is located or by examining the schema used to classify a particular text. Other techniques we used included inserting the names of authors who had written extensively on our topics into a publicly available database such as Google Scholar to identify other authors that had cited their work. Doing so allowed us to locate additional literature on potentially similar topics, although this was not always the case. As an evolving process, berrypicking techniques were used in conjunction with one another. That is to say, when a particularly relevant article or text was located using one method – by using area scanning for example – we employed another berrypicking technique such as author searching to locate other items, using the text that had been retrieved by area scanning.

Faculty Motivation Perspectives

Given that teaching is a core responsibility of faculty work life, regardless of institutional type, a majority of the work on faculty motivation has predominantly focused on the motivation to teach (Bess, 1977, 1997; Ericksen, 1984; Fairweather & Rhoads, 1995; Levinson-Rose & Menges, 1981; Paulsen & Feldman, 1995; Travis, 1995). High quality teaching is one important aspect that determines a faculty member’s success or failure, and the ability to sustain the motivation to teach well can be difficult. For instance, faculty members often are

allowed a substantial amount of freedom and autonomy to develop innovative strategies to improve their teaching. Yet, more often than not, faculty reward structures (i.e. tenure) are more likely to favor excellent research over great teaching, especially at research institutions. Many faculty members sustain their motivation to teach utilizing a number of motivation techniques. Intrinsic motivators, for example, help faculty sustain an interest in teaching such that “the rewards for the [teaching] activities are spontaneous feelings of engagement, excitement, accomplishment, or awe which accompany them” (Deci, Kasner, & Ryan, 1997, p. 60).

For many faculty members, their work is apt to include research in addition to teaching and professional service responsibilities. Most recently, research has become a growing function of faculty work for those employed at institutions whose focus has historically been on teaching, such as liberal arts colleges (McCaughey, 1994; O’Shea, 2003) and comprehensive institutions (Finnegan & Gamson, 1996). Moreover, little attention is directed toward understanding faculty motivation in their roles as researchers. The current literature on faculty motivation can shed light on how we can begin to understand faculty members’ motivation to engage in research activities and can provide theoretical perspectives that allow for future inquiry. Below, we characterize the existing research on faculty motivation as generally falling into one of four theoretical perspectives, by and large, and provide a summary along with practical examples in Table 1.

Table 1
Selected research perspectives on faculty motivation

Faculty Motivation Perspectives	Source of Motivation	Research Implications	Practical Examples
<i>Intrinsic Motivation</i>	Internal to the individual; Engaging in an activity for its own sake	Focus on ways to increase individual enjoyment of activities	Taking pleasure in teaching because one is able to impart new knowledge to students
<i>Extrinsic Motivation</i>	External to the individual; Desired outcome is not related to the task in which a faculty member engages	Motivation is linked to rewards structure; Change the rewards structure to change faculty behavior	Motivated by tenure and promotion, salary increases, external funding, publication count, etc.
<i>Dual-Motivation</i>	Internal and External to the individual	Suggests that motivation can influence faculty behavior in competing ways	Taking pleasure in writing articles, but must write on specific topics to get published
<i>Stage-Dependent Motivation</i>	Motivation is dependent on one's career stage, i.e. junior, mid-career, or senior faculty member	Focus on meeting needs of faculty members based on career stage; Can focus on intrinsic or extrinsic factors	Beyond a certain salary level, salary becomes less important than other work-related factors

Intrinsic motivation perspective

Scholars who utilize this theoretical approach contend faculty are intrinsically motivated by internal rewards, such as a sense of accomplishment or mastery (e.g., Cole & Cole, 1973; Creswell, 1985; Harter, 1978; Hunter & Kuh, 1987). The source of motivation comes from the individual rather than from a source external to the individual. Thus, intrinsically motivated individuals are considered to be those who

engage in an activity —for its own sake” (Deci, 1971; Tauer & Harackiewicz, 2004; Vansteenkiste, Lens, & Deci, 2006). As such, researchers who are interested in enhancing motivation focus on identifying ways to increase an individual’s enjoyment of a task (i.e., helping individuals identify aspects of tasks that are considered to be enjoyable) rather than on changing or —fixing” the rewards structure.

Extrinsic motivation perspective

This perspective views faculty as being extrinsically motivated by external rewards, such as promotion, tenure, and merit increases (Bess, 1998; Fairweather, 1999; Fox, 1985; Tien & Blackburn, 1996; Tuckman, 1979). In this case, the individual will engage in a task or activity to obtain an outcome that is separate from the activity itself (Vansteenkiste, Lens, & Deci, 2006). Since the source of motivation is considered external to the individual, extrinsic motivation behavior is characterized as a —means-end” activity (Simons, Vansteenkiste, Lens, & Lacante, 2004; Vansteenkiste, Lens, & Deci, 2006) in the sense that the task is considered the vehicle to achieve another desired outcome, e.g., research productivity leads to tenure. Therefore, scholars who are interested in enhancing motivation tend to focus on the desired external outcomes. These scholars argue that motivation is linked to the current faculty rewards structure and that change in faculty behavior requires a change in that rewards structure.

Dual motivation perspective

From this perspective, faculty are both extrinsically and intrinsically motivated (Blackburn & Lawrence, 1995) which suggests that extrinsic and intrinsic motivators may influence faculty behavior in competing ways. In these cases, scholars argue for a change in the rewards structure as well as support for individuals to find enjoyment in work. This perspective draws upon both expectancy and attribution theories to explore issues of motivation in relation to worker output. While these frameworks are beneficial, they view motivation in relation to increased faculty productivity, as opposed to exploring motivation within the context of learning. Moreover, neither extrinsic nor intrinsic perspectives consider the significance that autonomy, a key component of scholarly research, plays in understanding the factors that motivate faculty to engage in scholarly work.

