Determined to Succeed: Motivation Towards Doctoral Degree Completion

by

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Dedication

This dissertation is dedicated to my mother, Lucia Estela Raya.

Your enduring support and encouragement is everything a son can ask for.

May you continue to rest in peace.

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I am in gratitude of the support provided to me by my wife and life partner, Kerri Wakefield. We have endured the process of completing a doctoral degree together, a feat that most couples find difficult, if not impossible, to accomplish. Second, I thank my family, especially my brother Ramon C. Cardona, who believed in me and supported my academic and career endeavors. Third, my friends, who include the Montes Family, that provided me the strength and affirmation that I could persist through the trials and tribulations that I have encountered to get to this stage in my life.

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Abstract

High rates of student attrition (upwards to 40-50% in certain academic disciplines) continue to hinder doctoral education. In response to this issue, this study investigated doctoral student motivation by identifying intrinsic and extrinsic factors that affect students' motivation towards doctoral degree completion. The analytic sample was comprised of 36 doctoral students in four Social Science academic disciplines at one institution. The data were analyzed using a multiple case study method, and the psychological theory of self-determination was utilized to understand the role of motivation in students' progress towards degree completion.

The participants in this study reported various motivational factors relevant to self-determination theory (intrinsic, extrinsic, and autonomous motivation, and psychological need for competence, relatedness, and autonomy). Students explained that intrinsic, extrinsic, and autonomous motivation was important in developing and sustaining their motivation towards degree completion. Students who received support for the needs of autonomy, relatedness, and competency seem to develop motivation to reprioritize their values and articulate their needs and approach personal growth and change with a self-motivated mindset.

The study illustrated how students' personal and academic needs, the academic environment, and career and academic support influenced their motivation to complete the doctoral degree. For some students, their motivation was challenged by the nature of doctoral work, particularly the unstructured process of completing a dissertation. Other

students found increasingly difficult challenges in their motivation towards degree completion that included lack of funding, support, and potential employment after graduation. Additionally, students had a variety of positive and negative experiences within their respective doctoral programs that shaped their motivation towards degree completion. Factors that varied across the four disciplines included: academic and personal support, financial factors, student engagement, and doctoral cohort support each of which affected students' motivation.

Implications for practice include recommendations for an infrastructure of departmental and institutional support to assist doctoral students with their academic and personal needs, as well as the development of dissertation support groups utilizing cognitive restructuring and stress management training. Implications for research include a call for studies to examine the complementary, or synergistic, roles of intrinsic motivation for growth and adaptation of doctoral students.

Chapter One: Introduction

Over 430,000 doctoral students are currently enrolled in U.S. postsecondary institutions (Council of Graduate Schools, 2011). As such, doctoral education is an integral element of higher and postsecondary education, producing not only the next generation of scholars, but also the development and distribution of knowledge through performing key functions of research universities that include assisting with teaching and research. Unfortunately, high rates of student attrition (upwards to 40-50% in certain academic disciplines), funding challenges, lengthy time-to-degree completion rates, limited academic job market in some academic disciplines, and inadequate training for teaching and research have continued to hinder doctoral education, thus leading higher education scholars to focus on the issue of motivation (Bair & Haworth, 1999; Gardner, 2010; Golde & Dore, 2001; Lovitts, 2001; Nettles & Millett, 2006). In response to these issues, this study investigates intrinsic and extrinsic motivational factors that influence progress towards doctoral degree completion.

Statement of the Problem

Higher education scholars have documented that of all the students who will leave their doctoral programs, about one third leave after the first year, another third before candidacy, and a final third during the dissertation phase (Bowen & Rudenstine, 1992; Golde, 1998; Nerad & Miller, 1996; Nettles & Millett, 2006). Reasons for attrition among doctoral students are generally related to issues of integration into the doctoral program or academic department (Girves & Wemmerus, 1988; Lovitts, 2001; Tinto,

1993), lack of financial support (Abedi & Benkin, 1987; Bowen & Rudenstine, 1992), feelings of psychological and cognitive inadequacy (Gardner, 2008; Golde, 1998), and dissatisfaction with the doctoral program or academic department (Lovitts, 2001; Perrucci & Hu, 1995). Since the founding of the Association of American Universities in 1900, graduate deans have criticized doctoral attrition as a waste of student energy, hope, financial resources, and the unproductive "dissipation of faculty time and effort" (Bair & Haworth, 1996; Berelson, 1960). Not only are individual faculty affected by doctoral student attrition (Golde, 2005), but resources are wasted at the departmental level in terms of funds spent on tuition and other related fees that are incurred while the student is enrolled (Council of Graduate Schools, 2011; Weidman, Twale, & Stein, 2001).

Despite the extensive research that has been conducted on doctoral students, there are few theoretical models of doctoral student motivation in current higher education scholarship as it relates to reducing attrition. While motivation theories abound for K-12 and undergraduate students, this is not the case for doctoral students. The assumption that doctoral students' experiences are so specialized within various academic disciplines that they lack commonalities has discouraged some from attempting to develop a conceptual framework to describe their motivation towards degree completion.

Doctoral student motivation is a complex phenomenon influenced by a multitude of variables (Kember, 1990). Academic success in a doctoral program depends on many factors: challenges set by conducting independent research, personal internal and external variables, financial burdens, time management, and absent or questionable support from friends, family and/or faculty. For example, several researchers have found a higher dropout rate among Latino and African American doctoral students than commonly

found among White doctoral students (Carr, 2000; Diaz, 2000; Parker, 1999; Verduin & Clark, 1991). Their lack of persistence often is attributed to a failure of becoming socially and academically integrated, as well as other factors internal and external to an academic institution (Kember, 1995). Thus, this dissertation study adds to higher education research on doctoral student persistence and motivation by identifying intrinsic and extrinsic factors contributing to and/or impeding students' motivation towards completion of a doctoral degree.

Purpose of the Study

The purpose of this study was to understand intrinsic and extrinsic motivational factors that influence progress towards doctoral degree completion. Four academic departments from the Social Sciences (Anthropology, Economics, Political Science, and Psychology) were selected at one institution for the purpose of comparing students' motivation towards degree completion amongst academic disciplines. Previous studies on doctoral student motivation have found that it is important to attain a diverse participant sample in order to capture a broad spectrum of intrinsic and extrinsic motivational factors (Vansteenkiste et al., 2010; Vaquera, 2007).

Second, this study also adds to the literature on the experiences of doctoral students. The current literature on attrition and retention models of doctoral students does not focus on particular intrinsic and extrinsic factors of motivation (Gardner & Mendoza, 2010; Milyavskaya, 2011). In contrast to previous higher education studies using socialization and integration models to explain doctoral student persistence, in this study, I investigate doctoral student motivation using the psychological theory of self-determination as a lens to understand the role of intrinsic and extrinsic motivation in

students' progress towards degree completion.

Self-determination theory (SDT), a meta-theory for framing motivational studies, is a formal theory that defines intrinsic and extrinsic sources of motivation and describes how they affect cognitive and social development leading to individual differences (Ryan & Deci, 1985). Perhaps more importantly, SDT focuses on how social and cultural factors facilitate or undermine an individual's sense of volition and initiative, a critical gap in the doctoral education literature as reported by Gardner (2008). According to SDT, conditions supporting the individual's experience of autonomy, competence, and relatedness foster the most high quality forms of motivation and engagement for activities including enhanced performance, persistence, and creativity (Deci, Ryan, & Williams, 1996; Grolnick & Ryan, 1989).

Self-determination theory scholars have also focused attention on the quality of students' motivation. Quality can be distinguished from the quantity, level, or amount of motivation that students display for a particular learning activity, such as persistence towards completion of a dissertation defense (Reeve, Deci, & Ryan, 2004). One approach to conceptualizing students' quality of motivation using SDT is to focus on the content and volition of the goals students' value. This has the potential to address another gap in the doctoral education literature in explaining how the students' goals affect their progress towards goal attainment, such as completion of a dissertation (Austin, 2002; Walker et al., 2008).

Finally, this study attempts to inform effective and diverse retention practices in doctoral education. Weisbuch (2005, p. 3) explains that "…it is simply unclear what works best, or what does not work, in recruiting and retaining doctoral students." Thus,

this study aims to provide faculty and staff a deeper understanding of best practices within the academic environment that encourages doctoral student motivation, development of autonomy, and timely progress towards degree completion.

Research Questions

As described earlier, this is a study of motivational factors that influence progress towards doctoral degree completion. The following served as the primary question of this study: *How do aspects of self-determination theory explain doctoral student motivation towards degree completion?*

Sub-Questions

1. How does motivation towards degree completion differ for doctoral students across Social Science academic disciplines?
2. How does self-determination theory's concept of universal needs explain doctoral student motivation towards degree completion?
3. How does the academic environment affect doctoral student motivation towards degree completion?
4. What factors not associated with self-determination theory also influence the motivation of doctoral students?

Definitions of Key Concepts

Before exploring what is known about doctoral student motivation, a discussion of key terms is warranted. A review of doctoral student research reveals that the terms "retention" and "persistence" are used interchangeably and imprecisely (Bair & Haworth, 1999; Gardner, 2010). *Retention* is an organizational phenomenon: postsecondary institutions *retain* students. *Persistence,* on the other hand, is an individual phenomenon:

students *persist* towards a goal, which may be achieved through attendance at more than one institution. For the purpose of this study, I primarily use the term "persistence." I do so intentionally to focus attention on the individual-level goal of persistence to degree attainment rather than the institution and department-level goals of student retention. Similarly, while the term "motivation" has been defined various ways in higher education literature, I define the term motivation as: the process that initiates, guides and maintains goal-oriented behaviors, and involves the biological, emotional, social and cognitive forces that activate those behaviors (adapted from Maslow, 1943; Stipek, 1988).

Other key concepts that are discussed in this study include *intrinsic motivation* which refers to motivation that is driven by an inherent interest or enjoyment in the task itself, and exists within the individual rather than relying on any external pressure (Ryan & Deci, 2000). By contrast, *extrinsic motivation* refers to motivation that is influenced externally from the individual and is not necessarily for the individual's own interest and enjoyment of the activity (Bandura, 1986; Ryan & Deci, 2000). *Autonomy* is defined as the capacity of a rational individual to make an informed, uncoerced decision (Connell & Ryan, 1987). *Student attrition* refers to a student who has been enrolled in a doctoral program and discontinues enrollment or fails to make satisfactory progress (Kember, 1995).

As discussed earlier, higher education research has yet to develop a conceptual map to adequately explain the wide range of psychological factors involved with doctoral student progress towards degree completion. Elaborating on one of these psychological factors (motivation) through the use of self-determination theory should enhance our

understanding of the doctoral student motivation due to its conceptualization of both intrinsic and extrinsic motivational factors.

Significance of the Study

Higher education scholars have called for qualitative studies of the doctoral student experience including a focus on how students' psychological strengths, not just deficits, influence motivation (Gardner, 2010; Golde, 2005). In their meta-synthesis of 118 studies of doctoral education, Bair and Haworth (1999) called for "a strong need for qualitative research that seeks to gain directly from students their thoughts, feelings, and behaviors regarding continuation and attrition" (Bair & Haworth, 1999, p. 38). Additionally, Bair and Haworth (1999) described psychologically focused research regarding the doctoral student experience as "currently missing, yet holding the potential to provide a wealth of information" that can open new directions for future research (p. 36).

In response to the call for further qualitative research on doctoral students, this study may prove significant in contributing to the fledging area of research related to the motivation of doctoral students by focusing on intrinsic and extrinsic motivational factors that impact their progress towards degree completion. Additionally, understanding of the factors affecting doctoral students' motivation in doctoral programs may provide additional insight into doctoral student persistence and attrition.

The influence of psychological factors, such as motivation, on students' persistence towards degree completion has been increasingly researched in the past two decades in higher education literature (Bauer, 1997; Ferrer de Valero, 2001; Skudlarek, 1992; Walker et al., 2008), particularly in terms of how educational environments can

improve persistence (Lovitts, 2001). There also has been extensive research on motivation and goal setting, which has been reported to strongly relate to doctoral degree completion (Antony, 2002; Gardner & Barnes, 2007). Another substantial set of studies has distinguished dropouts from persisters in terms of person-environment congruence, similar to interactional theories of undergraduate dropout and retention that relate to motivation towards degree completion (Boshier, 1973; Milem & Berger, 1999). Nevertheless, despite this research, the mechanism by which motivation affects progress towards doctoral degree completion is not well understood. Considering doctoral students receive and gain motivation from various internal and external sources throughout their tenure in doctoral programs, a reconceptualization of doctoral student motivation using theory from the field of psychology is necessary.

Motivational processes and dynamics have received increased attention within the field of psychology over the past three decades (Murphy & Alexander, 2000; Pintrich, 2000; Vansteenkiste et al., 2010). One theory in particular, self-determination theory, has the potential to add value to the conceptualization of doctoral student motivation because it has proven useful in explaining the variation in students' learning strategies, performance, and persistence in K-12 and undergraduate student populations (Deci, Koestner, & Ryan, 2001; Niemiec et al., 2006; Niemiec & Ryan, 2009). In this study, I investigate doctoral student motivation using self-determination theory as a lens to understand the role of intrinsic and extrinsic motivation in students' progress towards degree completion.

Additionally, this study may yield valuable results due to use of a multiple case study design; each participant in this study is treated as an individual case. The need for

qualitative research to determine the extent to which motivation can explain doctoral student persistence has been articulated in the literature (Gardner, 2008; National Science Foundation, 1998). This study provides a deeper insight into the problem of doctoral student attrition, first, by identifying the intrinsic and extrinsic factors contributing to and/or impeding students' doctoral student motivation, and, then, by exploring the participants' views regarding their motivation towards completion of the doctoral degree in more depth.

Organization of the Dissertation

This section outlines the organization of the remainder of this dissertation. In its entirety, the dissertation consists of six chapters. Chapter One provided a rationale for this study by briefly presenting current research on doctoral student motivation, and provides the purpose of the study, statement of the problem, and the significance of the problem. Chapter Two provides a critical review of theories and empirical literature related to persistence and the motivation of doctoral students from both the higher education and psychology disciplines. This chapter concludes with a conceptual framework depicting how the self-determination theory may further explain aspects of doctoral student motivation.

Chapter Three introduces methodology employed in this study, including a review of the research questions for the study, data sources and related instruments, case study approach to data analysis, and limitations of the study. Chapter Four presents a thematic analysis of findings as they relate to how aspects of self-determination theory can explain doctoral student motivation. Chapter Five provides a cross-case analysis to inform each of the sub-research questions of the study. The final chapter, Chapter Six, offers a

discussion of findings, provides implications to practice, suggestions for future research, and concluding remarks.

Summary

The overarching question guiding this study is: *How do aspects of self-determination theory explain doctoral student motivation towards degree completion?* Some higher education scholars would suggest that students' motivations differ due to the individual attributes with which they entered their doctoral program, and that differences exist in the use of the motivation theories because certain student characteristics and features of institutions advantage some students towards degree completion (Lawson & Fuehrer, 2001; Rosales, 2006). A response to those scholars would be that although these differences may be true, we must also consider the various intrinsic and extrinsic motivations that students internally develop once they enroll in a doctoral program and as they progress towards degree completion in order to better understand the impact of motivation.

Thus, this study (a) delineates important intrinsic and extrinsic factors found to impact motivation of doctoral students, (b) provides a diverse sample of current doctoral students the opportunity to reflect and expound on the doctoral degree experience in a semi-structured interview setting, (c) and adds to the current higher education literature on doctoral student persistence by utilizing the psychological theory of self-determination as a lens to understand the role of intrinsic and extrinsic motivation in students' progress towards degree completion.

Chapter Two: Literature Review

As discussed earlier, current higher education research has yet to develop a conceptual map to adequately explain the wide range of psychological factors involved with doctoral student motivation towards degree completion. Elaborating on motivation as a psychological factor, through the use of self-determination theory and other related frameworks should further enhance our understanding of the doctoral student persistence phenomenon. Therefore, this literature review chapter will (a) provide a critical review of empirical literature, delineating important variables found to impact doctoral student motivation, (b) introduce motivation-related theoretical frameworks from higher education and psychology and explores what they suggest about doctoral student motivation, and (c) integrate these literatures with self-determination theory to propose a new conceptual framework that may improve understanding of doctoral student persistence and motivation towards degree completion.

Doctoral Student Models of Persistence

Current undergraduate student persistence models cannot fully explain doctoral student persistence or attrition due to differences between doctoral and undergraduate education, as well as variations in the types of institutions and academic departments (Herzig, 2004; Lovitts, 2001). Most importantly, the doctoral education experience is not monolithic. Doctoral education is experienced differently within and across different academic disciplines. Academic disciplines have their own particular "qualities, cultures, codes of conduct, values, and distinctive intellectual tasks" that ultimately influence the

experiences of the faculty, staff, and especially, the students in the programs (Austin, 2002, p. 12). Studies of the undergraduate experience as related to persistence often occur at the institutional level (e.g., Tinto, 1993). On the other hand, the academic discipline, department, and doctoral program become a central focus of the doctoral student experience rather than the larger institution (Bowen & Rudenstine, 1992; Golde, 2005; Nerad & Miller, 1996). The department or doctoral program is the "home" within which interactions between graduate students and their peers and faculty members take place (Golde, 2005). Golde also observes that it is in the department where effects of policies impact guidelines for admissions, financial support, curriculum, and degree completion requirements, all of which affect student experiences within a doctoral program.

The existing literature on the role of the academic department, and broader academic environment (e.g., campus-based services), in shaping students' doctoral experiences focuses on policies ranging from admissions to requirements for degree completion. How departments or programs interpret and implement these policies have been found to influence doctoral students' persistence, time-to-degree, and degree completion rates (De Valero, 2001; Gardner, 2010; Golde, 2005; Vaquera, 2007). Golde (2005), for example, suggests that departmental characteristics influence students' persistence especially in disciplines where doctoral students often work in isolation. Others (Bair & Haworth, 1999; Bowen & Rudenstine, 1992) suggest that a doctoral program's culture of advising and the design of the program can determine whether students complete the doctorate. Still others (Herzig, 2004; Gardner, 2008; Nerad & Cerny, 1993) posit that departments that provide more support and structure increase the

probability of persistence towards doctoral degree completion.