Stage dependent perspective

This theoretical perspective views faculty members as progressing through a series of career stages characterized by stability in some areas of their work and changes in others (Baldwin & Blackburn, 1981). Said differently, scholars with a stage dependent perspective suggest that faculty have particular needs depending upon their career stage. For example, early career faculty are focused on obtaining tenure, and therefore, motivation is derived from an external motivation to obtain tenure (Austin, Sorcinelli, & McDaniel, 2007). Whereas mid-career faculty are less concerned about tenure, and more concerned about maintaining momentum (Baldwin, Lunceford, & VanDerLinden, 2005). Therefore, faculty motivation changes with career stage because personal goals change as one progresses through their career.

For instance, Gustad (1960) found that “salary is much more important to those with low salaries than those with high salaries. Beyond a certain level of subsistence or comfort, however, salary is not rated as an important reward” (Lewis & Becker, 1979, p. 6). This seems to imply that beyond individual comfort in lifestyle, financial rewards play a less important motivational role than other factors, intrinsic or otherwise. This point seems to be supported more recently in research by Tien (2000, 2008), who found that salary was more important to younger faculty than to more established faculty. Career-stage perspectives can provide valuable information about motivation factors because they view faculty careers as fluid, as opposed to static. Faculty experience changes in their attitudes, behaviors, and perspectives about their work as they progress through the professorate. Thus, motivational dynamics will change accordingly. Nevertheless, a career-stage perspective views motivation in relation to career development and does not necessarily focus on other individualistic needs.

As previously mentioned, much of the research outlined above focuses on faculty motivation in areas unrelated to research, (e.g., teaching, professional development, service). Still, there is a dearth of research that explores faculty motivation to engage in scholarly work regardless of the fact that research constitutes a growing responsibility for faculty at numerous types of postsecondary institutions (Cannon, 1989; Halpern, 1994; Layzell, 1999). We acknowledge that faculty work for many in academe includes some combination of research, teaching, and service. However, we limit the discussion of faculty motivation here to the

domain of research for the following reasons. First, the reward structures at many 4-year institutions are heavily geared toward faculty research and scholarship (Cannon, 1989; Halpern, 1994; Layzell, 1999; O'Meara & Rice, 2005). Moreover, the pressure to publish and engage in scholarly work appears to extend beyond faculty at research and doctoral universities. —Faculty nearly everywhere perceive pressure to obtain external funding, conduct research, and publish their findings. Liberal arts college faculty with their strong teaching mission also find that good teaching evaluations may not suffice to obtain tenure” (Blackburn & Lawrence, 1995, p. 144). Second, a successful scholarly career at a growing number of institutions is premised on the idea that an extensive record of scholarly publication is necessary (Blackburn & Lawrence, 1995; Boyer, 1990), evoking the phrase “publish or perish.” In fact, some scholars suggest that the primary role of faculty work is transforming to the extent that, —publishing has replaced teaching as the principle faculty role in universities and has become an increasingly important criterion for promotion, tenure, and career success” (Blackburn & Lawrence, 1995, p. 115).

In moving forward with our discussion, we draw upon the current literature on faculty behavior and motivation to outline their relationship to the learning motivation theories we present. Hence, our review of the research serves as the foundation from which to argue that the use of learning motivation theories can help to provide additional insight into issues regarding faculty motivation to engage in research activities. We first outline the basic components of self-determination theory, as articulated by Deci and Ryan (1985, 2000), and argue for the need to incorporate a self-esteem component into self-determination to better understand faculty motivation. We then discuss how the use of self-regulated learning theory can provide researchers with valuable insight regarding the techniques faculty might utilize to regulate and/or *maintain* their motivation.

Faculty Motivation and Learning

In reviewing the literature on faculty motivation, our aim is to provide a foundation from which we can introduce a more concise and coherent framework for understanding faculty motivation to engage in scholarly work that builds upon prior research on learning motivation and behavior. We maintain that a conceptual framework for investigating

faculty research motivation that draws upon learning motivation theories, including self-determination (Deci & Ryan, 1985) and self-regulated learning theories (Zimmerman & Martinez-Pons, 1990; Wolters, 2003), can provide new insights about what motivates faculty. Our purpose in utilizing these theories is to reconcile the extrinsic-intrinsic dichotomous view of faculty motivation in the current literature by focusing on more basic individual needs that span across faculty career stages (e.g., early career, mid-career, late career faculty).

Self-Determination Theory

One way to conceptualize faculty motivation to engage in scholarly work is through the lens of self-determination. Self-determination theory explores “how social contexts can promote autonomous motivation and its adaptive qualities” (Vansteenkiste, Lens & Deci, 2006, p. 19). Put another way, environments or social settings promote an individual’s intrinsic motivation when certain individual needs are met – the need for competence, autonomy, and relatedness (Brophy, 2004). Competence refers to an individual’s ability to feel efficacious or accomplished. Autonomy refers to an individual’s ability to feel as if his or her behavior or action is derived from the self rather than by means of coercion or any other external force. Lastly, relatedness refers to the ability of an individual to feel connected with others. As summarized by Brophy (2004) when all needs are met, “people are inherently motivated to feel connected to others within the setting, to function effectively in it, and to feel a sense of personal initiative while doing so” (p. 189).

This theoretical perspective has already been applied within the faculty motivation literature (Bess, 1997), but with few exceptions its application has been limited to the context of faculty teaching. Using self-determination theory as an analytical tool to understand faculty motivation to engage in research can be just as helpful a tool because the focus is on more basic individual needs. Moreover, self-determination theory provides an understanding of the relationship between intrinsic motivation and those needs. This approach to understanding motivation simplifies the complexity and ambiguity inherent in developmental models of motivation. Self-determination theory can be effectively used to foster a greater understanding of faculty members’ motivation to engage in scholarly research activities because it allows the researcher to formulate a complex understanding of the specific needs that must be met for an individual to feel self-determined. To guide our discussion of

this construct, we explore how understanding the extent to which faculty feel their competency, autonomy, and relatedness needs are being met within the research domain provides valuable insight about motivation to engage in scholarly activities. Table 2 provides a summary of the components that comprise self-determination theory along with the additional self-esteem component. To guide our discussion, we provide readers with practical examples of each component.

Table 2
Application of self-determination theory

Individual Faculty Needs	Source of Motivation	Research Implications	Practical Examples
<i>Competence</i>	Internal/External: Engaging in an activity without being prompted to do so for the sake of being challenged	Focus on ways to provide optimal challenges to faculty that will help them develop feelings of competence	Taking chances in one's work – writing for publication in a top tier journal; Applying for a large research grant as a new scholar
<i>Autonomy</i>	Internal/External: An individual's behavior originates from within themselves	Understand how faculty define autonomy, and the factors that may constrain or support it	Managing one's work time; Freedom to choose research topics
<i>Relatedness</i>	External: Feeling connected with others; Interpersonal relationships	Provide strategies that suggest how one can develop specific types of relationships and/or networks	Becoming involved with a specific research community; Creating relationships and/or collaborations with senior researchers
<i>Self-Esteem</i>	Internal: A strong sense of self forms the basis of self-determined functioning	Dependent upon the domain in which self-worth and self-validation goals are invested	If self-worth is invested in teaching, faculty maintain self-esteem by spending more time with students than on their writing

Competence

As previously stated, competence involves feeling efficacious or accomplished. Deci, Kasser, and Ryan (1997) suggest that “an expression of humans’ needs for competence is that they often engage in behaviors to meet optimal challenges, even in the absence of prods, prompts, or pressures” (p. 63). Without a doubt, faculty employed at research universities are required to consistently demonstrate their competence, particularly in their scholarly work. For many faculty members, tenure and promotion in addition to post-tenure review are based upon ones ability to demonstrate competencies in teaching, research, and service to the academic community. However, demonstrating competence and feeling competent are different and independent from one another. A faculty member may demonstrate an adequate level of competence to warrant a promotion while lacking a sense of self-efficacy in their ability to conduct research. From a motivation perspective, there may be an extrinsic motivation to increase scholarly productivity (tenure or promotion); nevertheless, if a faculty member’s need for competence is unmet, their optimal research productivity will not be realized.

One of the earliest studies that examined faculty behavior sought to understand individuals who chose to be college professors (Gustad, 1960, as cited in Lewis & Becker, 1979). Gustad’s (1960) sample of participants strongly identified themselves with their own scholarly disciplines (Lewis & Becker, 1979). Although these faculty members enjoyed teaching, they looked for acceptance within their discipline at the national level. Not surprisingly, being recognized by disciplinary peers nationally contributed to their sense of competence. Gustad (1960) also found that faculty participants listed research as the most rewarding aspect of their work. Demonstrating one’s level of research productivity (via publications) provides a vehicle for national recognition, and in turn, national recognition acts as an extrinsic motivator that helps to meet an individual’s competency needs.

With regard to competence, Tien (2008) found that faculty who highly value promotion and who produce research regardless of age believe that satisfaction of curiosity, a sense of mastery over subject matter, the stimulation of challenging task, and the joy of involvement are important values. These values, by definition, appear to resemble Deci and Ryan’s (1985) definition of competence and intrinsic motivation. However, Tien

(2008) also found that among younger, high producing faculty, the need for recognition from peers and administrative mobility are important values. This can be explained perhaps through the perspective of self-validation goals. Younger faculty might have their self-worth invested in seeking tenure and establishing themselves as scholars within the discipline. Therefore, it is possible that the intrinsic motivation related to achieving self-validation goals for younger faculty members might be the greatest indicator of whether they are able to meet their competence needs.

Autonomy

Generally speaking, faculty work is performed in “isolation” due to the high degree of professional independence faculty enjoy. From the perspective of self-determination, the need for autonomy “involves experiencing oneself as the origin of one’s behavior, rather than feeling like a pawn coerced by circumstances” (Deci, Kasser, & Ryan, 1997, p. 62). In other words, “one’s autonomous when the “perceived locus of causality” for one’s actions is in factors within oneself (e.g., interest in or valuing of a behavior) rather than from reasons based in pressures, compulsions, or rebellion” (Deci, Kasser, & Ryan, 1997, p. 63). In the literature on faculty work life, autonomy is most frequently interchanged with the term “freedom”, and tied to the notion of shared governance.