Previous studies show that academic departments that provide doctoral students with financial aid, such as fellowships and research and teaching assistantships, increase the likelihood of student persistence and degree completion (Abedi & Benkin, 1987; Bair & Haworth, 1999; Bowen & Rudenstine, 1992). Bair and Haworth (1999), for example, find that science and engineering departments tend to have higher retention rates than social science and humanities departments because they offer multi-year funding to a majority of their doctoral students. Moreover, departments that offer only teaching assistantships have slightly longer time-to-degree completion rates that those that offer a combination of fellowships and teaching and research assistantships (Bowen & Rudenstine, 1992; Nerad & Cerny, 1993); departments which offer financial aid for the duration of a student's years of study reduce time-to-degree completion rates (Nerad & Cerny, 1993); and departments that provide fellowships during the dissertation year increase students' likelihood to complete the doctoral degree (Bowen & Rudenstine, 1992). Financial aid also increases doctoral students' opportunities for involvement in their department's teaching and research communities, and therefore "provides more beneficial interactions with faculty" (Border & Barba, 1998, p. 17).

The literature shows that academic departments with the highest completion rates include those that have a positive and supportive departmental climate, positive faculty-student relationships, and consistent faculty involvement in all stages of doctoral students' degree progress (Gonzalez, 2006; Herzig, 2004; Millet & Nettles, 2006; Vaquera, 2007). Additionally, academic departments that provide a clear structure for progress towards doctoral degree completion, defined research expectations, and

consistent evaluation of student progress tend to increase the probability of students' persistence and reduce time-to-degree completion rates (Golde, 2005; Millet & Nettles, 2006). On the other hand, departments that require earning a master's degree for doctoral degree completion, extensive field research, and proficiency in one or more foreign languages tend to increase time-to-degree completion rates (Gardner, 2009; Millet & Nettles, 2006).

As a result of discouraging statistics of high doctoral student attrition, several models of doctoral student persistence have been developed to encourage institutional and departmental interventions designed to retain students, as well as to promote individual-level persistence and motivation. The following section will review and critique current conceptualizations of persistence of doctoral students by higher education scholars. The following subsection will review four predominant persistence frameworks (socialization, financial, academic and social integration, and psycho-sociocultural) currently found in higher education literature as they relate to doctoral students' progress towards degree completion. Aspects of these models will be incorporated in the conceptual framework subsequently described in this chapter.

Academic and Social Integration Frameworks

Academic and social integration-related studies have been found to provide beneficial conceptual frameworks for understanding doctoral student persistence motivation. Integration-based models emphasize academic and social integration, often in the form of robust faculty mentoring and advising relationships, close peer friendships, and social networks (Gardner, 2007; Golde, 2005; Taylor & Antony, 2000). In most cases, recent studies employing academic and social integration as a framework to study

doctoral student persistence are adaptations of Tinto's (1993) interactionist theory of student departure.

Tinto's interactionist theory of student departure revels in near-paradigmatic status as indicated by the number of citations and dissertations written pertaining to the theory. Tinto (1993) described persistence as contingent on the extent to which students have become integrated into the social and academic communities of postsecondary institutions as one of his major claims within his interactionist theory. The model argues that certain entry characteristics of the student, including family background, individual attributes and pre-college experiences, affect the level of initial commitment to the institution. The initial commitment to the institutional environment fosters integration into the academic and social contexts on the institution. In contrast to the socialization models previously described, the framework focuses on two distinct dimensions of integration, academic and social integration, and asserts that the lack of integration in either one or both dimensions can lead to student departure. Several higher education scholars have identified limitations with the empirical consistency of Tinto's model, and have questioned the validity of the model's ability to capture the variety of pre-doctoral experiences of doctoral students (Castellanos & Gloria, 2007; Golde, 2005; Nerad & Miller, 1993).

Many researchers derive concepts from other theoretical perspectives in order to better explain integration and student departure decisions. For example, Braxton, Sullivan, and Johnson (1997) critiqued the social dimension of Tinto's theory explaining that the theory did not fully consider organizational factors that influence a college student. They suggested that one potential source of influence on integration may be the

ways in which the college student (negatively or positively) experiences the organizational attributes of an institution. Similarly, Bean (1990) developed a model that incorporates academic and social integration that influence a student's attitudes along with the characteristics of an institution. These attitudes, in turn, influence a student's fit and commitment to an institution. The results of Bean's model largely support the presumed role of organizational, personal, and environmental variables in shaping both attitudes and intentions to persist.

Research has shown that the development of social relationships between students within a doctoral program can promote persistence towards doctoral degree completion (Leatherman, 2000; Nerad, 1999). However, Lawson and Fuehrer (2001) found that the absence of a sense of community, also known as a "sense of belonging to a doctoral program" (p. 287), had the effect of isolating students from one another. Doctoral programs characterized by a sense of community provide a cooperative and supportive environment that allows students to learn from one another (Gardner, 2005). In a survey of 820 doctoral students, Lovitts (2001) reported that students who strongly connected to their academic communities, through a perception of fit within their academic community, tended to interact more with others in their academic discipline, and as a result were more likely to successfully complete the doctoral degree.

Holder (2007) found through his survey of 380 doctoral students across several academic disciplines that having the experience of a supportive group of friends and family and the comfort of knowing that they are not alone in this learning process was significantly related to students' persistence. He also found that doctoral students who also had high self-efficacy for learning and performance were found to have higher

expectations for performance in their program and a strong sense of their ability to persist in their career. Studies such as Holder's (2007) need to make cautious distinctions among the mechanisms and outcomes of social integration.

Social integration reflects a student's experience within the social communities of a college or university (Durkheim, 1951; Tinto, 1993). Thus, outcomes of social integration are social activities or interactions with members of the social communities that shape students perceptions of their degrees of social integration. Tinto (1975) points to informal peer group associations and extracurricular activities as mechanisms of social integration, whereas outcomes of social integration are perceptions or behaviors that occur because of a student's degree of social integration; Hurtado and Carter's (1997) sense of belonging construct is a good example of an outcome of social integration.

Previous research on doctoral student academic and social integration provides possible directions for future inquiry, but findings have had a limited ability to isolate the specific influences on the motivational development of doctoral students. Moreover, researchers suggested the influence of out-of-school, informal contact with faculty on persistence and motivation as a key area to which integration-based future research should be directed (Gardner, 2009; Nettles & Millett, 2006; Reason, 2009).

Socialization Frameworks

In his work on doctoral student socialization, Bragg (1976) described socialization as a learning process comprised of the interaction between individuals and their environments with the goal of individuals developing their group identities. Bragg's conceptualization of socialization in doctoral education was at the organizational level: individual "actors" (doctoral students) were assumed to have equal opportunities to learn

about and adapt to the organization as they develop persistence and motivation towards their academic goals. For example, Van Maanen (1979) explains that effective socialization occurs when doctoral students internalize their profession's norms and values into their personal identities and sense of selves. Van Maanen argues that students who do not internalize professional norms and attitudes into their personal identities are at greater risk for attrition from doctoral programs.

Organizations use what are referred to as socialization tactics or strategies that help facilitate the socialization process. Ashforth (2001) characterized these tactics as collective, sequential, fixed, serial, and divestiture. *Collective socialization* consists of grouping newcomers together, such as an incoming cohort, and exposing organizational newcomers to similar experiences such as orientation. *Sequential socialization* refers to a rigid series of steps that result in the acceptance of a new role. Examples of sequential socialization may include taking core doctoral course requirements the first year, followed by coursework in a specialty area during the second year, culminating with the granting of candidacy. *Fixed socialization* provides a schedule or timeline for the assumption of a role.

According to Ashworth (2001), doctoral education is said to consist of three phases. Entering doctoral students must successfully complete each preceding phase before moving on to the next. Typically, doctoral programs assign incoming students an academic advisor, who may or may not serve as a mentor. This veteran organizational member is likely to serve as a role model, which is an example of *serial socialization*. Lastly, *divestiture socialization* occurs when "organizations are likely to actively attempt to strip away newcomers' incoming identities if those identities contradict – or are at least

radically different from – the role and organizational identities" (Ashforth, 2001, p. 166). For example, students entering highly competitive business graduate programs are likely to encounter such strong socialization tactics in order to ensure that the assigned roles are accepted and performed in a satisfactory manner.

This notion of divestiture socialization is further supported by Trice and Beyer's (1984) conceptualization of "rites of passage." The authors suggested that when an individual transitions to a new role, such as an army recruit after boot camp, prior role behaviors are eliminated and new role behaviors are learned. In other words, when newcomers engage in rites of passage, the organization ensures that the newcomers perform and behave similarly to previous and existing organizational members. In turn, the organization experiences little to no disturbance in traditional organizational operations and social relations.

Bragg (1976) further delineated the socialization process for doctoral students focusing on three interactive domains: students and educational structures, students and faculty, and peer groups within a doctoral program. Bragg concluded that within each of the interactive domains of socialization, students learn the attitudes, norms, and values of the profession. Examples include participating in a selective admissions process, apprenticing under faculty mentors, and informally discussing professional values and attitudes with faculty members and student peers.

More recently, Weidman, Twale, and Stein (2001) built upon Stein and Weidman's (1990) conceptualization of undergraduate student socialization, tailoring it to doctoral level education. The often cited monograph by Weidman, Twale, and Stein (2001) is considered as one of the few contemporary texts on the subject of doctoral

student socialization. Earlier models of persistence (Bragg, 1976; Van Maanen, 1979) held individuals' backgrounds and experiences constant once they chose to enroll in a doctoral program. Meanwhile, the model produced by Weidman et al. (2001) suggested that doctoral student characteristics (backgrounds and experiences) fluctuate, both in the academic setting and beyond, which is paramount to the way in which we understand socialization. This model named background characteristics to include gender and socioeconomic status echoing earlier theoretical models that also considered these factors in their conceptualizations of socialization. Weidman and his colleagues argue that these characteristics impact how socialization affects persistence of various student groups, and that researchers should not treat all doctoral students as a singular group when testing the impact of socialization.

Based on their study of doctoral student socialization, Turner and Thompson (1993) reported that one of the major barriers for underrepresented doctoral students is that they have fewer opportunities for professional socialization experiences than their peers. Their work drew from Thornton and Nardi's (1975) study of the dynamics of role acquisition of doctoral students where they found that socialization occurs in four stages (anticipatory, formal, informal, and personal). They concluded that it is the lack of such socialization opportunities within each of the stages that hinders the success of doctoral students in both their degree progress and early academic careers (Turner & Thompson, 1993).

Nettles and Millett (2006) explained that doctoral students experience socialization within the norms of their respective disciplines, academic departments, and institutions due to "knowledge investment and involvement" (p. 103) that is provided to

students. Students who progress through the stages of doctoral socialization tend to thrive, while those who do not are at greater risk for attrition as they may lack a sense of belonging to the institution, department, and/or doctoral program. Thus, students must learn the "rules of the game" (p. 67) of their given academic department and institution if they are to thrive towards degree completion.

Where earlier work on socialization (Bragg, 1976; Van Maanen, 1979) framed the outcome of internalizing group and organizational norms as unproblematic, scholars have since challenged these assumptions. Ward and Bensimon (2002) demonstrated the inequities in a doctoral socialization process that assumes a value-free, normative process, but in fact "privileges White students and males" (p. 83). They argued that underrepresented doctoral students experience doctoral education differently than their White male counterparts. As such, the authors call for a reframing of socialization that accounts for the experiences of various doctoral student groups.

Another factor limiting research on the socialization of doctoral students is the absence of discussion on the re-socialization process of students who transfer from their initial doctoral program to a new doctoral program within or at another institution. Finally, an improved understanding of how personal characteristics affect doctoral student socialization and the resulting persistence and impact of these characteristics on motivation may inform institutional structures, academic programs, as well as doctoral advising to improve the doctoral student experience.

Financial Frameworks

Financial-based models continue to lead the current discourse on doctoral attrition in higher education literature. A few scholars have utilized these frameworks as an

extension of sociological and organizational frameworks to examine the role of financial factors in the persistence process (Cabrera, Nora & Castaneda, 1992; Vaquera, 2007). A number of studies in this area reference price-response and targeted subsidy-related theories in an effort to examine the impact of financial aid on student persistence and attrition (Andrieu, 1993; Stampen & Cabrera, 1988).

The literature identifies the following modes of financial support available for doctoral students: fellowships, traineeships, research and teaching assistantships, personal funds, and loans (Hoffer et al., 2007; National Science Foundation, 2000). Although all these types of financial aid are available to doctoral students, the literature shows that a majority of doctoral degree recipients utilize three or more modes of financial support in the course of their degree program, while less than one-third rely on only one mode, with the most frequently utilized modes of support being research assistantships, teaching assistantships, and fellowships (Hoffer et al., 2007; National Science Foundation, 2000). The types of financial aid that doctoral students receive vary by academic discipline. Within science and engineering disciplines, a majority of students (more than 50%) rely on research assistantships as their primary form of financial support while less than 20 percent in social sciences, mathematics, and psychology receive research assistantships (Hoffer et al., 2007; National Science Foundation, 2000).

The second strand of the financial support literature concerns doctoral student outcomes such as access, persistence, time-to-degree, and rates of degree completion that are associated with financial support. There has been considerable interest in how doctoral students' financial support affects outcomes such as access, persistence, degree completion rates, time-to-degree completion rates, and attrition. With regards to doctoral

students' access, the literature is unequivocal about the role of financial support in facilitating access. These studies collectively show that without financial aid it would be difficult for students to enroll and persist in doctoral programs (Border & Barba, 1998; Millet & Nettles, 2006; Munoz-Dunbar & Stanton, 1999). Border and Barba's (1998) survey of 271 Ph.D. recipients, for example, reveals that a majority (78%) of the doctoral students who participated in the study could not have enrolled without financial aid. Similarly, Munoz-Dunbar and Stanton's (1999) interviews of 72 graduate admissions directors show that funding is important for access to doctoral programs, but more importantly funding that is dedicated to underrepresented minority students, such as grants, fellowships, and assistantships contribute significantly to the ease of recruiting students to doctoral programs. Although the initial offer of financial aid at entry is crucial for access, multi-year funding has been found to be more predictive of student persistence and degree completion (Gardner, 2008; Millet & Nettles, 2006).

Literature on the effects of financial aid on persistence shows that doctoral students who have some form of financial aid are more likely to persist and finish their doctoral degree than those who rely on their personal sources of funding (Abedi & Benkin, 1987; Bair & Haworth, 1999; Bowen & Rudenstine, 1992). What the literature does not agree upon, however, is the effects of different forms of funding on doctoral school outcomes such as persistence, attrition, and degree completion. Some studies suggest that certain forms of financial aid are more effective than others in facilitating degree completion, time-to-degree completion, and persistence (Bowen & Rudenstine, 1992; Ehrenberg & Mavros, 1995; Herzig, 2004). For example, while Bowen & Rudenstine (1992) and Herzig (2004) suggest that fellowship recipients have shorter

time-to-completion rates compared to recipients of teaching assistantships. Other studies show that doctoral students who receive fellowships and research assistantships are more likely to complete their degree programs and less likely to drop out than students who receive teaching assistantships (Ehrenberg & Mavros, 1995).

Studies agree that a combination of several types of financial aid increases the likelihood of doctoral student persistence (Bair & Haworth, 1999; Nerad & Cerny, 1993; St. John & Andrieu, 1995). Using the National Postsecondary Student Aid Study 1987 database and a sample 6,529 doctoral and first-professional students research, St. John and Andrieu (1995) found that when doctoral students receive a financial aid package that includes three modes of aid concurrently, specifically grants or fellowships and assistantships or loans, are more likely to persist than when students receive only assistantships or only loans. They argue that the additional funding received by a graduate assistant, in loans and grants, helps to offset the cost of living and increase the likelihood of persistence. To support this claim, Nerad and Cerny (1993) found that when doctoral students had an equal distribution of teaching assistantships, research assistantships, and fellowships, tend to have shorter time-to-degree completion rates compared to students who did not.

Many studies are explicit about the positive effects of financial support on doctoral students' outcomes but they do not seem to agree about which type(s) of financial aid result in the best outcomes. Indeed, Bair and Haworth (1999) suggest that regardless of what type(s) of financial support a doctoral student has, support "that requires no work (fellowships/grants) or reward[s] students for doing the type of research that leads to a degree, will be more likely to [enable the student to] progress rapidly

towards a degree" (p. 159). These studies do provide some bases upon which to begin research on the effects of financial aid on doctoral student persistence; however, only Herzig (2004) explores how the outcomes of different forms of financial aid differ for different racial and ethnic categories of students, thus calling for more research in this area.

Additionally, the concern with the use of many financial and economic-based theories is their grounding in undergraduate education models that may not be relevant to the types of financial aid packages doctoral students receive. For example, doctoral students generally receive multi-year financial aid packages that include either a research or teaching assistantship that includes a monthly stipend and paid health insurance, whereas undergraduate students may need to seek their own paid internship or part-time employment to supplement their financial aid package (Golde, 2005). Replications of financial-based studies are needed in varying types of institutions to strengthen the reliability of claims that financial-related constructs influence doctoral student motivation and/or persistence. Through the simultaneous testing of financial and other theoretical perspectives, we may gain what Platt (1964) labels "strong inference" in terms of the conclusions that can be used in practice.

Psycho-Sociocultural Frameworks

Most recently, research on doctoral student persistence has begun to employ a psycho-sociocultural (PSC) theoretical approach in its examination of persistence among Latino doctoral students. This theoretical approach contrasts the previously discussed socialization and academic and social integration models since it was originally developed as a means to examine the work of college counselors working with Latino

undergraduate students, and recently has been applied to doctoral student groups (Rosales, 2006; Vaquera, 2007; Walker et al., 2008). This framework is often used by researchers to assess the personal well-being of students and its impact on their ability to negotiate the academic culture of the institution in order to persist towards degree completion (Gloria & Rodriguez, 2000).

The framework incorporates a number of variables that are associated with each dimension of the framework (psychological, social, and cultural) (Castillo, 2002). Psycho-sociocultural theory maintains that in order to understand a social phenomenon, one must consider psychological, social, and cultural factors influencing students. Since psychological, social, and cultural factors often have interdependent relationships, these variables cannot be completely isolated to study student persistence towards degree completion (Gloria & Rodriguez, 2000).

Within the psychological dimension, issues such as self-efficacy, self-confidence, and self-esteem may be examined given the centrality of these factors in doctoral student persistence (Solberg & Villarreal, 1997). Within the social dimension, support from faculty mentors, peers, and family are included in these models, reflecting the importance of these relationships to persistence among doctoral students (Rosales, 2006; Vaquera, 2007). Additionally, components of the cultural dimension (ethnic identity, cultural congruity, and acculturation) are also common in the PSC framework. As such, it is the concurrent examination of these dimensions that may provide a contextualized understanding of doctoral student persistence.

The applicability of the psycho-sociocultural framework beyond the Latino student population is unknown, which is a limitation. Further complicating the

applicability of the framework is the fact that academic departments have their own cultures and sub-cultures that tend to be excluded in the cultural dimension of this framework. These cultures have been shown to have a profound effect on doctoral student persistence and motivation (Antony, 2002; Gardner & Barnes, 2007; Ward & Bensimon, 2002).