French, Tupper, and Mueller (1965) found that faculty members rated freedom as one of the top four greatest satisfactions of their jobs, along with interpersonal relations, the nature of faculty work, and teaching (as cited in Lewis & Becker, 1979), all of which are intrinsic motivators. These findings appear to support past research (Eckert & Stecklein, 1961; Gustad, 1960) which suggests that faculty value the perceived freedom or autonomy that is attributed to the nature of their work. Unfortunately, what that freedom entails or how faculty members define the term is relatively unclear. For example, Clark’s (1985/1990) interviews with faculty suggest that there is an “uncommon freedom involved in the “maneuvering time” that many respondents noted as a blessing of the academic role, particularly in the major universities” (p. 158). According to their faculty participants, Becher and Trowler (2001) similarly found that one of the greatest perks of faculty work “is the perceived freedom to choose the subject matter of one’s research. . . . nonetheless, the degree of autonomy . . . held to be significantly greater than in other walks of life” (p. 136). Thus, it appears that autonomy may

have several components related to faculty research motivation, including aspects of time or scheduling and choice in research topics.

Contrary to the perceived freedom and autonomy that faculty speak of in Clark's (1985) or Becher and Trowler's (2001) studies, Allison and Stewart (1974) suggest that researchers are motivated directly by peer expectations and the social reinforcement provided by publications. It appears that while faculty perceive great autonomy in terms of scheduling of their time and choice in research subject matter, they simultaneously appear to have less autonomy in the sense that their motivation is directly related to social pressures and reinforcements. If autonomy, like competence, has several layers or components, it is plausible to argue that faculty may have their autonomy needs met in some areas, but not in others. For example, faculty may perceive a great deal of autonomy in choosing a broad research area from which to base their work – faculty motivation, for example. However, they may feel pressure to take their research in a specific direction based on the types of external funding opportunities that are available to them, e.g., examining the motivation of minority faculty in the science and engineering fields. The extent to which faculty feel they are provided with an ample amount of autonomy to choose their specific research domain is unknown.

Relatedness

Relatedness involves the ability of an individual to feel connected with others (Deci, Kasser, & Ryan, 1997). In the literature on faculty issues, the term “community” is most commonly used to refer to Deci and Ryan's idea of relatedness. As mentioned in our previous discussion of faculty autonomy, French, Tupper, and Mueller (1965) found that faculty members rated interpersonal relations as one of the top four greatest satisfactions (as cited in Lewis & Becker, 1979). However, the nature of those interpersonal relations is vague and undefined. Reasons for interpersonal relations or enhanced scholarly community are found in the literature on faculty mentoring (Bode, 1999), faculty collaboration (Austin & Baldwin, 1991), interdisciplinary research (Amey & Brown, 2004; Frost & Jean, 2003), and faculty development support programs (Sorcinelli, 1992). Nevertheless, notions of relatedness can extend beyond ties to a specific scholarly community to include interpersonal relationships with individuals of similar ethnic, racial, or socioeconomic backgrounds. Smith and Witt (1993), for instance, found that faculty of

color are subject to higher stress levels from research than are White faculty. Increased levels of stress for faculty of color are especially significant when an individual is only one of a small handful of minorities, or the only minority faculty member in the department (Phelps, 1995; Stanley, 2006). Here the issue of relatedness suggests that social connections to others with similarities to oneself (including family and friends) are a factor that contributes to faculty motivation.

To date, little empirical research has examined the direct relationship between the idea of relatedness and motivation. Frost and Jean (2003) found that one third of a sample of participants who took part in a faculty seminar program designed to encourage cross-disciplinary scholarly dialogue “found added affirmation for the value of their own scholarly work” (p. 132). In addition, their findings revealed that faculty gained greater motivation due to participating in an activity that enhanced feelings of relatedness. However, the fact that only one-third of faculty reported an increase in motivation from this event hardly suggests a strong association between relatedness and motivation nor does it indicate any cause and effect relationship. Barnes, Agago, and Coombs (1998) investigated the relationship between job-related stress and faculty members' intent to leave academia. They suggest that the relationship between stress and a faculty member's decision to leave is moderated by faculty members' interest in their discipline and sense of community. In addition, the researchers argued that the two most important predictors of faculty members' intentions to leave academia were a sense of frustration due to time constraints and a lacking sense of community at their institution.

In general, the research appears to be incongruent in its implications that faculty members, overall, feel that their relatedness needs are consistently being met. Becher and Trowler (2001), for instance, suggest that faculty's need for connection has led to the formation of professional associations. Implied in this argument is that professional associations at least moderately satisfy a faculty member's need for relatedness. Additionally, research by Gustad (1960), and Eckert and Stecklein (1961) suggest that faculty members' need for intellectual interchange is satisfied “not only through discussions with their colleagues but through work with graduate students and through teaching discussion classes and seminars” (Lewis & Becker, 1979, p. 8). However, more recent literature seems to suggest the opposite. Massey, Wilger, and Colbeck (1994)

assert that faculty experience feelings of isolation in their work. This argument has led to calls for enhanced scholarly community across campuses and the promotion of research and scholarly collaboration (Austin & Baldwin, 1991).

While self-determination theory, in and of itself, can provide valuable insights into issues related to faculty motivation and scholarly work, an important and useful construct missing from the self-determination perspective is the component of self-esteem, which is grounded in an individual's ability to substantiate their worth. The inclusion of a self-esteem component into the self-determination framework provides a more nuanced perspective that offers a greater understanding of faculty motivation to engage in research activities.

Incorporating Self-Esteem into Self-Determination

Crocker and Park (2004) suggest that when individuals invest their self-esteem into a particular domain, they become preoccupied with the meanings of events associated with that domain. Individuals, therefore, interpret the value and worth of those events as they apply to the self. As Crocker and Park (2004) argue, individuals "actively pursue self-esteem by attempting to validate or prove their abilities or qualities in the domains in which self-worth is invested" (p. 393). Thus, self-esteem is contingent upon an individual's capacity to validate their abilities within the domain in which he or she has invested his or her self-esteem.