Limitations of the Persistence Models

Unfortunately, current theories of doctoral student persistence are not suitable to explain doctoral student motivation for several reasons. First, these theories often focus on variables that are not specific enough to pertain to doctoral students in a range of academic programs and demographics. For example, while it may be useful to scholars to know that academic and social integration are significant, theoretical insight does not inform practitioners about how to promote academic and social integration of doctoral students in their particular setting. The work of Pace (1980), Astin (1984, 1993), and more recently Kuh (2003) however, has contributed to transforming the concepts of academic and social integration into constructs that can be measured and thus used for institutional assessment.

Second, the current empirical research on doctoral student persistence is limited in several respects. In general, there is a lack of qualitative research on the impacts of motivation, and few higher education studies that examine the specific psychological processes related to persistence. For example, there is a lack of evidence of the types of motivation (e.g., intrinsic and extrinsic motivation) that occur during the dissertation stage that affects long-term persistence. As noted by Tinto's (1993) model, student

departure and persistence occur over time, but does not delineate the behaviors that explain the role of motivation in persistence towards degree completion or departure.

Third, several of the studies are limited to the analysis of departmental factors affecting doctoral student success at a single institution. Therefore, the findings are not necessarily generalizable to other institutional settings and must be interpreted in terms of the "particulars to the case, and tentatively applied" (Guba & Lincoln, 1988). Another subset of studies elicited information only from doctoral students who were at the dissertation stage, rather than all stages including pre-candidacy and the qualifying exam stage. Finally, nearly all of the samples in the qualitative studies reviewed were composed of doctoral students who volunteered to participate; thus, it is possible that the volunteers differed in some significant way from the non-volunteers, possibly skewing the results of the research.

Higher Education Studies of Motivation

The profusion of psychological theories attempting to explain human motivation has become a resource for scholars examining student persistence. As a result, higher education and psychology researchers have evaluated persistence as a function of ability and the motivation of college students. Both Tinto's (1975, 1987) Student Integration Model and Bean's (1990) Student Attrition Model included motivation as an important predictor of a student's intention to stay or leave college. Psychology-based frameworks that describe motivation in greater depth can enhance the utility of these two models. Specifically, motivation-related constructs include intrinsic and extrinsic motivation as they relate to progress towards degree completion will be discussed in this section. This section will begin with a review and critique of current higher education literature on

student motivation. The aim of this section will be to provide further justification for applying self-determination theory to the study of doctoral student motivation as will be described in the subsequent theoretical framework section.

Various aspects of psychological-based motivation have been investigated within the higher education literature on doctoral student attrition and persistence. Bair and Haworth (1999) reported that motivation and goal setting were reported to be strongly related to doctoral degree completion. Additionally, students who had a "never give up" attitude were more likely to complete the doctoral degree than others (Reamer, 1990, p. 38). Lovitts (2001) identified seven motivation-related empirically derived factors aiding in dissertation completion: (1) supportive, interested, competent, and secure advisor; (2) accessible, manageable, and interesting topic; (3) internal strength, including independence, high motivation, and ability to endure frustration; (4) self-imposed deadline or goal; (5) limited or no employment; (6) delaying internship/employment until completion of the dissertation; and (7) externally imposed incentives such as increased earned income in future employment.

Bauer (1997) investigated goal setting for doctoral candidates and whether the students who set goals were more likely to finish their dissertation within a normative period (5-7 years) than students who did not set goals. Findings indicated that goal setting has a direct relationship to timely completion of the dissertation. A limitation of Bauer's study, though, was the lack of data on student self-concept and self-efficacy as it related to motivation, found to be important in previous studies about goal setting as it relates to doctoral students (Reason, 2009; Wao, 2010). Gardner (2008), in her quasi-experimental study of 185 first-year doctoral students, found that students' positive views

of themselves were more important to the successful completion of the doctoral degree than goal setting, while students' negative views of themselves predicted attrition. She reported no significant difference was reported between degree completers and non-completers with respect to self-concept.

Similarly, Muszynski (1988) found that depression, stressful life events, and feelings of isolation hindered motivation to complete the dissertation in a qualitative study of 120 doctoral students. Muszynski explained that doctoral students often either did not seek appropriate support for such difficulties, or failed to recognize the gravity of their situation as it related to doctoral degree progress. As a result of these difficulties, student motivation to complete the doctoral degree decreased over time.

Higher education studies also suggest that perfectionism and procrastination are related to motivation, and that both may be viewed as expressions of control stemming from deficits in self-esteem of doctoral students affecting their progress towards degree completion (Gardner, 2007; Lovitts, 2005). Procrastination is defined as the "tendency to put off doing something until a future date unnecessarily" (Gagne, 2005, p. 47). Previous research on frequency and cognitive-behavior factors related to procrastination suggests that from one-fourth to nearly all doctoral students experience problems with procrastination (Solomon & Rothblum, 1984), and that the issue is exacerbated the longer students are enrolled in a doctoral program (Golde & Dore, 2001). Additionally, procrastination has been found to have negative academic consequences related to reduced motivation to complete the doctoral degree (Austin, 2002; Gardner, 2009).

The results of a survey of 310 doctoral students by Milgram, Batori, and Mowrer (1993) on the correlates of procrastination suggested that academic procrastination is

domain-specific rather than task-specific; that is, a "student will procrastinate in every aspect of an endeavor, not just with specific component tasks" (p. 33). Procrastinators have been found to be more test-anxious, depressed, pessimistic, and perfectionistic (Frost et al., 1990; Rothblum, Solomon, & Murakami, 1986). Rothblum, Solomon, and Murakami (1986) also find that doctoral students have a high fear of failure, which directly affects their intrinsic motivation and is a source for prolonged procrastination in the dissertation phase of a doctoral program. Low correlations have been found between procrastination and impulsiveness, extraversion, neuroticism, conscientiousness, and locus of control (Johnson & Bloom, 1993; McKean, 1990), and have not been of focus in recent motivation studies of doctoral students (Gardner, 2010).

Motivation can be viewed as both an independent and a dependent variable when applied to doctoral education. Motivation as an independent variable influences learning and study behavior, academic performance, choice of degree program, and the intention to continue doctoral study (Gardner, 2009; Sheldon et al., 2004). Research on motivation as a dependent variable in doctoral education is limited, though the existing research seems to suggest that the learning environment plays an important role in enhancing motivation (Lavigne, 2007). Subsequently, the next sub-section will focus on psychology-based motivation studies in order to assess any aspects of motivation that can be applied to further understanding motivation of doctoral students and may add to the current literature on doctoral student persistence.

Psychological Studies of Motivation

An important area of research in psychology is the attempt to understand the motivational processes that affect degree progress with a particular emphasis on *goal*

orientation (Dweck, 1996; Kanfer & Ackerman, 1989). The following section will focus on intrinsic and extrinsic goal orientations and framing as they relate to student motivation. These components of motivation facilitate the understanding of the role of motivation in fostering doctoral degree progress, fill in certain gaps in the higher education literature reviewed earlier, and provide a foundation for a discussion of self-determination theory in the next section.

Over the past 20 years, much research interest has focused on understanding the motivational processes that affect learning (Ames & Archer, 1987; Dweck, 1986; Kanfer & Ackerman, 1989). Researchers have been most interested in uncovering the different types of goal orientations individuals display in academic and training environments (Ree, Carretta, & Teachout, 1995), understanding the motivational processes that influence different goal orientations (Nicholls et al., 1989), and identifying the conditions that elicit such orientations (Ames, 1992; Ames & Ames, 1984). Two important goal orientations that have received research attention are mastery orientation and performance orientation introduced by Dweck (1986).

Mastery orientation is defined as "the belief that effort leads to improvement in outcomes and that ability is malleable" (Ford et al., 1998, p. 222). Mastery-oriented individuals are focused on developing new skills and believe that success is realized by achieving self-referenced standards (Ford et al., 1998). Mastery orientation emphasizes the value of learning and the realization that errors and mistakes are part of that process (Ames & Archer, 1988). Individuals who approach academic environments with a mastery orientation are more proactive in understanding and correcting their approach to the various tasks they encounter which results in a direct, positive effect on self-efficacy

(Ford et al., 1998).

By contrast, individuals who are performance-oriented attempt to outperform others, are concerned with being judged as proficient, and value ability and achievement at normatively high standards (Ames & Archer, 1988). Recent research has shown that environments that promote performance goals as the primary metric of achievement encourage students to focus more on their ability than on the learning process itself (Lavigne, 2007; Nota et al., 2011). When performance-oriented individuals fail to achieve the normative standards set by the educational setting, they tend to view their ability in negative terms, which may induce anxiety (Ames & Archer, 1988).

Recent goal orientation research has begun to focus on the framing of students' learning activities in terms of intrinsic goals (motivation driven by inherent interest or enjoyment in the task itself) and extrinsic goals (motivation influenced externally from the individual, and is not necessarily for the individual's own interest and enjoyment of the activity) (Nota et al., 2011). The examination of these goal orientation manipulations is relevant to doctoral students, because various learning contexts have been shown to place different emphasis on intrinsic versus extrinsic goals. For example, a doctoral program in Economics may tend to emphasize the extrinsic goal of producing profits and wealth, whereas a Social Work doctoral program may be more likely to emphasize the intrinsic goal of individuals contributing to their community.

While personal valuing of intrinsic versus extrinsic goals is associated with differential outcomes, contexts that place disparate emphasis on these goal orientations could also result in different learning outcomes (Ryan & Deci, 2000). This general hypothesis has been tested in a series of field experiments performed in postsecondary

institutions (Lavigne, 2007; Meier, 2003). The results of a study by Vansteenkiste et al. (2004) employing regression discontinuity on goal contents and their effects on motivation found that: (a) intrinsic goal content (e.g., reflecting a more self-actualizing orientation) and autonomy support (e.g., the interpersonal behavior faculty provide during instruction to identify, nurture, and build students' inner motivational resources) each had an independent, positive effect on autonomous motivation (e.g., the subjective sense that a student's moment-to-moment activity authentically expresses the self and its inner motivation), deep learning, achievement, and persistence; and (b) the effect of intrinsic versus extrinsic goal framing on the learning outcomes could, in general, be only partially accounted for by autonomous motivation.

Most importantly, autonomous motivation was found to correlate positively with intention to continue studies and amotivation was negatively correlated with intention to complete a degree (Vansteenkiste et al., 2004). Amotivation, the absence of motivation, refers to a perception that no worthwhile reasons for pursuing an activity, or participating in a social situation, exist and hence indicates a complete absence of self-determination (Ryan & Deci, 2002).

In their field experiments, Vansteenkiste and his colleagues (2001) presented a learning activity to a group of 85 doctoral students in mathematics at four different institutions framed in the context of either saving money (an extrinsic goal) or contributing to the community (an intrinsic goal). The researchers predicted that extrinsic goal framing would distract students' attention from the learning task itself, thus interfere with the full absorption of the material, which would result in poorer academic performance. Vansteenkiste and his colleagues confirmed their prediction that intrinsic

goal framing would result in engagement affecting information processing and achievement, and found an increase in sustained motivation by the participants in the study through propensity score matching.

Additionally, Grolnick and Ryan (2004) examined how intrinsic and extrinsic goal framing was affected in autonomy supportive or controlling settings by examining a group of 280 doctoral students from five social science disciplines. This manipulation was performed by developing wording alterations of the instructions provided to the subjects; specifically, the autonomy-supportive instructions used language such as "you can" and "we suggest that you," and the controlling instructions used language such as "you have to" and "you should." Autonomy-supportive teaching involves behaviors that seek to promote students' tendency to engage in learning because they value this activity or find it interesting (Roth et al., 2007). This approach aligned with previous research utilizing psychosocial factors (e.g., Green, 1997; Lawson & Fuehrer, 2001). It was expected that the autonomy-supportive context would lead to better learning and performance than the controlling context.

Consistent with the hypotheses from both experiments, the results from the Grolnick and Ryan (2004) and the Vansteenkiste et al. (2001) studies indicated that intrinsic goal framing promoted deep-level processing among the doctoral students studied (both self-reported and observed), and that test performance and subsequent persistence were greater in the intrinsic-goal condition than in the extrinsic-goal condition. Furthermore, doctoral students whose goal framing had occurred in an autonomy-supportive condition also demonstrated enhanced deep processing, improved test performance, and persistence compared with those whose goal framing had occurred

in a controlling setting (Vansteenkiste et al., 2001). These results were replicated in other studies applying various intrinsic goals (e.g., personal growth and health) (Beal et al, 2005), extrinsic goals (e.g., physical attractiveness) (Meier, 2003), learning materials (e.g., business communications) (Vansteenkiste et al., 2004), and age groups (e.g., K-12 students and undergraduate students) (Vollmeyer, 2000).

An example of a subsequent study conducted by Vansteenkiste and his colleagues (2006) found intrinsic goal framing resulted in increased motivation and performance over the short term (e.g., one week after the experiment) when analyzing language in learning exercise instructions with 90 psychology doctoral students. Additionally, intrinsic (versus extrinsic) goal framing positively predicted persistence at each of the subsequent benchmarks, and also predicted participants' motivation throughout the yearlong course. When the learning exercise instructions were presented to students with autonomy-supportive language, the conceptual learning was greater than when it was appeared with controlling language (Vansteenkiste et al., 2006).

Limitations

There are several limitations in current higher education and psychological studies focusing on the role of motivation in doctoral student progress towards degree completion reviewed in this section. Many of the psychology-based studies reviewed in this section relied on self-reports of goal orientation and framing as it relates to intrinsic and extrinsic motivation. Such measures are subject to the shortcomings of demand characteristics and self-enhancement biases that can affect the outcomes of the study (Chu & Koestner, 2008). The findings could be strengthened if the authors directly and objectively measured goal orientation, conceivably employing peer reports or a goal

attainment scaling procedure suggested by Kiresuk, Smith, and Cardillo (1994). Additionally, research of this type should attempt to use diverse samples of students from various academic disciplines, and examine the dynamics of environmental goal setting as it relates to intrinsic and extrinsic motivation in additional real-life contexts, such as in homes and student workplaces rather than restricting analysis to classroom settings.

The conceptual psychological literature describes frequent and varied applications of persistence as a way to relate to motivational outcomes (Katz & Assor, 2007). Research on the topic focuses on the perspectives of the individual and views motivation as a longitudinal phenomenon (Sheldon et al., 2004). In fact, psychology-based research has frequently utilized motivation as a variable reflecting duration or aggregate effort of the individual (Vansteenkiste et al., 2010). As a result, research on longitudinal motivation is limited, which has been acknowledged by several cognitive psychologists who have examined the impacts of motivation on classroom-based learning (Katz & Assor, 2007; Koh et al., 2010; Nota et al., 2011). Future research should not only resolve the variations regarding the higher education and psychology-based goal-related theories and their motivational implications, and should also continue to study how doctoral students' perceptions of ability influence motivation-related actions.

As introduced earlier, the empirically grounded theory of self-determination further defines intrinsic and extrinsic sources of motivation, and describes how they affect cognitive and social development, which can lead to sustained degree progress of doctoral students. According to Deci and Ryan (1985), self-determination theory is a system of ideas intended to explain motivation as it relates to goal completion. Self-determination theory is a formal theory that defines intrinsic and extrinsic sources of

motivation and describes how they affect cognitive and social development leading to individual differences (Ryan & Deci, 2000). As such, the next section explains self-determination theory and how it may contribute to our understanding of the role of doctoral student motivation towards doctoral degree completion.

Overview of Self-Determination Theory

The previous section of this chapter argued that motivation affects persistence through various psychological constructs and various internal and external aspects of the student experience that impact motivation. The purpose of this section is to introduce, summarize, and critique self-determination theory (SDT), a psychological theory that has the potential to provide coherence to the study of doctoral student motivation beyond the models previously reviewed in this chapter. The emphasis on the theoretical framework of self-determination in this section is important for higher education scholars because this theory guides the types of questions asked, identifies constructs to measure, and points to relationships among constructs that are relevant to motivation (Deci & Ryan, 1985).

As earlier discussed, socialization and academic and social integration-based models are among the most prevalent frameworks used to study student motivation and persistence (Deci, 2008). This section, however, focuses specifically on self-determination theory, which provides insight into the constructs and variables discussed in the empirical literature on doctoral student motivation and may add further understanding of the motivational factors of doctoral students that lead to sustained persistence towards degree completion. This section will also address the benefits and limitations of using self-determination theory to conceptualize doctoral student

motivation. First, an overview of self-determination theory will be presented, and then the relationships between self-determination and motivation as it relates to doctoral students will be discussed.

Self-Determination Theory

For more than 20 years, self-determination theory has been applied to the study of human motivation (Deci & Ryan, 1985; Vansteenkiste, Niemiec, & Soenens, 2010). SDT began with the concept of intrinsic motivation (actions motivated purely by the rewarding qualities of experience that they provide); however, many important behaviors cannot be intrinsically motivated (e.g. externally motivated by financial gain). Therefore, the SDT framework was expanded to include social and intrapersonal processes by which important responsibilities are internalized (Ryan & Deci, 2006), such as individuals performing behaviors willingly even when they do not enjoy those behaviors. Thus, motivated actions become self-regulated (regulating oneself with outside control) to the extent that they are engaged in "wholly, volitionally, and endorsed by one's sense of self; actions are controlled if they are compelled by some external source" (Deci & Ryan, 1994, p. 121).

Self-determination theory suggests that three fundamental psychological needs are desirable for healthy functioning, and therefore are considered "universal needs" (Deci & Ryan, 2000). The first, *autonomy*, reflects the degree to which an individual's actions are caused by the self (Deci & Ryan, 2000). The second need, *relatedness,* reflects the necessity for an individual to have close emotional bonds and feelings of connectedness to others in the social world. The third need, *competence*, is the basic need for an individual to successfully engage, manipulate, and negotiate the environment. Table 2.1

provides examples of the three psychological needs and demonstrates how they correlate with SDT-orientated motivational regulations.

Table 2.1. Associations Between Basic Psychological Needs and Motivational Regulations within Self-Determination Theory

		Basic Psychological Needs		
		Autonomy	**Relatedness**	**Competence**
Definition		Ability to experience volition and self-regulation	Development of secure and fulfilling inter-personal relationships within social environment	Effectance in task performance and attainment of outcomes
Examples		Students have the leeway to choose their own projects and their suggestions are acknowledged by others	Students are able to trust their peers and feel secure in their midst	Students succeed in optimally challenging tasks and are given positive feedback for their work
Motivational	Amotivation	−	−	−
	External	−	−	−/+
	Introjected	+	+	+
	Identified	+ +	+ +	+ +
	Intrinsic	+ + +	+ + +	+ + +

Note. [- negative correlation; + low positive correlation; ++ moderate correlation; +++ high correlation] Koh, C., Tan, H., Tan, K., Fang, L., Fong, F., Kan, D., Lye, S., & Wee, M. (2010). Investigating the effect of 3D simulation-based learning on the motivation and performance of engineering students. *Journal of Engineering Education, 99*(1), 237-251. Reprinted with permission.

Self-determination theory focuses on both internal and external factors that promote the internalization of tasks, values, and goals. The fact that SDT takes into consideration psychological events, motivational processes, and perceived locus-of-causality as determinants of an individual's social actions is what enables it to predict long-lasting, intrinsic motivation in individuals (Chatzisarantis & Biddle, 1998).

Self-Determination Theory and Motivation

There are many different theories of motivation; the hierarchy of needs theory (Maslow, 1970), attribution theory (Weiner, 1974), social cognitive theory (Bandura, 1986), expectancy value theory (Atkinson, 1966), and achievement goal theory (Pintrich, 2000). Many of these theories (and the higher education models of persistence previously discussed in this chapter) examine persistence as a function of one's *level* of motivation. By contrast, self-determination theory examines persistence as a function of one's *quality* of motivation. Self-determination theory posits that even if a student's level of motivation is high, variations in the quality of motivation will produce very different outcomes (Williams & Deci, 2000).

For example, within self-determination theory, autonomous (or volitional) motivation is understood to consist of two subcomponents: intrinsic motivation and well-internalized extrinsic motivation (Vansteenkiste et al., 2009). Intrinsic motivation refers to the enactment of the activity for its own sake (e.g., for excitement, enjoyment, and interest that is inherent to the learning itself). When students study out of curiosity and personal interest in the learning material, their learning is characterized by a sense of psychological freedom and an internal perceived locus of causality (deCharms, 1968).

When students are not spontaneously enticed to their studies, they can continue to study in a relatively autonomous manner, given that they foresee the personal relevance of the learning. Students may identify with the personal importance of the learning activity, as the learning serves a personally endorsed goal. Although not intrinsically motivated, such students continue to experience a sense of psychological freedom when they study, so that their study behavior is characterized by an internal perceived locus of

causality. As both identified motivation and intrinsic motivation are characterized by a sense of volition and choicefulness, these subcomponents often have been combined to form a composite score of autonomous motivation in empirical research (e.g., Vansteenkiste et al., 2004).

Self-determination theory is viewed in psychological literature as a general motivation theory that may be applied to different facets of an individual's life, including education and learning. Most importantly, SDT postulates that human beings have a natural tendency to develop towards self-determination (Deci & Ryan, 1985). Figure 2.1 illustrates self-determination theory as a continuum with intrinsic motivation at one end of the spectrum (right) and amotivation (lack or absence of motivation) at the other (left). Deci and Ryan situated the four stages of extrinsic motivation in the center portion of the Self-Determination Continuum, denoting the phases an individual may go through to attain intrinsic motivation in order to become self-determined.

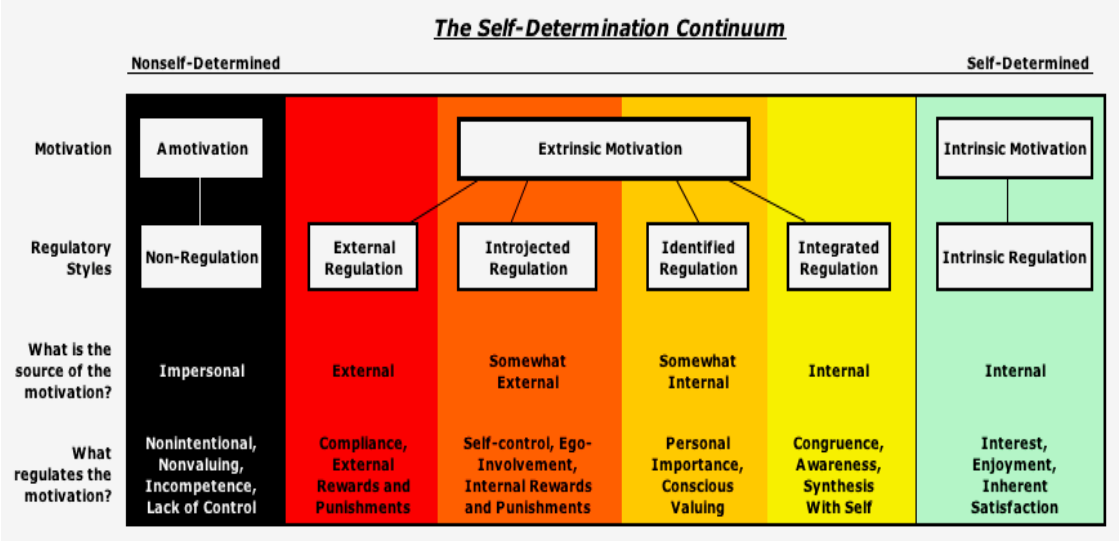

Figure 2.1. The Self-Determination Continuum

Note. Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227–68. Reprinted with permission.

The self-determination continuum explains that extrinsic motivation causes an individual to pursue an activity for a separable outcome, for example pursuing an MBA degree in order to obtain a higher earning potential. By contrast, intrinsic motivation causes an individual to pursue an activity for personal interest or enjoyment. It is the most autonomous and self-determined form of motivation (Sheldon, Ryan, Deci, & Kasser, 2004). Intrinsic motivation, as it relates to SDT, has also been found to be one of the leading predictors of persistence for doctoral students (Pontius & Harper, 2006). The following sub-section, Stages of Extrinsic Motivation, will describe important aspects of self-determination theory.

Stages of Extrinsic Motivation

Extrinsic motivation, as it relates to self-determination, is composed of four different stages: *external regulation, introjected regulation, identified regulation* and *integrated regulation* (see Figure 2.1). Unique to self-determination theory, the types of extrinsic motivation have been divided in order to better explain motivation, and this adds to the psychology literature on motivation previously described.

The first type of extrinsic motivation involves external contingencies that individuals respond to, such as expected, tangible incentives, and consequences. *External regulation* is considered the most rudimentary from of extrinsic motivation (Reeve et al., 2002). External regulation, in the case of doctoral education, signifies a student pursuing a doctoral degree because of pressure or expectation of others without inherent interest in their own education or training as a future scholar (Earl-Novell, 2006).

Introjected regulation refers to internalization in which an individual "takes in" a value or regulatory process, but does not identify with or accept it as his or her own; instead, the value becomes a rule for action that is enforced by sanctions such as threats of guilt or promises of self-approval (Deci et al., 1994). Deci and Ryan (1985) explained that introjected regulation involves complying with an external motivation without accepting it as one's own. An example would be a doctoral student reluctantly abiding by the guidelines set by his or her dissertation committee in order to appease the committee, and not fully accepting them as important to their development as an independent scholar.

The dissertation defense, by its nature, has been found to instill a sense of introjected regulation in doctoral students (Walker et al., 2008). Instead of being motivated by the potential of gaining a positive result (passing the dissertation defense), the student actively attempts to avoid a negative result (not passing the defense and having to re-write portions of the dissertation in order to appease the committee). In other words, doctoral students will complete tasks so that others do not think they are "failures or because they want praise," indicating that their ego-state is contingent on external factors (Ryan & Deci, 2000).

Identified regulation is an important form of extrinsic motivation because it is the first type of extrinsic motivation that also includes self-regulated feelings of importance. To understand and accept the benefits of an activity as personally important, the individual is making a conscious decision to care about the activity, which is an expression of autonomy (Deci, Koestner, & Ryan, 2001). In other words, identified regulation denotes that the importance of pursuing a doctoral degree is valued, has been

identified with, and the regulatory process has been accepted. An example of identified regulation would be a doctoral student diligently reviewing dissertation materials a few hours before defending her or his dissertation. Defending the dissertation is of personal importance to the student (identifying with the regulatory process), and as a result, is regarded as an identified extrinsic goal that s/he has set out to accomplish (accepting the regulatory process).

The fourth and final type of extrinsic motivation is *integrated regulation*, and involves an integration of an individual's different thoughts and urges towards an external motivation in order to create one unified sense of self-regulated behavior characterized by "harmony in thought and action" (Deci & Ryan, 1985, p. 37). Integrated regulation is defined as the acceptance of the importance ascribed to a goal (e.g., completing a course assignment) that has been fully integrated into the individual's "coherent sense of self", such that the locus of causation has been internalized (Brickell, 2007).

Students who have integrated regulatory behaviors have a unified self-concept and accept external social values as their own (Ryan & Deci, 2006). For example, a doctoral student may forgo going out to a bar with friends in order to stay home and work on his or her written course assignment. The student identifies as a doctoral student, and a part of their role-identity (as a doctoral student) is to complete coursework before they go out with friends. In this case, the student has integrated the belief in good study habits into the development of a highly regulated self and does not experience any anxiety or pressure to go out with friends, but instead relies on personal values and consequences of actions to decide the best course of action.

Ryan and Deci (2006) explained that it is the freedom to choose without any external forces persuading an individual one way or another that makes the regulation integrated, thus producing self-determination through high autonomous motivation. Regulations accompanied by greater autonomy are also correlated with more effective performance and greater well-being of doctoral students (Vansteenkiste, Niemiec, & Soenens, 2010). In many cases, individuals with a high degree of integrated regulation become intrinsically motivated once they intentionally pursue an activity for its inherent satisfaction, and not for any extrinsic reward that may arise from participating in the activity. This can be considered consistent with the goals of doctoral education, in which the goal is for doctoral students to become independent scholars through research training provided by faculty members.

Limitations of Self-Determination Theory

In the previous section, I reviewed several of the benefits of utilizing self-determination theory to conceptualize doctoral student motivation. Although it is an empirically grounded theory, self-determination theory has its limitations. One of SDT's central features is the self-determination continuum (see Figure 2.1), the theoretical characterization of the degree to which motivation and regulation represent autonomous or self-determined functioning. This feature of SDT has been reported to be both unique and contentious (Marvel et al., 1999; Pelletier et al., 2001). Abundant psychological research explains that identified and integrated forms of extrinsic motivation are associated with the experience of greater autonomy than are introjected or externally-based regulations as explained by self-determination theory (Niemiec & Ryan, 2009; Wigfield & Eccles, 2002). On the other hand, it is a contentious feature given that the

universal needs (competence, relatedness, and autonomy) may differ in importance as they relate to a student's intrinsic motivation towards a goal, such as completion of the doctoral degree, and the support needed by the student to attain the goal.

Additionally, there is an interesting and related phenomenon that has yet to be explicated by self-determination theory. Specifically, there may be values that doctoral students hold that are not coherent with respect to their integrated selves as it relates to degree requirements (Ryan & Brown, 2003). For example, a student who is attaining a doctoral degree to spite those who did not believe he or she could attain the degree. Limitations in higher education literature can be addressed with further research on how students internalize the requirements of doctoral programs through the use of self-determination theory, and how this internalization can lead to balancing their personal values with those of the doctoral program.

Summary

This section reviewed and outlined the ways in which self-determination theory can modify conceptualizations of doctoral student motivation towards degree completion. Self-determination theory contributes to our understanding of doctoral student motivation in three important ways. First, SDT provides a theoretical basis for predicting some of the environmental factors that are likely to facilitate intrinsic motivation and internalization of surrounding social values. Second, the concept of universal needs (competence, relatedness, and autonomy) provides a basis for linking motivation and behavior to academic performance and psychological development in doctoral students, and specifies the necessary behaviors (intrinsic motivation and autonomous regulation)

that are expected to yield self-motivation towards completion of goals, such as the comprehensive exam and dissertation.

Third, the concept of universal needs provides a basis for the design of social systems, such as doctoral programs and doctoral dissertation groups. By understanding doctoral students' basic psychological needs, higher education practitioners and scholars can serve an important role in establishing academic policies and designing interventions that will facilitate students' need satisfaction, so that "social systems will function more effectively and the systems' members will display greater vitality, productivity, and satisfaction" (Deci & Ryan, 2008, p. 102). The next section integrates higher education persistence and motivation models with self-determination theory, and presents a proposed conceptual framework of doctoral student motivation towards degree completion.

Conceptual Framework

In the previous sections of this chapter, I reviewed empirical and theoretical literature on undergraduate and doctoral student motivation and persistence, reviewed and critiqued existing empirical and theoretical literature on motivation, and demonstrated how self-determination theory can inform a more robust conceptualization of doctoral student motivation. This section incorporates concepts from each of the sections in order to present a new conceptual framework for understanding the role of motivation in doctoral degree completion.

The most important distinctions between this proposed conceptual framework and previous approaches to studying doctoral student motivation is that it is grounded in a psychological theory of motivation focused on the quality rather than level of motivation

(self-determination theory). The framework also specifies the necessary behaviors (intrinsic motivation and regulation) that are expected to yield self-motivation. Another important contribution of this conceptual framework makes compared to existing models is in its integration of both higher education and psychological models of persistence and motivation that have limitations when focused on separately. The integration of models may lead to a more robust understanding of the role of motivation in doctoral students.

The framework presented (see Figure 2.2) is an integration of concepts from higher education (socialization and integration) and psychology literature (motivation and goal theory) reviewed in this chapter. The assumptions of the conceptual model are that doctoral students: (a) enter doctoral programs with a range of prior experiences; (b) encounter academic institutions that have traditions, policies, and structures that shape the doctoral education experience in important ways that impact student motivation; (c) manage experiences that impact their academic performance, involvement in and perceptions of their academic environment; and (d) reassess their current level of self-determination that then influences their behaviors and motivation towards degree completion as a result of academic, social, and external social interactions. Additionally, I argue that further inquiry on the factors in this proposed framework could lead to improve institutional and departmental interventions, and build on existing models that serve to promote individual-level motivation of doctoral students. The following sub-section includes a description of each of the components in the conceptual framework.

A funnel containing three spheres reflects the characteristics students have at entry is located in the upper portion of the conceptual framework in Figure 2.2, and is labeled *Entry to Doctoral Program Characteristics*. These spheres represent the

individual attributes, institutional attributes, and current level of motivation that a doctoral student may have at any given point in time during their doctoral program. The main assumption is that these characteristics influence a student's current level of autonomous motivation that in turn influences his or her behaviors and motivation towards degree completion.

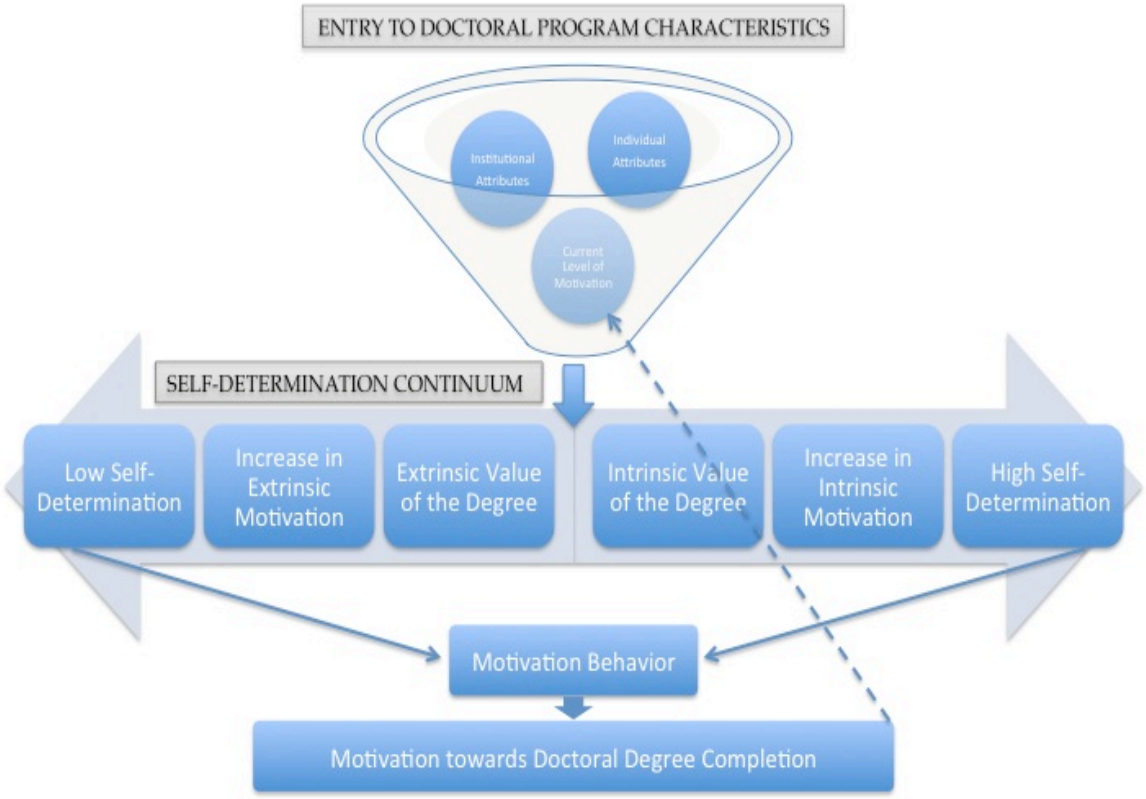

Figure 2.2. Conceptual Framework of Doctoral Student Motivation

Framework Inputs: Current Degree Completion Characteristics

The *Individual Attributes* sphere represents doctoral students' perceived level of support from personal relationships, professional network, and faculty relationships,

which has been found to be essential in developing a student's motivation and persistence towards degree completion in higher education literature (Castillo, 2002; Golde, 2005; Reason, 2009). Relationships with family and friends outside of the institution and/or doctoral program are another element of the student's support structure that has been shown to promote motivation (Lovitts, 2001).

Also included in the *Individual Attributes* sphere is the perception of fit, a factor that explains a doctoral students' perception of their integration within the doctoral program, department, institution, and social group(s) that has been found to influence motivation by higher education scholars (Castillo, 2002; Gardner, 2009; Ward & Bensimon, 2002). A doctoral student's perception of his or her fit within these settings contributes to a sense of belonging and integration within the institution that has been found to influence motivation and persistence (Braxton, Sullivan, & Johnson, 1997; Gardner, 2010). Additionally, included in the *Individual Attributes* sphere is student's academic and research ability (e.g., time management and writing skills), ability to cope with stress, and career aspirations; each of these have been shown to impact motivation in empirical psychological studies (Koh et al., 2010; Sheldon et al., 2004).

The *Institutional Attributes* sphere represents the characteristics of the doctoral program and the institution in which the student is enrolled. This component of the conceptual framework includes the student's perception of the institutional and academic program climate, and how they view himself or herself as a doctoral student in their academic environment. How a doctoral student views the climate of their academic program has been shown influence the student's sense of belonging that leads to long-term intrinsic motivation (Gardner, 2009; Lawson & Fuehrer, 2001).