This theoretical perspective is absent in Deci and Ryan's self-determination theory. Although Deci and Ryan (1985) acknowledge the role that self-esteem plays in self-determined behavior by stating "self-determined functioning . . . is theorized to be based in a strong sense of self, and thus to be associated with a high level of self-esteem" (p. 165), they are unclear as to which domain an individual's self-esteem is invested. In an attempt to reconcile the placement issue of self-esteem in Deci and Ryan's self-determination theory, Sheldon, Elliot, Kim, and Kasser (2001) propose that self-esteem should be a fourth component to the theory, based upon their research that reveals the emergence of self-esteem as a separate need in conjunction with competency, autonomy, and relatedness. We agree. What follows is an attempt to converge notions of self-esteem into self-determination specifically in regards to faculty motivation to engage in research. We draw upon the literature on faculty motivation and contextualize it within the domain of self-esteem.

Domains of faculty work and self-esteem

As previously mentioned, when individuals invest self-esteem into an activity such as research, they pay special attention to the meaning attached to that activity. Once this occurs, self-esteem becomes dependent upon accomplishments in the invested domain, e.g., publication and/or external research monies. Although faculty work falls within the domains of teaching, research, and service, most faculty are unable to be highly productive in research and teaching simultaneously and few —are able to publish while carrying above average teaching loads” (Fairweather, 1999, p. 93). Fairweather (1999) asserts that —when [faculty are] confronted with a substantial classroom work assignment and the desire (or pressure) to publish, the deciding factor may be the faculty member’s own beliefs about the importance of research or teaching” (p. 93). Similarly, Blackburn and Lawrence (1995) support these findings arguing that —the people who want to give time to research, feel that they are able researchers, and believe that research is a high institutional priority, are the ones who allocate the most time to their research” (p. 147-48). Thus, faculty members whose locus of self-worth and identification reside in the domain of scholarly research are more likely to focus their attention to those events that reinforce the value of scholarly research. From a self-esteem perspective, this focus on domain related events are characterized as self-validation goals, which are tied to an individual’s self-worth and identification.

The role of self-validation goals within the context of self-esteem

Given that self-validation is an important component of self-esteem theory, it deserves attention and warrants a discussion here. According to self-esteem theorists, people actively pursue self-esteem maintenance and enhancement by attempting to validate or prove their abilities or qualities in the domains in which they invest their self-worth (Crocker & Park, 2004), research once again being an example. Crocker and Park (2004) argue that —people work to achieve success and avoid failure in these areas [where their self worth is invested], to demonstrate to themselves and others that they are worthy because they satisfy their contingencies of self-worth, or at least do not fail in these domains” (p. 393). Said differently, for the faculty member whose self-worth is invested in research, his or her self-worth would be contingent upon attainment of the self-validation goals attributed to the domain of scholarly research, thus making self-worth an important component of

self-esteem. Peer-reviewed publications arguably are the primary means by which research activities are judged and measured. Therefore, feelings of self-worth and self-esteem with regard to one's research may be tied to the quality and number of peer-reviewed publications a faculty member has published. However, if a faculty member, whose self-worth is tied to their research, feels "coerced" to choose a specific research direction due to external funding considerations her or his self-worth is less likely to be connected to their research. In such cases, self-validating behaviors and goals are minimized which, in turn, can affect a faculty member's self-esteem. No research to date has directly examined the relationship between a faculty member's self-esteem and self-validation goals in relation to research *autonomy*. Nevertheless, it is reasonable to speculate that the degree of self-worth a faculty member invests in a particular sub-domain of autonomy (e.g., choosing a specific research direction) will influence the importance of that sub-domain to that faculty member. Thus, incorporating the self-esteem framework into self-determination theory provides an additional method for examining faculty motivation to engage in scholarly work.

Researchers have attempted to indirectly examine the role self-esteem plays in faculty motivation. For example, Johnsrud and Rosser (2002) examined the relationship between faculty morale and their intention to leave. They argued that the lower a faculty member's morale, the more likely they would leave their institution. However, Johnsrud and Rosser examined morale as an *aspect* of self-esteem, and did not explicitly explore self-esteem separate from morale. Our intention, here, is to argue that the two are not interchangeable attributes. Morale is at least partially influenced by self-esteem and by a person's self-validation goals, but morale is not self-esteem. To suggest that a faculty member's intention to leave is based upon his or her morale without accounting for their self-esteem leaves an incomplete picture of why faculty leave, and also does not address their motivation to leave.

From a self-esteem and self-validation goals perspective, this apparent divide in the literature might be explained by examining the forms of *relatedness* that best fit with faculty members' self-validation goals. For example, if a faculty member's self-validation goal is based on their ability to obtain external funding, then one could use self-determination theory to examine aspects of relatedness that focus on the relationships, networks, or communities which motivate faculty to achieve their goal of

obtaining research funds, thus providing an increased sense of self-worth and self-esteem. On the one hand, it is fair to argue that for “cosmopolitan” faculty whose self-worth is invested in their discipline and scholarly research, their sense of relatedness is primarily met through professional association ties and other relationships external to their institution. On the other hand, for faculty whose self-worth is invested with their local campuses, their sense of relatedness is perhaps met primarily through more local forms of community, which may or may not be associated with their research. Nevertheless, this area of inquiry has not been examined to date.