Also represented by the *Institutional Attributes* sphere are the relationships that the doctoral student has with the faculty advisor(s), faculty mentor(s), and other faculty members both inside and outside of the doctoral program. These relationships, especially with faculty advisors and mentors, have been found by higher education scholars to influence doctoral student motivation by creating the support structure and professional development necessary for socialization and integration into the doctoral program (Austin, 2002; Golde, 2005).

The *Current Level of Motivation* sphere represents doctoral students' perception of their motivation as a doctoral student. The components of this sphere include level of commitment, self-efficacy, locus of control, and self-motivation to complete the degree, all of which affect a student's progress towards degree completion according to higher education and psychology-based studies of goal attainment (Deci & Ryan, 2000; Nettles & Millett, 2006; Niemiec et al., 2006). The level of motivation also encompasses the motivation orientation that the student currently possesses, both intrinsic (e.g., motivation driven by inherent interest or enjoyment of doctoral study itself) and extrinsic goals (e.g., motivation influenced externally from the student) as previously described.

A doctoral student in the pre-candidacy stage of his or her doctoral program may receive more external rewards regarding academic progress (e.g., course grades and feedback on papers) when compared to a student in the dissertation stage where the atmosphere is more isolated and feedback on academic progress from faculty members occurs less frequently. As such, the three spheres (*Individual Attributes, Institutional Attributes*, and *Current Level of Motivation*) can increase and decrease in size representing the relative influence of each sphere at any point throughout the doctoral

program. For example, *Institutional Attributes* may be more influential during pre-candidacy when extrinsic feedback is provided more readily by faculty members; thus the sphere would be larger than the *Individual Attributes* and *Current Level of Motivation* spheres at that point in time.

The one-way arrow leading out of the funnel towards the *Self-Determination Continuum* suggests that a student's *Entry to Doctoral Program Characteristics* initially drives his or her toward either the high (right) or low (left) self-determination end of the *Continuum*. The assumption is that doctoral students have an initial perspective of the extrinsic or intrinsic value of completing the doctoral degree, and will therefore proceed with these internalized perspectives and are able to modify these behaviors throughout their experience in a doctoral program.

Framework Continuum: Self-Determination Continuum

The *Self-Determination Continuum* (hereafter, the *Continuum*), as depicted in the center of the conceptual framework, is an adaptation of Deci and Ryan's (1985) Model of Self-Determination Theory. SDT posits that students are more likely to engage in an autonomous behavior if they perceive that the motivation originates intrinsically rather than from an external, controlling agent (Deci & Ryan, 2001). Internalized motivation, represented by the right side of the *Continuum*, is assumed to exist when a student acts either because the behavior is enjoyable and challenging (intrinsic motivation), or because the students endorse the values underlying the behavior towards attaining the doctoral degree (identified motivation). Non-internalized motivation, represented by the left side of the *Continuum*, is said to exist when a student acts primarily in expectation to receive a reward (extrinsic motivation), or because he or she strives to avoid feeling a

sense of guilt by friends and family from failure to attain a doctoral degree (introjected motivation).

The boxes along the continuum represent steps toward a state of high or low self-determination. Movement along the *Continuum* is fluid and not necessarily linear in that a student can move in either direction as he or she progresses through completion of his or her doctoral degree program. It is preferable that doctoral students progress through the right side of the *Continuum* to achieve a state of high self-determination in fulfilling of self-determination theory's three universal needs (autonomy, relatedness, and competence). Unfortunately, not all students who pursue a doctoral degree possess high self-determination, as indicated by the left side of the *Continuum*. This is not to say that students who have a low level of self-determination cannot complete a doctoral degree, but studies have shown that these students often have difficulties coping with stress and feel isolated while progressing through the doctoral program, which can result in prolonged time-to-degree completion or attrition (Ferrer de Valero, 2001; Koh et al., 2010).

The first box in either direction, labeled *Intrinsic Value of Degree* (right) and *Extrinsic Value of the Degree* (left), represents the value that the doctoral student places on completing the doctoral degree. This includes the goal orientation that a student has towards doctoral study, and the anticipated intrinsic or extrinsic rewards the student will attain as a result of earning the doctoral degree. For example, an intrinsic reward of earning a doctoral degree would be to further develop one's intellectual interests in a academic discipline (*Intrinsic Value of the Degree*), as oppose to earning a doctoral

degree for the sole purpose of increasing one's career opportunities that will potentially lead to greater financial wealth (*Extrinsic Value of the Degree*).

The second step in either direction, labeled *Increase in Intrinsic Motivation* (right) and *Increase in Extrinsic Motivation* (left), represents the type of motivational behavior in pursuit of a doctoral degree. This is influenced by how well authority figures (e.g., faculty members) take the perspectives of the students into account, provide relevant information and opportunities for choice, and encourage doctoral students to accept more responsibility for their learning behaviors, thus fulfilling the SDT universal need of autonomy.

Support for autonomous behavior may involve faculty, amongst other individuals such as department staff, interacting meaningfully with doctoral students by asking what the students want to achieve, listening and encouraging questions from students, providing understandable and satisfying responses to students' questions, and suspending judgment while soliciting the opinions and understanding of past student behaviors (Pelletier et al., 2001). By contrast, a lack of support for autonomous behavior may involve faculty controlling students by exerting pressure on them with rewards, punishments, or judgmental performance evaluations. Psychology studies utilizing self-determination theory have indicated that faculty in doctoral programs can be controlling, which can have a negative impact on students developing intrinsic motivation (Kaplan, Greenfield, & Ware, 1989; Marvel et al., 1999).

The final step in either direction, labeled *High Self-Determination* (right) and *Low Self-Determination* (left), represents the degree to which a student has become proactive with his or her inner potential, and learned to master his or her inner drive, emotion and

inherent tendency towards integrated functioning and growth development (Deci & Ryan, 2008). For example, a doctoral student with high self-determination continues to show a strong interest and work ethic related to uninteresting academic courses as they understand the importance of these courses to their development as a scholar in their academic discipline. By contrast, a doctoral student with low self-determination has little to no interest or engagement with uninteresting courses and is only motivated to complete required courses in order to attain the extrinsic rewards that earning a doctoral degree may offer. It is important to note that SDT also postulates that a student can vacillate between high and low self-determination due to varying feelings of autonomy, relatedness, and competence throughout their progress in a doctoral program (Deci & Ryan, 2002).

All of the steps along the *Self-Determination Continuum* may be influenced by characteristics of the academic and social environments of the student. For example, psychologists find that when faculty members provide autonomy support and acknowledge students' initiative and self-directedness, the students in turn discover, retain, and enhance their intrinsic motivations and internalize non-enjoyable, but important extrinsic motivations (Deci & Ryan, 2002). By contrast, when faculty members are controlling or deny the self-agency of students, intrinsic motivations are undermined and internalization of extrinsic motivation is prevented (Grolnick & Ryan, 1987; Ryan & Powelson, 1991).

Framework Outputs: Motivation towards Degree Completion

The framework outputs (lower portion of conceptual framework) have been presented as a two-step process. First, a student's level of self-determination affects

Motivation Behavior that refers to the various regulatory behaviors that a student develops as her or she pursues a doctoral degree. An example of these behaviors is a student with identified regulated behavior, where the student consciously values the goal of pursuing a doctoral degree and accepts it as personally important, but continues to be extrinsically motivated to complete the degree requirements may be on the left side of the continuum.

These motivation behaviors can reduce the feeling of isolation that doctoral students feel from their academic and social communities, which can lead to dissatisfaction with the academic program (Milem, Chang, & Antonio, 2005), and ultimately to attrition (Taylor & Antony, 2000). An example of doctoral student intrinsic motivation behavior would be actively integrating into social networks within the institution (e.g., doctoral cohort, dissertation study group, student organization). The results of this behavior can provide a doctoral student support and sense of belonging to quell the feeling of isolation, thus fulfilling the self-determination universal need of relatedness that can lead to increased motivation towards degree completion.

The one-way arrow pointing from the *Motivation Behavior* box to the *Motivation towards Doctoral Degree Completion* box represents how a student's motivation-related behaviors affect the extent to which he or she can progress toward a doctoral degree. The level of motivation will vary depending on the level of autonomous behavior, type of regulatory behaviors, and type of value placed on attaining the degree, all of which influence the overall level of self-determination. The dotted one-way arrow pointing from *Motivation towards Doctoral Degree Completion* box towards the *Current Level of Motivation* sphere depicts the iterative

process that a number doctoral students undergo as their level of intrinsic and extrinsic motivation increases and decreases during various points in the doctoral program.

The ideal scenario is for a student to have a high level of autonomous behavior and intrinsic motivation to complete the doctoral degree regardless of the individual and institutional attributes that he or she entered the doctoral program with. While it would be ideal if every doctoral student could feel intrinsically motivated to write a dissertation, many simply complete the task so they can move on with their lives, thus rely on extrinsic motivation to complete the degree. It is this externally regulated behavior that can render dissertation writing to be a miserable process, and may lead to permanent ABD status (Germeroth, 1991; Wigfield & Eccles, 2002).

Summary

This chapter provided background on the existing conceptualizations of doctoral student motivation by integrating concepts from higher education and psychology for an improved understanding of the relationship between students' motivation and their progress towards degree completion. In the next chapter, I discuss the research questions, participant recruitment, methods of data collection and analysis, and limitations of the study.

Chapter Three: Methodology

The previous two chapters presented the rationale underlying the need for more research on doctoral student motivation, and its relationship to progress towards doctoral degree completion. This chapter will present the methodology employed in this qualitative study of motivation of doctoral students. The study addresses two key gaps in current higher education literature on doctoral student persistence. First, the use of qualitative interview data captured students' degree progress based on intrinsic and extrinsic motivational factors, an important contribution given that perceptions about doctoral student motivation vary widely. Second, the use of self-determination theory in the data analysis allowed for a unique exploration of the potential relationship between students' motivation and their progress towards degree completion.

This chapter will include a description of the study, including the plans for collecting, preparing, and analyzing data. It will also include details about the participant sample used for this study, the case study approach, and verification procedures that were implemented throughout the data analysis phase. Finally, I will conclude with a review of the limitations of the study and the personal subjectivities I bring to the study.

Focus of the Study

High rates of doctoral student attrition, which consistently range from 35 to 50%, are considered as one higher education's "well-kept secrets" (Council of Graduate Schools, 2009; Lovitts, 1996). Attrition at the doctoral level is damaging and costly for the student, faculty advisor, and the institution (Kluever, 1997). As such, the focus of

this study was to understand intrinsic and extrinsic motivational factors that influence progress towards completion of the doctoral degree.

To understand the contributing motivational factors that influence progress towards doctoral degree completion, 36 doctoral students volunteered to reflect and expound on the doctoral degree experience in a semi-structured interview setting employing protocol focusing on the basic psychological "universal needs" (autonomy, relatedness, and competence) as described by self-determination theory. Interviewing doctoral students from four Social Science academic disciplines at one institution allowed for a comparison of motivation factors that may differentiate among academic disciplines. The following served as the primary question guiding this study: *How do aspects of self-determination theory explain doctoral student motivation towards degree completion?*

Sub-Questions

1. How does motivation towards degree completion differ for doctoral students across Social Science academic disciplines?
2. How does self-determination theory's concept of universal needs explain doctoral student motivation towards degree completion?
3. How does the academic environment affect doctoral student motivation towards degree completion?
4. What factors not associated with self-determination theory also influence the motivation of doctoral students?

Case Study Approach

Qualitative research is "an inquiry process of understanding" where the researcher develops a "complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting" (Creswell, 1998, p. 15). Data analysis is based on the values that participants in this study perceive in their life and academic pursuits (Merriam, 2009). Ultimately, qualitative analysis "produces an understanding of the problem based on multiple contextual factors" (Stake, 1995, p. 37).

A case study approach was selected in this study to allow for exploration of a "bounded system" of multiple cases through detailed, in-depth data collection involving multiple sources of information rich in context (Merriam, 2009). This bounded system is bounded by place, and it is the case being studied – a program, an event, an activity, and/or individuals (Creswell, 2002). In this study, I treated each participant (n=36) as an individual case. When more than one case is studied, as they are in this study, it is referred to as a multiple case study (Stake, 1995).

A multiple case study method (thematic analysis followed by a cross-case analysis) was selected to conduct data analysis in this study to provide a deeper understanding of the numerous factors that influence doctoral student's motivation towards degree completion across multiple academic disciplines. When multiple cases are chosen, a typical format is to first provide a detailed description of the theme(s) within the cases (a thematic analysis), followed by a description of findings across cases (a cross-case analysis) (Merriam, 2009). This type of analysis of the data allowed for a holistic assessment of the entire case and/or an embedded analysis of a specific aspect of

the case (Yin, 1989). Through this analysis, a detailed description of the case emerged, as did an analysis of issues and interpretation or assertions about the case.

Institution Selection

As part of the data collection of this study, I solicited participants from Riverside University.[1] Riverside University was selected based on its commitment to doctoral education and training, as well as institutional characteristics including institutional type and size. Riverside University is a large public research university and located in the Midwest with over 30,000 undergraduates and graduates enrolled during 2012-13 academic year. Over 3,000 students are enrolled in Riverside University doctoral programs in the humanities, social sciences, and STEM fields (Science, Technology, Engineering and Mathematics). The Carnegie Foundation has classified Riverside University as a Comprehensive Doctoral institution with "very high research activity" offering a "comprehensive" graduate program (Carnegie Foundation, 2010). Riverside University is a member of the Association of American Universities and has one the largest annual research expenditures of any university in the United States.

In the 2012-13 academic year, College of the Arts and Literature had the highest doctoral student enrollment of all the Colleges at Riverside University (Riverside Office of the Registrar, 2011). Within the College of the Arts and Literature, four departments from the Social Sciences were selected for the purpose of attaining a diverse sample of students based on gender, race/ethnicity, and experiences that may impact motivation. Previous studies of doctoral student motivation have found that it is important to attain a

[1] The institution, departments, and detailed student enrollment data have been deidentified to prevent identification of the institution, departments, and participants in this study and to adhere to guidelines established by the University of Michigan Institutional Review Board.

diverse participant sample in order to capture a broad spectrum of intrinsic and extrinsic motivating factors (Vansteenkiste et al., 2010; Vaquera, 2007).

Academic Department Selection

I identified six academic departments that are classified as Social Science disciplines (Anthropology, Economics, Linguistics, Political Science, Psychology, and Sociology) within the Riverside University College of the Arts and Literature. The following sections provide current information for each of these departments, including doctoral student enrollment, demographics, degree completion rates, and an overview of the criteria used to select departments for this study. The primary purpose for presenting these data is to provide context on the structure of the doctoral programs. I also used these data in the analysis stage of the study to provide context and comparison of how participants are supported by their doctoral program.

Student demographics and enrollment. Doctoral student demographic data (gender and race/ethnicity) for Riverside University are presented in Table 3.1 (data from the Riverside University Office of the Registrar, 2011). Raw enrollment data have been converted to percentages for ease of making comparisons.

Demographic data in Table 3.1 have been restricted to doctoral students who are United States citizens or permanent residents. Doctoral students who identified as American Indian/Alaska Native, Native Hawaiian/Pacific Islander, Multiracial, or who are classified as "unknown/not reported" have not been reported in Table 3.1 in order to avoid student identification because each group comprised less than 5% of the total doctoral student enrollment at Riverside University.

Table 3.1. Doctoral Student Demographic Data for Riverside University

	Riverside University
Female	47%
Male	53%
Latina/o	7%
African American	5%
Asian	10%
White	72%

Table 3.2 illustrates departmental doctoral student enrollment and demographic data (gender and race/ethnicity) for the 2011-2012 academic year for purposes of comparison to the institutional data presented in Table 3.1 (data from the Riverside University Office of the Registrar, 2012). Raw enrollment data have been converted to percentages for ease of making comparisons.

Table 3.2. Doctoral Student Demographic and Enrollment Data by Department

	Anthropology	**Economics**	**Linguistics**	**Political Science**	**Psychology**	**Sociology**
Female	72%	31%	41%	44%	68%	61%
Male	28%	69%	59%	56%	32%	39%
Latina/o	10%	4%	0%	8%	9%	6%
African American	3%	4%	0%	11%	15%	8%
Asian	7%	10%	14%	8%	16%	15%
White	78%	78%	86%	68%	59%	62%

Doctoral degree completion. Table 3.3 includes the following data in order to provide degree completion and related information for each of the doctoral programs: the average number of first year doctoral students enrolled during the Fall 2010 and Fall

2011 semesters ("Cohort Size")[2]; the ratio between doctoral student and tenure-track faculty members ("Student/Faculty Ratio")[2]; the average number of doctoral degrees awarded per year during the 2005-2009 period ("Degrees Awarded")[3]; the median time-to-degree completion reported in years for the 2000-2005 cohorts ("Time-to-Degree")[3]; and the average percentage of students from the 2000-2005 cohorts who completed a doctoral degree in six years ("Degree Completion")[3].

Table 3.3. Doctoral Degree Completion Data by Department

	Anthropology	**Economics**	**Linguistics**	**Political Science**	**Psychology**	**Sociology**
Cohort Size	17	28	5	13	27	8
Student/Faculty Ratio	2:1	3:1	1.5:1	2:1	1.2:1	2.5:1
Degrees Awarded	16	19	4	12	28	8
Time-to-Degree	9.0	6.3	6.8	7.2	5.5	7.3
Degree Completion	5%	21%	27%	8%	59%	19%

Department selection. As a result of the data reviewed for the six Riverside University Social Science doctoral programs, four departments were selected to recruit participants from (Anthropology, Economics, Political Science, and Psychology). The selection of the four academic departments was based on the following factors: 1) the racial/ethnic diversity of doctoral student enrollment; and 2) six-year degree completion rate. The Linguistics department was excluded from this study due to the low enrollment

[2] Enrollment data has been collected from the Riverside University Office of the Registrar.

[3] Doctoral degree completion data has been collected from the National Research Council. Riverside University reports degree completion rate data to the National Research Council, which conducts periodic assessments of doctoral programs in the United States.

of doctoral students, and thus high probability of not being able to maintain the anonymity of Linguistics doctoral students. Linguistics has a relatively low doctoral student enrollment compared to the other Social Science departments.

In order to attain as diverse as a participant sample as possible (by race/ethnicity and gender), I selected four departments based on the departments having a higher enrollment of Latina/o and African American students. All four departments have a minimum of 8% Latina/o and African American (combined) doctoral student enrollment, thus offering the potential of a racially/ethnically diverse sample. The Economics and Political Science departments have predominantly male enrollment (69% and 56% respectively) in contrast to Anthropology and Psychology that have a predominately female enrollment (72% and 68% respectively), thus providing the potential to further contrast student experiences across disciplines.

Additionally, the four departments represent a wide-range of six-year degree completion rates. Anthropology (5%) and Political Science (8%) have the lowest completion rates, Economics (21%) has a somewhat higher rate, and Psychology (59%) has a substantially higher rate among these Social Science departments. Selecting departments with varying completion rates may reveal differences in students' experiences that may affect motivation towards doctoral degree completion. The following section provides current information regarding funding packages and degree requirements for each of the four departments selected in this study.

Academic Department Characteristics

As previously discussed, doctoral enrollment and degree completion data, along with data regarding degree requirements and funding packages presented in this section,

were used in the analysis stage of the study to provide context on the structure of the doctoral programs and enable comparison of how participants were supported by their doctoral program. The following sub-sections provide an overview of the requirements to advance to doctoral candidacy and the financial support provided to doctoral students in the four departments selected in this study.

Advancement to doctoral candidacy requirements. The following is a brief description of the requirements for students to attain doctoral candidacy in their respective departments during the 2011-12 academic year (data from Riverside University, 2012). Also included in each description is the type of preliminary/qualifying examination (written, oral, etc.) and when students generally take the exam.

In the Anthropology doctoral program, advancement to candidacy requires that students complete course requirements, two research papers, the department language requirement (basic or better proficiency in two languages), and both oral and written preliminary exams no later than the summer preceding fourth year. Advancement to candidacy in the Economics doctoral program requires the successful completion of course requirements and two written preliminary examinations by the end of their third year.

In the Political Science doctoral program, advancement to candidacy requires that students complete course requirements and successfully pass two preliminary examinations (written or a combination of written and oral) by the end of their third year in the program. Advancement to candidacy in the Psychology doctoral program requires the successful completion of course requirements within a student's program area and the preliminary examination, typically by the start of third year. Preliminary exams vary

across program areas, and they include different demonstrators of scholarship such as take-home exams, writing grant proposals, and preparing portfolios.

Funding Packages. The following is a brief description of the typical funding packages offered during the 2011-12 academic year to incoming students by their respective doctoral program (data from Riverside University, 2012). The intention of providing this information is as a general (not exhaustive) overview of how departments financially support doctoral students.

Students admitted to the Anthropology doctoral program are offered a funding package for up to five years of support. Funding packages generally include a first-year fellowship and four subsequent years of a combination of teaching, research, and fellowship support. In the Economics doctoral program, admitted students are offered a funding package for up to five years of support. Funding packages generally consist of a first-year fellowship. The Economics department awards teaching assistant positions to second, third, and fourth-year doctoral students making acceptable academic progress.

Students admitted to the Political Science doctoral program are provided a five-year funding package. This funding package includes a combination of fellowships and graduate student assistantships. The minimum funding package includes a fellowship in year one and graduate student assistantships in the following years. In the Psychology doctoral program, admitted students are provided with a five-year funding package. This package combines research fellowships and teaching assistant positions for a total of five years of support. During the first two years in the doctoral program, a student is supported as a research assistant for two academic terms, and a teaching assistant for two additional academic terms. Most students will be teaching assistants during their third

and fourth years. In the final year, students are supported as a research assistant for two academic terms to facilitate the completion of their dissertation by the end of the fifth year.

Participants

Students within the four selected Social Science departments were recruited to participate in the study. Potential participants were contacted through department email listservs during the Fall 2012 semester. The recruitment email messages sent to all students in the department email listservs described the purpose and goals of the study, as well as the possible application of the results (see Appendix A: Students, and B: Department Staff). Participant recruitment emails were then sent to potential interviewees requesting their participation into the study. Participant recruitment was restricted to current doctoral students in the four selected Social Science departments (Anthropology, Economics, Political Science, and Psychology).

Criterion sampling was employed to select participants for this study and to determine that the participant sample was sufficiently diverse. The criterion sampling approach requires all participants within a specific group to meet specific characteristics of that group in order to participate (Patton, 2002). A demographic pre-interview survey collected data on gender, race, ethnicity, career goals, and other pertinent information that aided in yielding a balanced sample. Women and students of color (e.g., Latino and African Americans) were oversampled to yield a diverse sample.

The participant sample was limited to United States citizens, as the focus of this study is on the experiences students have within the United States that influence their motivation to progress through their doctoral degree program. Students from other

countries outside of the United States may have different motivations for doctoral study as it relates to their professional and career goals when compared to students from the United States. Additionally, first year students were excluded from the participant sample because I sought participants who had spent enough time in their doctoral programs to reflect meaningfully on the factors that had influenced their motivation thus far. Future research should explore the types of factors that affect students' motivation in the first year of doctoral study.

The total participant sample of the study was 36 current full-time doctoral students once saturation within each academic department was achieved. Saturation was reached when I believed that no new information would be learned by interviewing additional participants within each department. To ensure saturation, I sought repetition in responses relating to how each doctoral program affected participants' motivation towards degree completion. Saturation was achieved when I interviewed the sixth participant in Anthropology, seventh participant in Economics, ninth participant in Political Science, and eighth participant in Psychology. Additional interviews (one to two per department) were conducted to ensure saturation across the four departments.

Participant sample. The participant sample included 22 females and 14 males for a total of 36 doctoral students who participated in the study were currently enrolled students in Anthropology (n=8), Economics (n=8), Political Science (n=10), and Psychology (n=10). Seven participants self-identified as Latina/o, three as African American, five as Asian, and 21 as White.

Interviews were conducted during the Fall 2012 semester, at which time participants current year of enrollment as a doctoral student ranged from second to

seventh year: six were in their second year; four were in their third year; eight were in their fourth year; eight were in their fifth year; six were in their sixth year; and four were in their seventh year. Participants averaged five years of enrollment in their respective doctoral programs. A total of 65% participants had attained doctoral candidacy at the time of their interview. The age range of participants was from 22 to 46, with an average age of 34 at the time of the interview.

Data Collection

Semi-structured interviews were chosen to answer the research questions. The semi-structured interview is used when the researcher seeks to capture meanings and perspectives of program participants and other subjective information not typically available through other research techniques (Patton, 2002). Furthermore, interviews maximize the opportunity for more complete and accurate communication of ideas between the researcher and the participants (Creswell & Miller, 2002).

Additionally, semi-structured interviews were selected as the primary data-gathering tool in order to allow the participants to guide the outcome of the interview. The questions and probes (see Appendix C for the interview protocol) were used with the intention of providing both focus and flexibility during the actual interviews. This type of interview satisfied the need of the researcher to gather the desired information (Patton, 2002). I used the interview protocol to encourage the participant's open-ended remarks to lead both the participant and I into potentially interesting and pertinent territory regarding their motivation towards doctoral degree completion. The various types of motivators towards degree completion could unfold throughout the interview with the use of this approach. The interview protocol was designed to elicit responses of the relevant

variables in the experiential areas of: (a) the reason(s) for entering a doctoral degree program; (b) impacts of the academic environment; (c) social and personal issues; and (d) personal and career goals in order to extrapolate the intrinsic and extrinsic motivational factors towards doctoral degree completion.

As previously described, potential participants were contacted through email that solicited their participation in the study during the Fall 2012 semester. The email message explained the purpose and significance of the study, how participants were selected, the importance of their participation, the anticipated length of the in-person interview, how the results would be reported, and my contact information. The email also assured participants that confidentiality would be maintained. I remained flexible in allowing participants ample opportunity to select the date and time of the interview. One 60-to-90 minute interview was scheduled with each participant. With permission from each participant, each interview was digitally recorded.

Demographic information was collected through a brief demographic pre-interview survey (see Appendix D). The web-based survey link (hosted by Google Docs) was distributed to students via email before the date of the interview along with the Participant Consent to Interview form (see Appendix E). The pre-interview survey collected data on gender, race, ethnicity, career goals, and other pertinent information that aided in yielding a balanced sample, in conducting the interview, and subsequent data analysis.

At the beginning of each interview, I provided participants an overview of the study, addressed questions and concerns, and requested the participant's permission to record the interview. In allowing participants to ask questions and voice concerns during

the beginning of the interview, I attempted to establish a relaxed and comfortable atmosphere. I informed the participants that they could ask that the recording be discontinued at any time.

The interview protocol included 23 in-depth, open-ended questions. Probe questions were included in the interview protocol in order to provide flexibility for the interviewer to thoroughly explore certain topics. The protocol was pilot tested with four current doctoral students recruited from Education and Life Science doctoral programs at Riverside University. The pilot interviews were not included in the full study. Debriefing with the pilot study participants was conducted to obtain information on the clarity of the interview questions and more importantly, whether they elicited responses that were relevant to the aim of the study.

Interview Process

The first section ("Motivation to pursue the doctoral degree") of the interview protocol was designed to establish a connection and build trust between the interviewer and the participant, as well as to elicit relevant background information, such as the participant's decision to attain a doctoral degree. The second section ("Personal factors relating to motivation") section of the interview was intended to elicit the participants' descriptions of their personal relationships and experiences that contributed the most to their motivation to pursue a doctoral degree. The third ("The role of the academic environment") and fourth ("The role of the faculty") sections of the interview were intended to elicit the participants' descriptions of their educational experiences both in and outside of their doctoral program that contributed most to their intrinsic and extrinsic motivation, and how these types of motivation have impacted their pursuit for a doctoral

degree. The third and fourth sections of the interview protocol were also designed to gather information regarding disciplinary contexts in detail.

The fifth and final section ("Motivation to complete the doctoral degree") of the interview prompted participants to synthesize their motivation across all of the experiences in their doctoral program in order to identify how they personally developed during the process of pursuing the doctoral degree, and explicate the motivational impact of relationships with individuals on and off-campus that had an impact on their career and academic pursuits. All five sections of the interview protocol assessed two or more of the self-determination theory's psychological universal needs (autonomy, relatedness, and competence) in order to address the primary question of the study: "How do aspects of self-determination theory explain doctoral student motivation towards degree completion?" and the second sub-research question: "How does self-determination theory's concept of universal needs explain doctoral student motivation towards degree completion?"

The interviews were digitally recorded, and averaged 60-90 minutes in length; participants were compensated $25.00 using an Amazon.com gift card. The interviews were conducted in a private, quiet offices and conference rooms at Riverside University. Several participants reported that the interview had served as a meaningful opportunity for reflection on their doctoral experience and why they initially decided to pursue a doctoral degree. At the conclusion of each interview, the interviewer recorded a brief commentary with reflections about the interview, and any observations that might be useful during the data analysis stage of the study. All recorded interviews were transcribed in full. I transcribed 30% of the interviews; a professional transcriptionist

employed by me transcribed the remaining interviews.

Once the interviews were transcribed, I conducted primary data analysis, which will be referred to as summarization. Summarization involves a process of creating a thorough summary of each interview transcript (Patton, 2002). The primary section of the summary highlighted the content of the interview, including the student's background information, significant experiences, and examples of motivational effects that were and were not associated with self-determination theory. The secondary section of the summary assessed the participants' motivation with the self-determination framework described by Ryan and Deci (2000) in Chapter Two, through an assessment of whether the student's significant experiences promoted intrinsic and/or extrinsic motivation and aligned with self-determination theory's universal needs of autonomy, relatedness, and competence. Relevant excerpts from the transcript were also included in the summary.

Data Analysis

Data in this study were collected from in-person interviews, corresponding researcher notes, doctoral degree completion data collected from the National Research Council, and information regarding doctoral enrollment, financial aid, and degree requirements collected from Riverside University academic departments and the Office of the Registrar. One set of interview questions was developed for all participants interviewed. Each interview was digitally recorded and transcribed verbatim. The transcriptions were checked for accuracy by listening to the audio recordings and comparing it with the transcribed text. I maintained separate notes and analysis for use in the development of the cases while listening to interview recordings. A final summary was incorporated into the "researcher notes" that was utilized after each interview and

prior to transcription in order to record the main concepts and issues of each interview, and to allow for more prompt retrieval of data during the analysis stage.

The open coding and analysis of the text data was performed using the Qualitative Software and Research (QSR) NVivo 9, a qualitative analysis software package. Qualitative research software can never substitute for a researcher's own analytical skills, but merely provides tools for managing the large amounts of textual data that qualitative research generates (Weitzman, 2000). I primarily used NVivo for storing, coding, searching, and retrieving data from the interviews and memos. It was also used to sort preliminary categories and early interpretations of the data.

This study used a multiple case study design where each participant in the study was treated as an individual case. In such designs, the analysis is performed at two levels: within each case and across the cases (Stake, 1995; Yin, 1989). The following sub-sections detail the procedures used for the thematic and cross-case analysis of the data that pertain to each research question.

Thematic analysis. An inductive analysis approach was used for the thematic analysis of the cases to allow patterns, themes, and categories to emerge from the data rather than imposing preexisting schemes and hypotheses (Patton, 2002). As recommended by Creswell (2002), Merriam (2009), and Stake (1995), the steps in my thematic analysis of the data included: (1) preliminary exploration of the data by reading through the transcripts and researcher notes; (2) coding the data by segmenting and labeling the text; (3) using codes to develop themes by aggregating similar codes together; (4) connecting, comparing, and interrelating themes using corresponding researcher notes and data derived from Riverside University and the National Research

Council; (5) constructing a thematic analysis of the cases composed of descriptions and themes collected from the researcher notes and interview data as it related to the guiding research question of this study.

I created a two-page case summary for each participant in the analytic sample, containing the major themes that had emerged during each interview. The thematic analysis of the cases focused on the aspects of self-determination theory that address the potential relationship between participants' motivation and their progress towards doctoral degree completion. Factors not specified within self-determination framework that were reported by participants as influencing their motivation were also analyzed and reported. During the last stage of the thematic analysis, potentially disconfirming evidence was analyzed and reported. This procedure involved establishing the preliminary themes and then searching through the text data for evidence that was disconfirmed by the themes.

Cross-case analysis. After each individual case was analyzed for themes as previously described in the thematic analysis section (steps 1-5), I performed a cross-case comparison of the themes as they related to each sub-research question in this study using an inductive analysis approach. As recommended by Merriam (2009) and Patton (2002), the cross-case analysis was divided into four phases to address each research sub-question.

The first phase of the cross-case analysis addressed the first research sub-question concerning how motivation towards degree completion differed for participants across the four Social Science academic disciplines. Cases were first compared within their affiliated department, then across each department. My focus when constructing a cross-

case analysis of the cases was on factors that appeared to promote or inhibit motivation towards degree completion and interactions participants had with faculty, staff, and other doctoral students.

The second phase of the cross-case analysis addressed the second research question concerning how the self-determination theory's universal psychological needs of autonomy, relatedness, and competence influenced doctoral student motivation towards degree completion. A cross-case analysis was first conducted on themes relating to each of the three universal psychological needs that emerged during the thematic analysis of the data. Constructing a cross-case analysis of the cases included an analysis of the themes that related to how participants' universal needs were fostered within and outside of the academic environment. Doing so yielded additional insights about factors relating to the three universal needs that may contribute to their possible influence on doctoral student motivation.

The third phase of the cross-case analysis addressed the third research question concerning how a student's academic environment impacts their motivation towards doctoral degree completion. Cases were first compared within their affiliated department, then across departments. My focus when constructing a cross-case analysis was on the various aspects of the academic environment that appeared to influence participants' motivation towards doctoral degree completion, including resources and key individuals at both the department and institutional levels.

The fourth phase of the cross-case analysis addressed the fourth research question concerning motivational factors that were not associated with self-determination theory. A cross-case analysis was first conducted on inconsistent evidence for the use of self-

determination theory that emerged during the thematic analysis of the data. This included an analysis of the major themes that emerged that were not specified within the self-determination framework. The emergent themes were then organized into categories and interpreted using other theories of motivation common in higher education and psychology research. Doing so yielded additional insights about factors that may contribute to doctoral student motivation aside from those specified in the self-determination framework.

Although I intentionally recruited a diverse participant sample, an analysis of the relationship between doctoral student motivation and demographic factors (e.g., race/ethnicity and gender) was beyond the scope of this study given that my primary focus was on exploring the intrinsic and extrinsic factors that promoted or impeded student motivation. I anticipate that these demographic variables will be the subject of a future study on doctoral student motivation using the analytic sample in the present study.

Establishing Trustworthiness and Validity

The criteria I used to establish trustworthiness were based on coherence, insight, and instrumental utility (Eisner, 1991) and credibility (Merriam, 1988) of the inquiry. Validity is described as the quality of the conclusions and the processes through which they were reached (Taft, 1988). Taft argues that validity depends on the particular "criterion of truth" that is adopted, and in qualitative research, he notes that the most appropriate criterion is credibility.

To validate the findings and determine the trustworthiness of the information, four primary procedures were used in this study: (1) conducting a pilot study to validate the interview protocol (Maxwell, 1992; Merriam, 2009; Patton, 2002); (2) triangulating

different sources of information (Creswell, 1998; Merriam, 2009; Stake, 1995); (3) providing disconfirming evidence (Creswell & Miller, 2002); and (4) conducting member checking with a majority of the participants from this study (Lincoln & Guba, 1985; Tanggaard, 2008).

In order to validate the interview questions, I conducted a *pilot study* using the initial draft of the protocol with doctoral pre-candidates (*n*=2) and candidates (*n*=2) who were enrolled in Education and Life Science doctoral programs at Riverside University in Spring 2012 using convenience sampling. Participants were selected because of their convenient accessibility and proximity to the researcher and were not representative of the entire sample of participants.[4] A convenience sample was used because it allowed me to obtain basic data and trends regarding the interview protocol without the complications of using a randomized sample (Merriam, 2009). The pilot study was conducted in advance of the scheduled start date of the interviews to allow for revisions to the protocol (as recommended by Maxwell, 1992 and Patton, 2002).

The pilot study was conducted under field conditions similar to those that were used during the interviews. Specific areas that were evaluated in the pilot study included the following:

1. Is the level of understanding of question wording and/or construction by the participant clear?
2. Is there a language or dialect problem?
3. Are the questions of sufficient interest and appeal to motivate the participant to

[4] Demographic data of the pilot study participants is not provided to avoid student identification and to adhere to guidelines established by the University of Michigan Institutional Review Board.

complete the interview and provide in-depth information about his/her doctoral experiences affecting motivation to complete the degree?

4. Are the questions relevant to the phenomenon being studied so as to elicit a realistic response?

5. Are the questions too restrictive, limited, or narrow in scope?

6. Are the questions designed in a way that, when taken as a whole, they address the basic research question and give the researcher the data that is needed?

A debrief meeting with the pilot study participants was conducted immediately after each interview to obtain information on the clarity of the interview questions and more importantly, identify problems and weaknesses in wording and construction of the questions. As a result of the debriefing meetings, revisions were made to the protocol to increase the likelihood that interview questions would elicit responses that were relevant to the aim of the study.