While self-determination theory, coupled with notions of self-esteem, provides researchers with the tools to better understand the factors that motivate faculty to engage in research activities, self-regulated learning provides an alternate learning motivation framework for understanding how individuals can *maintain* their motivation to engage in a particular activity. The notion of self-regulation highlights eight interconnected characteristics that describe how individuals can maintain motivation. We contextualize self-regulated learning within the domain of faculty motivation and scholarly work to illustrate how one can utilize this theoretical perspective to explore how faculty can maintain their motivation to engage in research activities.

Maintaining Motivation through Self-Regulation

Although self-regulation and motivation are highly interrelated, self-regulation differs in that it suggests that individuals are *consciously* engaging in certain thought processes and behaviors to accomplish particular goals (Wolters, 2003). As such, “regulation of motivation concerns only the thoughts and actions through which [individuals] deliberately try to influence their motivation regarding a particular activity” (p. 191). Said differently, cognitive motivation models assume that individuals are unaware of the processes and behaviors that determine their motivation; conversely, motivation regulation focuses on individuals’ deliberate actions and beliefs that contribute to their motivation to learn. In utilizing this theoretical perspective to understand how one can sustain motivation to engage in research, we assert that faculty are learners and research essentially is a learning activity. To be sure, faculty members are assumed to have extensive training in research methods and are qualified to assume research responsibilities. However, much learning takes place during the research process. Faculty become

familiar with new bodies of literature and formulate ways to utilize existing theoretical or conceptual models to offer new perspectives on particular issues. Moreover, as research projects unfold it is not uncommon for faculty to adapt new theoretical models or research strategies such as modifying the interview protocol, using additional data sources, or adapting alternative data analysis techniques. As well, data analysis, by its very nature, requires faculty to learn how to synthesize findings in a way that contributes to new knowledge within a given discipline. By arguing that faculty members are learners and research activities involve learning, we can utilize a self-regulated learning framework to provide a method to examine the strategies that faculty members consciously utilize to maintain their motivation.

Self-regulated learning theories suggest that individuals are more effective in maintaining their motivation to learn when they demonstrate a high amount of agency over their own learning. In other words, individuals who demonstrate control over the way in which they engage in activities are considered to be more effective in maintaining their motivation. Wolters (2003) argues that, “self-regulated learners are thought to hold a collection of adaptive beliefs and attitudes that drive their willingness to engage in and persist at academic tasks” (p. 189). Individuals that are able to take control over the way they approach work, using a number of different tactics, are more effective in maintaining their motivation to do that work. Self-regulated learners often incorporate specific strategies to regulate their motivation. Wolters (2003) highlights eight strategies that describe the activities most frequently exhibited by self-regulating learners to manage their motivation to learn. We acknowledge that not all of these strategies are applicable when exploring faculty research motivation; however, we summarize the strategies to allow the reader to formulate an understanding of how they might apply to the issue at hand. Table 3 highlights four strategies that arguably can be used to maintain faculty research motivation.

Table 3

Application of specific self-regulated learning strategies to maintain motivation

Strategy	Provides individual with...	Practical Examples
<i>Self-Consequating</i>	External Reward	Providing oneself with concrete rewards for engaging in or completing an activity
<i>Environmental Structuring</i>	External Control	Structuring one's work environment for optimal productivity
<i>Attribution Control</i>	Internal Stability	Attributing setbacks to factors unrelated to one's ability to succeed in order to maintain momentum
<i>Efficacy Management</i>	Internal Stability	The ability to keep expectations in check, and to manage perceptions of one's competence

Self-consequating strategies

Individuals who utilize self-consequating strategies may identify and administer particular extrinsic rewards or punishments for attaining a goal or completing a task. Examples of these strategies include the use of concrete rewards, behavioral activities, or verbal "self-talk" statements as a means of increasing motivation. For instance, a faculty member may say to themselves "The faster I can finishing grading papers, the quicker I can focus my attention on my new research project". There are consequences outlined in this statement. If the faculty member fails to achieve the stated goal they will not be allowed to reap the benefits.

Research has shown that students who provided themselves with concrete rewards were able to maintain their motivation to pursue a given task (Graham, Harris, & Troia, 1998; Purdie & Hattie, 1996; Zimmerman & Martinez-Pons, 1986, 1990). The extent to which faculty members use such strategies to maintain research momentum is unknown. Such information could provide insights into the tactics some faculty may use to sustain their motivation.

Goal-oriented self-talk strategies

When using this type of strategy, individuals may choose to verbalize to themselves the varied and salient reasons for persisting or completing a task. Goal-oriented self-talk distinguishes itself from the verbal “~~pe~~-talk” self-consequating strategy in the sense that goal-oriented self-talk does not consist of statements that reinforce or punish behavior; rather, these statements focus on the reasons for persisting or completing a task. For example, as a way of convincing him or herself to remain focused on their research activities, a faculty member may purposefully think about the desire to contribute to a particular knowledge base by publishing in well-known journals. Similarly, a faculty member may reassure themselves that they are meeting a particular goal by stating, “~~did~~ a nice job on this project, and I’m making good progress towards tenure”. In both cases, the faculty member is targeting a specific goal, either publication of their research or tenure.

Interest enhancement strategies

Whereas self-consequating and goal-oriented strategies can focus on extrinsic motivators, individuals may use interest enhancement strategies designed to increase one’s intrinsic motivation and immediate interest in an activity in concrete ways. For example, a faculty member might enhance a repetitive or boring aspect of a research project by turning the repetitive activity, such as sorting through “~~lunks~~” of qualitative data, into a type of game thus maintaining their interest and motivation to persist in that activity. To be sure, not every aspect of the research process is equally stimulating; some activities are more interesting than others. Understanding the way in which faculty are able to move through a research project from start to finish with relative efficiency could provide researchers with valuable skill sets.