Data triangulation was achieved through the analysis of interview transcripts from multiple students and academic departments as well as researcher notes and supplemental institutional and departmental information from the National Research Council and Riverside University Office of the Registrar. *Theory triangulation* was achieved through the use of multiple motivation and persistence-related theories from higher education and psychology research in the conceptualization and interpretation phases of this study. The procedure to *provide potentially disconfirming evidence* involved searching for evidence that disconfirmed the emerging themes. Discussing contrary information added to the credibility of the findings because reality is "multiple and complex" (Creswell & Miller, 2002, p. 127).

This study also included *member checking* as a means for understanding if my interpretations accurately portrayed participants' experiences and allowed for participants in this study to correct errors and/or challenge incorrect interpretations of the findings. Member checking meetings commenced once the interviews were completed and transcribed and were conducted primarily via phone; a majority of participants participated in member checking (n=27). Prior to the member checking meeting, participants were provided an electronic copy of their transcript and post-interview summary to discuss with me. I was unable to conduct member checking with the remainder of the participant sample due to scheduling conflicts with participants.

Research Permission and Ethical Considerations

In compliance with the regulations and policies of the University of Michigan Health Sciences and Behavioral Sciences Institutional Review Board (IRB), the permission for conducting the human subject research must be obtained by the IRB. The University of Michigan IRB Application for Human Subjects Research was filed and granted approval as a standard, non-exempt study with no more than minimal risk to participants (University of Michigan IRB Study # HUM00062435). The application provided information about the principal investigator, the project title, type of IRB review requested, number and type of subjects, and general research design. The IRB application also contained the description of the project and its significance, participants, methodology, and data safeguarding procedures.

Additionally, the Participant Consent to Interview form was developed and approved along with the IRB application (see Appendix E). The consent form explained that participants are guaranteed certain rights, agree to be involved in the study, and

acknowledge their rights are protected. The potential participants received the Participant Consent to Interview form along with the web link to the Participant Pre-Interview Survey (see Appendix D) that reflected compliance by participation. Numerically coding each returned web-based, demographic pre-interview survey, as well as maintaining the confidentiality of the interview responses protected the anonymity of participants.

Interview participants were assigned fictitious names for use in their description and reporting the results of the study. All study data, including the web-based survey files, interview audio files, and transcripts were kept on a secured computer in the researcher's office, and will be destroyed at the conclusion of the study. Participants were informed that summary data will only be disseminated to the professional higher education research community and reported only in aggregate form, but in no way will it be possible to trace responses to specific individuals.

Limitations of the Study

This study has several sample limitations. First, the study is limited to data collected from students in four doctoral programs at Riverside University; as such, these findings are limited to the experiences of students in the selected programs who attended this institution. Generalizability was not the purpose of this study, since it is plausible that motivational factors vary across doctoral programs and institutions. Future studies should investigate doctoral student motivation at other academic departments and institutions.

A second limitation is that only individuals who volunteered to participate in the study were interviewed. Thus, it is possible that the volunteers differed in some significant way from the non-volunteers (e.g., be reluctant to share negative experiences

for fear of reprisals), hence affecting the results of the research. In addition, the analysis does not compare motivational factors based on demographic factors of the individuals who volunteered (e.g., race/ethnicity and gender) based on confidentiality concerns. Motivational factors may differ based on an individual's gender, race/ethnicity, socioeconomic status, and other demographic factors that were not the focus of this study. These factors could be the basis for future studies on doctoral student motivation.

A third limitation is that the sample only included individuals who were enrolled in doctoral degree programs at one point in time during their pursuit of the degree. It is possible that individuals who do not complete their doctoral degree may experience a change in motivating factors over time. For example, an individual who did not complete their doctoral degree may have lost interest in attaining the degree over time because of a change in career aspiration. These topics could be addressed in future research on doctoral student motivation.

Sensitizing Concepts

Throughout data analysis, I made every attempt to manage how my assumptions influenced my interpretations of the data. Sensitizing concepts are defined as the "preconceptions that emanate from such standpoints as class, race, gender, age, embodiment, and historical era (and) may permeate an analysis without the researcher's awareness" (Charmaz, 2006, p. 67). This section will present the sensitizing concepts that I brought to this study.

Through writing post-interview summaries, which were similar to memos, I actively reflected on the assumptions upon which I based my interpretations of the data. After each interview, I drafted a post-interview summary while listening to the interview

recording to capture my ideas about the content of the interview and its underlying meanings. I returned to these summaries throughout data analysis to reconsider and refine my interpretations. This was accomplished by sharing the interview transcript and post-interview summary with each student to confirm that my interpretations accurately reflected their experiences and allow them to correct errors and/or suggest alternative interpretations.

Additionally, I offer a brief synopsis of my personal and educational pathway as it relates to this study. I identify as a first and a half generation Mexican-American male. I was born and raised in Northern California in a single parent, low-income household. I attended three postsecondary institutions, including a community college, during my path to the completion of a bachelor's degree. My mother passed away of pancreatic cancer during this time, leaving me as the sole provider to my younger brother. As a result of the financial burden incurred after my mother's passing, I have held several full and part-time jobs while working on my undergraduate and graduate degrees.

Following the completion of my master's degree, I worked as an administrator in K-12 outreach programs, graduate student and academic affairs, and as an adjunct faculty member at universities in order to both develop professionally and maintain a stable source of income necessary to provide for my brother and myself. As a result of my decision to attain a doctoral degree, I have incurred a large amount of financial debt and am limited in what I am able to provide to my brother and family.

Despite my previous and ongoing personal and financial struggles, as the first in my family to attain a doctoral degree, I can readily attribute my motivation and persistence in the pursuit of a doctoral degree, to a combination of intrinsic and extrinsic

motivational factors that have ebbed and flowed throughout my time spent as a doctoral student. For example, intrinsically, I am motivated to understand various aspects of doctoral student retention; extrinsically, I am motivated to earn a Ph.D. in Higher Education to advance my career in higher education administration. In addition, coping with the adverse experiences described above has enabled me to develop resilience, which has helped me manage the academic and personal stressors of a doctoral program.

My personal journey toward a doctoral degree may have influenced my interpretations of the interview data in that it made me particularly attuned to the personal and financial challenges that students reported as influencing their motivation towards degree completion. I was also attuned the resilience of participants that may have made me more sensitive to factors that promoted or impeded their motivation towards degree completion. Being attuned in these ways may have affected my coding and interpretation of the data, as I may have been more sensitive to participants who have financial concerns and discussed the challenges of attaining funding for research-related expenses.

Summary

This chapter described the methodology used in this study, including an overview of the participant recruitment, data collection, data analysis, and limitations of the study. As previously described, this study delineates important variables found to impact motivation towards doctoral degree completion. In the following chapter, I will provide a thematic analysis of the findings from the participant sample as they relate to the guiding research question of this study.

Chapter Four: Thematic Analysis

In this chapter, I present a thematic analysis of the cases as they relate to the guiding question of this study, How do aspects of self-determination theory explain doctoral student motivation towards degree completion? Building upon the thematic analysis presented in this chapter, a cross-case analysis of the findings is presented in the following chapter (Five) that focuses on the four research sub-questions. In the final chapter (Chapter Six), I provide a discussion of the findings presented in Chapter Four and Five and offer implications for practice and research.

Aspects of Self-Determination Theory

My thematic analysis of the cases revealed that several aspects of self-determination theory seemed relevant to the students' motivation towards doctoral degree completion. As opposed to deductive analysis, where categories are prescribed beforehand, the inductive analysis approach described in Chapter Three was used to allow patterns, themes, and categories to emerge from the data that were collected via interviews and research notes (Patton, 2002). These aspects, along with definitions adapted from Deci and Ryan (2000) and examples of each aspect that I developed, are presented in Table 4.1.

Aspects of *intrinsic, extrinsic,* and *autonomous motivation* emerged from participants' descriptions of how they developed and sustained motivation towards degree completion. These descriptions included the way they embraced academic priorities, dealt with challenges that impeded their motivation, and discussed potential

extrinsic rewards offered by attaining a doctoral degree.

Table 4.1. Aspects of Self-Determination Theory

Aspect of Self-Determination Theory	Definition	Example
Intrinsic Motivation	Motivation that is driven by an inherent interest and/or enjoyment in the task itself without relying on external influences or pressures.	A student who works on a statistical problem because of the challenge of finding a solution provides a sense of gratification without expectation for a reward (e.g., good grade in class).
Extrinsic Motivation	Motivation that is influenced externally and is not necessarily for the individual's own interest and enjoyment of the activity.	A student who dislikes statistics may work hard on a statistical problem because s/he will attain an external reward for solving it.
Autonomous Motivation	Motivation that is characterized by a sense of psychological freedom and an internal perceived locus of causality.	A student is excited to study statistics because s/he is deeply committed to becoming a policy analyst who will need these skills.
Need for Relatedness	Relatedness is satisfied when an individual experiences a sense of unity, develops close and intimate relationships with others, and experiences caring for others.	A student who builds collegial relationships with other students studying statistics when actively participating in a study group.
Need for Competence	Competence is satisfied when an individual experiences mastery and feels effective in interacting with his/her environment.	A student who believes that s/he is skilled in statistics and feels responsible to improve his/her statistical skills in order to conduct advanced research in statistics.
Need for Autonomy	Autonomy is satisfied when an individual experiences a sense of volition and psychological freedom when carrying out an activity.	A student enrolled in a statistics course as an elective to improve their research skills without feeling pressured by faculty or other external factors to do so.

Aspects of the *universal needs for relatedness, competence,* and *autonomy* emerged from participants' descriptions of the types of support they received and how

that support affected their motivation to complete a doctoral degree. These descriptions included accounts of their interactions with faculty, students, and staff in their academic department, and other individuals within and outside of Riverside University. A summary of findings as it relates to previous literature concludes each of the sections illustrating the aforementioned aspects of self-determination theory.

Intrinsic Motivation

As a function of self-determination theory, intrinsic motivation is the inherent satisfaction of learning, pursuing research area(s) of personal interest, and/or having a high sense of responsibility for degree progress and completion (Ryan & Deci, 2000). Self-determination theory and higher education scholars have found that intrinsic motivation supported by faculty can have a strong influence on long-term persistence towards degree completion (Bowen & Rudenstine, 1992; Vansteenkiste et al., 2009). This section provides an overview of the three themes that emerged relating to participants' intrinsic motivation towards doctoral degree completion: factors that promoted intrinsic motivation, challenges of sustaining intrinsic motivation, and shift from reliance on extrinsic to intrinsic motivation.

Factors that promoted intrinsic motivation. Participants across all four departments referenced the positive characteristics of their academic departments that influenced their intrinsic motivation towards degree completion. Participants from Anthropology, Political Science, and Psychology reported intrinsic motivation as important to their motivation towards degree completion. Participants from these three departments explained that their intrinsic motivation was supported when faculty encouraged them to conduct research on topics that were of personal interest. Lydia, in

Psychology, explained the increase of her intrinsic motivation when she was able to work on her own research:

> Working on the research project with [faculty member] has given me clarification in my own research interests. I guess I get gratification and motivation by [faculty member] allowing me to continue working on my own research. For the first year, I honestly didn't know what the point of research was. I felt like I wasn't making contributions in the way that I felt like I wanted to make. And everything was always like well this is for the long term, and I'm not sure I want to wait to get results that long. I now recognize that research is a process, and although it can be slow at times the results is what we're after, and that gives me the motivation to continue in the Psychology field.

By contrast, participants from Economics explained that their intrinsic motivation increased when applying their research directly to policy and practice in order to prepare for the job market. Simon explained how his research on low-income families has motivated him towards degree completion:

> A Ph.D. is not something I always thought that I'd earn or wanted to earn. It was not until recently where I have been working on research focused on low-income families and children that I realized that there was more that I wanted to do, and needed to do, in order to serve these students and their families. And I felt before that a Master's degree would not be sufficient in helping me to get the expertise and the respect and the credentials I wanted to have in order to make the kind of change with these communities that I want to make now. So I'm motivated to apply what I've learned and researched at [Riverside University] to the field, and that gets me excited about graduating soon.

Additionally, participants in all four departments discussed the applicability of courses and training offered by their doctoral program as important to their research interests that subsequently increased their intrinsic motivation. Ester explained how the Political Science courses she took increased her interest in research and motivated her to complete the doctoral degree in order to pursue a career as a policy analyst:

> Earning the title of a Ph.D. would provide me the type of lifestyle and professional career that I hope to attain. My research interests are off the beaten path in that I look at judicial politics in [name of region]. It's a very small field, but the courses I took in the Political Science program have encouraged me to

> continue on this research path. I was initially attracted by the idea of academic research and having that freedom to choose a research project that really speaks to you in having that flexibility, but now I see a more defined future as a policy analyst, so that's why I decided to continue in the Ph.D. program.

The narrowing of research and/or career interests was important in attaining intrinsic motivation as Ester described, but participants also encountered challenges in sustaining intrinsic motivation as the next section will discuss.

Challenges of sustaining intrinsic motivation. Some participants (*n*=16) across all four departments viewed doctoral work as a personal challenge to sustain their intrinsic motivation towards degree completion. Lauren "pushed herself" when exhausted and tried to maintain an optimistic outlook and motivation towards completion of the doctoral degree. She needed the doctoral degree to attain her career goal of becoming a tenure-track faculty member and was excited about the potential to use the training she received in the Political Science doctoral program:

> I found the idea of digging at very specific questions in great detail very appealing. And so for me it was less about like having the Ph.D., and it was more about finding ways to keep getting to do that and find a way to get paid to do research. And so it was actually a very easy and kind of quick transition for me to keep going along the same path.

By contrast, Julian took a yearlong leave of absence to reassess his pursuit of doctoral degree due to the frustration he encountered while completing his doctoral coursework. Upon his return to the Anthropology program, his newfound motivation stemmed from the dissertation fellowship he was awarded, which allowed him to focus on sustaining intrinsic motivation towards degree completion:

> I've sacrificed sleep and my health by being in this [doctoral] program. My mental health and my physical health have suffered. I've sacrificed just talking to people who are important to me on a regular basis, visiting them. I've sacrificed financially - that's been really frustrating to me. I've had to take out more debt and more loans here. It's a huge sacrifice to live on twenty grand a year for six

> years. And the only reason I've been able to live with all of that is this blind faith that it's going to be worth it in end and the fellowship that I thankfully received to complete my dissertation...I have to rely on my own motivation to finish, because it's on me to finish [the doctoral degree].

Though the challenges Julian and Lauren encountered affected their intrinsic motivation, they showed a sense of optimism towards degree completion. In Julian's case, his optimism increased after he taken time to reflect on his pursuit of a doctoral degree during his yearlong leave of absence. The following section describes participants' shift away from extrinsic motivational factors to intrinsic motivators to complete the doctoral degree.

Shift from reliance on extrinsic to intrinsic motivation. Steady shifts away from external motivators (e.g., career advancement and social mobility) to earn the doctoral degree were also reported by participants as their intrinsic motivation towards degree completion increased. Alma explained her transition from being extrinsically motivated to attain a well-paying career post-graduation to being intrinsically motivated to conduct research: "Money was the driving force of attaining a Ph.D. when I first entered [Riverside University], but after my first couple years in the [Economics doctoral] program, I became more interested in research and decided that it would be my focus. So I figured that money and a fabulous career wouldn't keep me motivated towards graduation, but that interest in my research would."

Similarly, Isaac found intrinsic motivation towards degree completion after several years of feeling externally motivated. He described his initial extrinsic motivation to attain a doctoral degree: "My number one goal of getting a Ph.D. when I first came to [Riverside University] was to become a professor, and that's what I was set

on." He shared the experience collecting data for his dissertation in Anthropology, which became the source of his intrinsic motivation towards degree completion:

> I remind myself of students who are of similar backgrounds as me that have finished their degrees and are at their dream jobs. That keeps me motivated, and it just makes me think if they can do it, I can do it. And it's also about knowing that I can make a difference in a few people's lives. I can empower people in community and validate their experience as important contributors to society. Also, the student [research] assistants that helped me on my [dissertation] project, they were all from just incredible backgrounds and so motivated themselves in helping me with my research. I was really impressed by the drive that they had to see this project through and to help me with it. That's been encouraging and it helped me realize that what I'm doing isn't just for my own success; it's for the success of other people and their validation.

Intrinsic motivation, as Isaac began to feel, is what Deci and Ryan (2000) and other self-determination theory scholars (Niemiec et al., 2006; Vansteenkiste et al., 2009) explain as having a strong influence on long-term persistence towards achieving an academic or personal goal, such as completing the dissertation. Participants in this study appeared intrinsically motivated towards degree completion enjoyed acquiring new information, pursued the doctoral degree as a personal challenge, enjoyed experiencing a new academic learning environment, and pursued research areas of personal interest. Perhaps intrinsic motivation was important to some participants who saw their research align with their career goals, whereas participants who did not express intrinsic motivation may have not seen their research aligning to their career goals or was of personal interest. Future research should further understand the impact of intrinsic motivation as it relates to their doctoral students' personal interests in research and career pursuits.

Even though intrinsic motivation emerged as important to participants' motivation towards doctoral degree completion, extrinsic motivation was also influential. The

following section describes the thematic findings that pertain to participants' extrinsic motivation towards doctoral degree completion.

Extrinsic Motivation

As a function of self-determination theory, extrinsic motivation is defined in this study as feeling driven to attain the doctoral degree by the goals of career advancement, social mobility, and/or other external influence (Bandura, 1986; Ryan & Deci, 2000). External motivating factors such as attaining increased earning power and social mobility has been found common with students in terminal business and medical degree programs (Gardner, 2010), but according to self-determination theory research, has the potential of increasing motivation towards long-term goals, such as degree completion (Deci et al., 2001; Sheldon et al., 2004). This section provides an overview of the two themes that emerged relating to participants' extrinsic motivation towards doctoral degree completion: role of the doctoral program and the role of career aspiration.

Role of the doctoral program. Participants in all four departments discussed having their extrinsic motivation towards degree completion influenced by their doctoral program. Students from the Economics doctoral program (n=6) reported that a promising post-graduation job market influenced their extrinsic motivation. Simon explained that his optimism regarding post-graduation employment was due to the extensive career support offered to doctoral students by the Economics department: "The Econ department does a great job in preparing us for the job market by offering career workshops, proofreading our job [application] packets, and getting us connected with employers."