Environmental structuring strategies

Environmental strategies describe how individuals attempt to change their environment to decrease the possibility of off-task behavior. By changing their work environment, individuals can reduce the possibility of encountering a distraction or reduce the intensity of distractions affiliated with a particular environment. For example, some faculty members may feel the need to write at home rather than at the office, because of limited distractions and larger uninterrupted blocks of time. Other faculty may be more productive at night when most people are sleeping or at a coffee shop surrounded by others. Understanding the various ways faculty members structure their research environments can offer new perspectives on how to maintain research motivation.

Hunter and Kuh (1987) incorporated adult and career development, personality, and socialization perspectives to interpret the behavior of highly productive contributors. In addition to finding that “prolific scholars are motivated by an authentic enjoyment of and reverence for research activities” (Hunter & Kuh, 1987, p. 456), the researchers alluded to their use of motivation regulation (Wolters, 2003) strategies. For instance, Hunter and Kuh (1987) determined that faculty commonly utilized environmental structuring. This included scheduling large blocks of time to work at home during the day where there were less disturbances, and “escaping” to the office on the weekends to complete their work; thus avoiding the distractions of being at home. However, the researchers neither reveal other self-regulated strategies their participants may have utilized nor provide any indication of whether faculty were cognizant of their actions.

Self-handicapping strategies

Self-handicapping involves manufacturing obstructions before or during a task that make performing or completing the task more difficult. Examples of this strategy might include procrastination, avoidance, or using a deadline to motivate one to work. However, this strategy is considered to be a counterproductive form of motivation regulation. Nonetheless, it is important to mention here, as well as to note that some scholars consider this a form of self-regulated learning (Riggs, 1992; Urdan & Midgley, 2001).

Attribution control strategies

In utilizing this approach, individuals may purposefully select or manipulate causal attributions to maintain or increase their motivation to complete a task or future similar task. For example, a faculty member might recognize that their grant proposal or article rejection should not be attributed to their lack of innate ability but rather from a lack of a comprehensive methodology or their use of a less-than-effective writing strategy. As such, the faculty member will work to improve their writing or research skills rather than attribute the negative outcome to a lack of intelligence or ability. Moreover, research suggests that individuals who focus on process rather than outcomes are more likely to increase and maintain their motivation (Weiner, 1986; Zimmerman & Kitsantas, 1997).

Efficacy management strategies

One's belief in their ability to succeed at a given task is a powerful predictor of whether they will persist (Bandura, 1997; Pajares, 1996). When utilizing efficacy management strategies, individuals choose to monitor, evaluate, and control their expectations, perceptions of competence, or self-efficacy for tasks. There are various ways individuals may choose to manage their perceived competencies for a given task, such as research. For example, *proximal goal setting* is the notion of breaking down complete or larger tasks into smaller and easy to complete segments. Faculty members may approach a daunting research project by viewing it as a set of smaller, more manageable activities; therefore, maintaining their motivation to engage in small activities eventually will lead to the completion of the overall project. *Defensive pessimism* highlights an individual's level of unpreparedness, lack of ability, or other factors to convince themselves that they are unlikely to successfully complete a particular task. Consequently, "the anxiety associated with these lower performance expectations is used strategically to increase [individuals'] ability to prepare and thus avoid the outcomes associated with the anticipated failure" (Wolter, 2003, p. 199). *Efficacy self-talk* is a third management strategy that involves engaging in thoughts or sub-vocal statements aimed at oneself for the purposes of influencing self-efficacy for an ongoing task. Examples of this would include statements such as "Your research has contributed to an important body of literature, and this current project will too".

Although this strategy has been widely used by college students, little evidence exists about its success in maintaining faculty motivation.

Emotion regulation strategies

Self-regulating behavior encompasses aspects of emotion and emotional reaction. From a learning perspective, emotion self-regulation is useful to control and reduce negative and harmful emotional reactions to situations in which one's performance is being evaluated, e.g., an exam. Within the context of scholarly research, faculty members may need to exert control over their emotions while they are engaged in a particular research activity to remain focused and ensure that they put forth the necessary effort to complete the task at hand. An assistant professor who fears that she may not have the skills to write a large-scale, multi-year grant proposal would need to set aside that emotion (fear) to remain focused and complete her work. To be sure, faculty likely use these and other self-regulating behaviors in the course of their work, but little is known about how such techniques are used and the extent to which they maintain an individual's motivation to engage in research.

Implications

Using a self-regulated learning perspective as a framework to examine motivation and scholarly work may help provide new insights into how faculty maintain their motivation to engage in research activities, especially in situations where their working environments are less conducive to support a faculty member's competence, autonomy and relatedness needs. A self-regulated learning perspective also helps to move beyond the current research recommendations, which draw heavily on suggestions to either adjust or redefine the current rewards structure, to offer greater incentives (i.e., mini grants, awards) to faculty, or alter department or university working environments. This particular type of framework can serve as a useful tool for future research in two ways. First, this perspective examines faculty motivation in all working environments, regardless of a particular research setting. Second, it frames faculty research motivation within a context of learning and views faculty members as learners who have agency to control their motivation. Thus, an understanding of specific self-regulated learning techniques that faculty utilize may help other struggling faculty members excel by providing them with concrete illustrations of self-regulated learning techniques.

The dearth of research related to self-regulated learning within the context of faculty research limits our discussion about how individuals may incorporate learning strategies as a way to maintain their motivation to engage in scholarly work. It is possible that particular strategies are, in fact, more effective to faculty members than others – such as environmental structuring or self-consequating strategies. Given that academic institutions are by nature learning environments, it is reasonable to presume that self-regulated learning strategies can be used to examine faculty motivation to engage in research activities. Nonetheless, more research is needed to further understand how faculty members utilize self-regulated learning techniques to monitor and sustain their motivation.

The significance of this essay relates to the idea that self-determination and self-regulated learning theories are underutilized, but at the same time, useful tools to examine the motivation of faculty members to engage in research activities. In presenting these theories within a higher education context, our intent is to introduce a more concise method for understanding faculty research motivation that builds upon prior research on faculty motivation and behavior. By utilizing learning motivation perspectives to examine faculty motivation, we premise our discussion on the idea that faculty members are learners and research is a learning activity. Thus the purpose of our discussion, as mentioned earlier, is twofold:

- To argue that self-determination (with the additional component of self-esteem) can provide a more encompassing, coherent, and flexible means of understanding the faculty motivation to engage in research; and
- To demonstrate that the use of self-regulated learning theory can be an effective tool to explore how faculty members can *maintain* their research motivation.

We assert that a greater understanding of a faculty member's motivation, which takes into account self-determination, self-esteem, and self-regulated learning, incorporates intrinsic and extrinsic motivation frameworks, and integrates the several perspectives of faculty motivation outlined in the current literature (see Table 4). The final column of Table 4 illustrates the specific theoretical components that provide insight into the various motivation perspectives listed on column one.

Table 4

How self-determination theory and its components can be utilized to integrate various perspectives of faculty motivation

Faculty Motivation Perspectives	Faculty Needs	Research Implications/ Outcomes	Self-Determination/ Self-Esteem Component
<i>Intrinsic Motivation</i> [Cole & Cole, 1973; Creswell, 1985; Harter, 1978; Hunter & Kuh, 1987]	Faculty need to have internal desire, passion or enjoyment for research in order to maintain motivation	Develop ways to foster internal pleasure	The overall goal of self-determination with self-esteem perspectives
<i>Extrinsic Motivation</i> [Bess, 1998; Fairweather, 1999; Fox, 1985; Tien & Blackburn, 1996]	Faculty need tangible rewards, recognition. Work is related to the rewards structure	Have structures that facilitate internal desire and reward work	Competence
<i>Stage-Dependent Motivation</i> [Austin, Sorcinelli, & McDaniels, 2007; Baldwin & Blackburn, 1981; Baldwin & Chang, 2006; Baldwin & Luncford, 2005; Sorcinelli, 1999, 2007]	Early career faculty need autonomy, mentoring, community, guidance	Need for a supportive community	Relatedness
	Mid career faculty need reinforcement, opportunity for redirection/risk-taking, collegial support, and resources	Provide opportunities for redirection in research/risk taking	Autonomy
	Senior faculty need collegial structures, rewards and recognition, opportunities for new directions	Provide opportunities for recognition and rewards	Competence, Self-Esteem

Utilizing a learning motivation perspective also allows researchers to develop ways to meet individual needs, rather than considering how to restructure institutions and departments to foster research productivity. Given the protracted speed of organizational change in higher education, a focus on meeting the individual needs of faculty seems logical. Moreover, this framework can help administrators and faculty developers provide more adequate and appropriate support to faculty during times of stress and stagnation. Currently, most faculty development programs are moving towards addressing faculty motivation using career stage perspectives. However, in a time of financial stress and funding cuts, creating and maintain programs using a career stage model may not be an option in the future. Faculty developers and administrators may need to rethink ways to support faculty without depending upon an abundance of professional development programs. Universities and colleges are supporting the development of faculty work life balance programs to help faculty remain highly productive and in high spirits. Unfortunately, many of the work life programs are utilized as a means of fixing the problems and stresses of pre-tenure faculty members, who anecdotally speak of high anxiety and stress in the race for tenure. The message that is conveyed to pre-tenure faculty is that in order to reduce stress, one needs to find balance between work, family, and/or private life. However, a perspective which acknowledges that pre-tenure faculty members' self-validation goals might be more tied to the attainment of tenure than work life balance, might offer faculty developers and administrators additional insight regarding better ways to provide more adequate and appropriate coping strategies and support to those faculty members.

The pressure for faculty to publish and secure research grants has not only increased, but also intensified (Blackburn & Lawrence, 1995). The ability to publish is viewed by faculty, not only as a means for establishing one's career trajectory, but also to support the faculty member's own department because of fiscal constraints continually affecting higher education. There is consensus within the academic community that quality research is necessary to produce new knowledge (Blackburn & Lawrence, 1995) – knowledge that can be utilized not only to inform new policies and practices, but also to inform teaching and future research. A greater understanding of faculty motivation to engage in research will allow academic leaders and faculty developers to more

appropriately support faculty to continue to be productive and successful in their research and scholarship.

Finally, within the faculty development literature, improved support for faculty vitality is frequently paired with calls for the restructuring of the faculty rewards system. Although we acknowledge the need for higher education to rethink the current reward structure to better reflect the demands of academic work, we also acknowledge the glacial pace at which higher education is prone to actual change. Therefore, until concrete steps are made to move towards real change, incorporating self-determination and self-regulated learning perspectives to help maintain faculty motivation might better support faculty.

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