Similarly, both Political Science (n=7) and Psychology (n=8) students were extrinsically motivated by both academic and non-academic career goals to complete the

doctoral degree. By contrast, Anthropology students (*n*=6) reported a lack of extrinsic motivation due to limited post-graduation employment opportunities and career-related support derived from their department. Daniel explained how his disappointment in the dissertation process and job prospects in the Anthropology field negatively impacted his extrinsic motivation towards degree completion:

> The job market process is not very easy and the Anthro department doesn't make it any easier for us. It's sort of designed to increase all possible stress. I'm not even kidding - it really is. You apply to over a hundred schools, and maybe get a call back from a couple. So I think, I'm very realistic that getting a job is not going to be easy. I'm also a little nervous about actually doing my dissertation fieldwork. I feel my [dissertation] committee won't let me [graduate] until I meet their ridiculous high standards, so now I feel like I'm in a prison. If I demonstrate good behavior in fieldwork then I can get released early, and maybe get a faculty job if you're one of the lucky ones. So there's not much motivation to finish especially once you get past year six or seven and are in deep in debt.

The quality of faculty feedback was important to several participants' extrinsic motivation towards degree completion across all four departments (*n*=24). The quality of faculty feedback was generally defined as the responsiveness and amount of feedback that was provided both verbally and in writing regarding a student's progress in a course and/or in completing degree requirements such as the comprehensive exam. For some participants (*n*=14), extrinsic motivation was attained and/or sustained by receiving feedback on their research and coursework by faculty and their peers. For example, Robert explained how the feedback he received from his faculty member in Economics impacted his experience conducting research and attaining the doctoral degree:

> The way I've been describing it to friends is the uncertainty about how to conduct research and what the research will do to help me in the future plays a lot of different roles. I've got [professor] that's in my department and he helps takes a lot of pressure off. He encourages me to think outside of the box and shows me analytical techniques that I haven't learned in classes. Anytime I've imagined the future it was pretty speculative, but now I feel better equipped to get a job that

> suits my interests. And there's some real excitement to know that I'll be finished [with the doctoral degree] and can move on with my life.

Many participants (*n*=21) explained that receiving constructive feedback from faculty and other doctoral students encouraged them to work harder and take responsibility for the research they produced. Eva explained how feedback she received from faculty in Psychology motivated her to become an "independent scholar:"

> I had some really good faculty mentors who helped me along the process by providing my feedback in my research skills, they also made it very clear to me that you reach a certain point they won't be able to help me anymore. And so that kind of became the motivation me for to work hard to become what they call a 'independent scholar' and not have to rely on professors to get me through to graduation.

Cecily explained that the quality of feedback depended on individual faculty members and was inconsistent: "Only a small portion of professors are going to be teaching classes that you're taking, and building those relationships is tricky, especially with those who tend to teach classes to first and second years [doctoral students]. They almost have no time for anyone else." For other participants (*n*=17), promptness of faculty feedback on course assignments was also important. Some participants (*n*=11) benefited more from feedback faculty provided during class, while others (*n*=19) benefitted more from faculty feedback during meetings outside of class.

The impact of faculty feedback on participants' extrinsic motivation varied. For most participants (*n*=26), course-related feedback was meaningful and constructive, although Julian was disappointed with the limited support he received from many of the faculty in Anthropology:

> It was negative from the very beginning, in fact. I made it very clear what my research interests were when I first got here. And so I picked professors to take classes with whom I could work with and were doing great research. Once I got here, nobody wanted to work with me. So pretty much the opportunity of

> learning to do research and the support to do it never showed up. [Riverside University] is a great research institution. Great researchers come out of here. Great work comes out of here. And I'm here in my fourth year and I haven't received support as much as other [students]. How could that happen?

Receiving faculty support was important for participants to sustain motivation towards degree completion, but as Julian explained, the impact of faculty feedback varied across the sample and in some cases inhibited motivation. Participants also described their career aspirations as being influential to their extrinsic motivation towards degree completion, as the next section will discuss.

Role of career aspiration. Participants (*n*=27) across all four departments cited career aspiration as an important factor in their development of extrinsic motivation towards degree completion. Ivan discussed how his career advancement became the primary motivating factor that he has used in his pursuit of doctoral degree in Economics:

> It was a career decision for me to enter the [Economics doctoral] program. I was a high school teacher before I went back to get my Ph.D. and I only had a temporary certificate to teach high school. So, my choices were if I wanted to keep teaching high school, I could go back and earn a Master's, but I'd have to pretty much have to teach during the day and go for my Master's at night. That's something I didn't want to do, so I ended up here at [Riverside University]. The Ph.D. is a degree would allow me to do more in my career and will hopefully open more doors in the future.

Similarly, Simon was extrinsically motivated to attain the doctoral degree as he thought it would provide him the potential of future career advancement and social mobility. For Simon, a strong job market in Economics reinforced the extrinsic need for the doctoral degree:

> I'm really motivated to complete the degree, because Econ Ph.D.s get jobs they're very happy with. They earn good salaries and they just have good work lives. Even if I had lost a lot of interest in this, this would still be a really good career path for my family and my well-being. I mean if I had to face a Humanities type of [job] market, I would feel differently. Maybe I would have left the program if I

had to face that kind of thing, but on average, at this point [attaining a doctoral degree] really pays off pretty well, so I'm happy about that.

Participants in all four departments discussed how extrinsic factors influenced by their doctoral program experience motivated them towards degree completion. Many participants also cited career aspiration as an important factor to the development of extrinsic motivation to degree completion, which is supported by other studies on doctoral students (Gardner, 2008; Golde, 2000) and by self-determination scholars (Deci et al., 2002; Ragins et al., 2000). Additional research is needed to further understand how extrinsic factors influences motivation towards degree completion. It is plausible that students who are extrinsically motivated towards degree completion may value the education and training in doctoral program they receive differently when compared to students who are intrinsically motivated.

Although extrinsic motivation was found to influence participants' motivation, autonomous motivation also emerged as important to their motivation towards degree completion. The following section describes the thematic findings that pertain to participants' autonomous motivation towards doctoral degree completion.

Autonomous Motivation

Within the self-determination framework, autonomous (or volitional) motivation consists of two subcomponents: intrinsic motivation (doing a task because it is interesting and spontaneously satisfying); and (2) identified motivation (a well-internalized form of extrinsic motivation that involves doing the task because it feels personally important) (Vansteenkiste et al., 2009). In this study, participants who had autonomous motivation seemed to take individual responsibility for the learning process. In other words, their learning was characterized by a sense of psychological freedom and an internal perceived

locus of causality (cause of success or failure is based on one's ability and effort). This section provides an overview of the two themes that emerged relating to participants' autonomous motivation towards doctoral degree completion: role of academic advising and the role of self-responsibility.

Role of academic advising. Variations were found in the academic advising participants' received that influenced their autonomous motivation towards degree completion across the four departments. Participants explained that faculty advisors supported the development and/or sustainment of autonomous motivation by providing them opportunities to design their own course schedule, encouragement to seek opportunities that would satisfy their research interests, and by providing positive affirmation regarding their development as independent scholars.

Participants from Anthropology and Psychology reported autonomous motivation fostered by faculty advisors as important to their motivation towards degree completion. Participants (n=12) from these two departments explained that faculty advisors provided options and choices that increased their autonomy. For Cecily, advising was important in attaining knowledge of the dissertation process in Psychology:

> She's a total no-nonsense person...she has that lawyer attitude of kicking ass and just solving problems. She's totally non-judgmental and really supportive of me and my goals...I feel like I have a good handle of how my dissertation study will turn out as a result of her giving me the freedom to decide things on my own.

On the other hand, some participants in Economics (n=3) and Political Science (n=4) reported the lack of faculty advising as negatively influencing their autonomous motivation. Lauren did not have a positive experience with her initial faculty advisor in the Political Science department as she reported there was a lack of guidance and

inconsistent communication. Lauren subsequently changed advisors and had an advising experience that was in line with other participants in the study:

> My [faculty] advisor has been really, really great. At first I was assigned to somebody that I didn't know at all and I eventually switched to my new advisor. [The previous faculty advisor] showed interest in wanting to get to know me and showed interest in wanting to help me, but her schedule was so limited that it was hard to simply walk in and see her. Whereas my current advisor has an open door policy and I know I can text him and have him submit a form that I need. Or I know I can just show up and talk to him so he's really helpful to my motivation...and being sure that I have what it takes to get through this [doctoral] program on my own.

Participants (*n*=12) from all four departments also discussed the role of other department faculty who were not their primary advisors as being a positive factor contributing to their autonomous motivation. For students such as Simon, these faculty members provided feedback on research and autonomous support by encouraging participants to develop independent research projects. Simon explained the role of faculty on his dissertation committee:

> My committee members have been encouraging and as I said earlier, also willing to give my work the fine-toothcomb and razor treatment it deserved and not always in a good way, but you know they never suggested this was something that was too hard or that I was not doing a good enough job. They've been very positive and constructively critical at pretty much every juncture...so that I can feel like I can personally motivate myself to graduate and be proud of my dissertation study.

Other participants (*n*=19) explained that faculty were helpful during the dissertation proposal stage and when preparing for their dissertation defense. Approximately half of participants (*n*=16) attributed their autonomous motivation to their dissertation chair, who generally was the major contributor of feedback and guidance in the overall design and feasibility of the study, provided participants guidance in how to

present research findings to the committee, and encouraged participants to make independent decisions that influenced the design of their dissertation study.

Role of self-responsibility. Receiving constructive feedback from both faculty and doctoral peers was reported to encourage participants (*n*=16) across all four departments to work harder and become personally responsible for the research they produced, thus increasing their self-confidence and autonomous motivation towards degree completion. Audrey's autonomous motivation was rooted in the support and mentorship from she received early from her peers in the Psychology program. She also acknowledged the sacrifices that she made to sustain her motivation towards degree completion:

> I think the motivation for me has always been there. If an opportunity opens up that you can have a chance of improving, then I go that route. I was willing to trade off my substantial salary to get here. That was a huge trade off, so I was motivated to come and do the work, and put the hours in and do the learning necessary to prepare for the comps and now dissertation. I have sacrificed a lot of to get to this point in the program. So my motivation to finish [the doctoral degree] has always been there, I just have to remember to dig deep sometimes to keep going, because if I don't, then I'm the only one to blame for dropping out, not the faculty that have helped me.

Other participants (*n*=12) explained the challenges of sustaining autonomous motivation when attempting to balance the responsibilities of a teaching or research assistantship with the demands of doctoral study. Lauren explained how she maintained her autonomous motivation by having to rely on her own abilities to cope with stress:

> Yeah at this point nothing creating a lot stress is bothering me. I'm so motivated, incredibly motivated. Nothing is going to stop me. I would say three months ago, I was under my desk taking naps when I wasn't [teaching] because I was like, 'I can't do this - I'm so screwed if I don't.' So my motivation goes up and down, I would say. Actually my biggest enemy is myself. That sounds really cliché, but at this point, the only thing that can prevent me freaking out and putting too much pressure on myself or demanding stuff I can't do by myself. I'm a very anxious person and so when that gets out of hand, I'm not particularly productive, but I'm

> also really stubborn, and so I'm very hopeful that I'll graduate soon and laugh about this rollercoaster they have us on as doctoral students.

Participants from underrepresented groups (*n*=9) seemed to be autonomously motivated when discussing a feeling of responsibility to their families and communities, which also encouraged their personal responsibility to complete the doctoral degree. Cecily explained that her motivation to persist in her doctoral program was influenced by her Latino upbringing:

> For me, it is my own personal desire to do well and complete the doctoral degree and to do my best at everything I set my mind to. If I don't perform to the level that I know I can perform - it's that internal Catholic guilt, Latino guilt, call it whatever you want to, but it just doesn't gel well with me at all. Just knowing your potential and not reaching it, I mean, I can just picture my mother and her look of disappointment - it's that being disappointed in you, [the] kind of look that she is so good at giving. So, I feel responsibility to prove to myself and to my family that I can get a Ph.D. even though many have told me I would never be able to.

Other participants (*n*=7) described how their autonomous motivation was negatively affected when they were not able to maintain focus when they began developing their dissertation study. This negatively impacted their sense of psychological freedom and/or internal locus of causality, as Robert explained, "At first, I felt like I had to no control of the end goal of graduating. I didn't know if I personally could complete the [dissertation] study, since I just kept doubting myself and going into an endless cycle of revision after revision of my [dissertation] proposal."

Other participants (*n*=6) explained that they felt frustrated with the research process and/or lost interest in their research over time. For example, Cecily described her frustration with the dissertation process, but sustained interest in her research that motivated her towards degree completion:

> This dissertation exercise, I know it serves a purpose, but it seems like this old, dusty, traditional thing that's packed into the program…it's kind of a bummer that so many smart, typically, young people have to spend one to two years of their lives and usually more on some narrow, usually slightly irrelevant study. Fortunately I'm doing a dissertation that actually matters to me, so I'm trying to stay focused on that. Without that interest I wouldn't be motivated to finish [the dissertation].

As a function of self-determination theory, these findings seem to indicate that autonomous motivation (i.e., individual responsibility for the learning process) may be important to doctoral student motivation towards degree completion. Deci and his colleagues (2001) found that this type of autonomous motivation was one of the significant factors for academic goal completion, such as attaining a doctoral degree. Perhaps support for autonomous motivation differs across academic disciplines as some faculty may view autonomy as not important to development of doctoral students where group-based research projects are more common than independent research projects (e.g., conducting an experiment in a Chemistry lab). Thus, additional research is needed to further understand the role of autonomy in doctoral education as it may have varying affects based on academic disciplines and the type of research conducted by students.

Self-determination theory purports that in order for individuals to gain autonomous motivation, their universal needs of autonomy, relatedness, and competence must be fulfilled. The following section describes how these universal needs surfaced in the data and how they were influenced by factors within and outside of the academic environment.

Concept of Universal Needs

Both on and off-campus communities emerged as influential with regards to the development of degree completion motivation and fulfillment of self-determination

theory's concept of basic universal psychological needs (autonomy, relatedness, and competence). These findings support previous self-determination motivation studies that found a supportive academic environment initiated the internalization process, which supplemented the student's needs for autonomy, relatedness, and competency (Deci et al., 2001; Reeve et al., 2002; Vansteenkiste et al., 2009). The following section provides an overview of emergent themes, academic-based and personal forms of support that may depict how participants' universal psychological needs were fostered.

Academic-based support. A supportive academic environment was important to many participants (*n*=32) across all four departments with regards to positively influencing the fulfillment of their universal needs. Meaningful relationships with faculty, in and outside of their home academic department, were specifically important to participants (*n*=29). Variations were found in the frequency and quality of faculty interactions related to academic advising and how those may have influenced their needs for autonomy, relatedness, and competence.

Several students (*n*=26) appreciated the extensive feedback on their course assignments from faculty, while other participants (*n*=17) believed faculty were very receptive to her outside of class. For Jamie, the responsiveness of the faculty to her need for autonomy and competence was especially important because she had not been able to attain consistent support from her initial faculty advisor:

> My new advisor has eight students on the [job] market this year – which is ridiculous to think about given the amount of time and effort it takes to advise each student. He's incredibly supportive, but he's stretched really, really thin because everyone knows how great he is. I think this is pretty common to people in Political Science, is that if you want personal attention you have to demand it, which is something that for a lot of people in the program doesn't necessarily come naturally. I can find ways to support myself, but having a professor to help me develop my [research] skills is very important.

On the other hand, Julian encountered several issues relating to faculty-derived support when he first started in the Anthropology doctoral program, and this was his primary reason for wanting to drop out of the program after his second year. He explained it was difficult to receive consistent faculty feedback, which subsequently influenced his need for competence:

> I felt like it was hard for me to get feedback - to get people to really think hard about my stuff and help me think through it. There's sort of thing I've noticed with other Anthro faculty, which is like, it's not just that they say your stuff is bad. That would be then they would have to think about it and decide it was bad. It's more like - it's like a syntax error kind to face. You ask them a question and they're like, 'I can't even think about what you're saying. What you're saying is so obviously stupid that I can't even think through it to answer your question.' So sometimes I'd bring ideas or examples of my work and instead of saying this is bad for the following reason or this is good, it was like they wouldn't even devote any time or thought of making a decision on it. So that's been really demoralizing. That's why I've come to like working with people with whom I'm friendly with, because it's easier for me to get them to take my ideas seriously.

Participants (*n*=21) also discussed how relationships with their doctoral student peers supported them academically as it related to supporting their need for relatedness. For example, Cecily appreciated being in courses with other doctoral students to have the opportunity "to learn from one another." Cecily managed to meet with students and establish friendships early in her doctoral program.

Additionally, small class sizes were also important to Cecily and to other participants across all four departments (*n*=19). Jamie explained that large classes inhibited effective interactions amongst students that affected the need for relatedness: "Large classes didn't allow for a tight community of students that developed in smaller classes. That community of students has been really helpful; reaching out to you at times when you're doing things like taking qualifying exams, preparing for the next step and so that has been pretty awesome." Similar to the experience of other participants in the

study (*n*=29), Simon found personal support both from his doctoral cohort and other doctoral students across campus. He found that attending events and workshops designed for graduate students was a way that he can both meet other doctoral students and find support for his need of relatedness:

> The great thing about [Riverside University] is there are all these opportunities, but you can't fit them all in so you've got to pick and choose. Because I have a great social support system, I don't necessarily need to reach out to many student orgs to meet graduate students. My friends and I will go to some of the [Riverside Graduate School-sponsored] mixers and events together. We have met different people. Ironically, we have ended up taking classes with people we met outside of our department the following semester so, that was great because I was able to collaborate with some of them on [research] papers. So yeah, I take advantage of those kinds of things as much as I can.

Other participants (*n*=13) discussed how writing support received from either their department or an on-campus resource positively influenced their need for competence. For some participants (*n*=11), writing support was important to their development as future scholars. For example, Simon discussed how a faculty member in the Economics department was able to assist in his writing development:

> There were a couple things I realized after meeting my professors. One, I needed to think more conceptually and I needed to communicate better. I needed to write more clearly in my writing. So learning how to write better and then thinking more conceptually were two of the things I heard from my professors. And so having that feedback from [faculty member] in [the Economics] course has been helpful because now that I'm writing my dissertation, I try to be better about it and more diligent, and seek out different resources to help me improve in those areas.

A meaningful relationship with faculty was important to Simon and other participants in the study across the four departments. For Simon faculty support to assist in his writing development was important to fulfilling his need for competence, however, for other participants receiving personal forms of support seemed to positively influence the fulfillment of their universal needs as the following section illustrates.

Personal forms of support. Personal forms of support deriving from doctoral peers, family, friends, and campus programs emerged as important to many participants' motivation towards degree completion because they contributed to fulfilling their needs for relatedness, competence, and autonomy. Support ranged from developing friendships with fellow doctoral students to receiving personal counseling support. Nearly all of the participants (*n*=34) across all four departments agreed that fellow doctoral students in and outside of their home department were supportive and reinforced their need for relatedness. Participants (*n*=21) also explained that students were sensitive to their religious beliefs, philosophical views, and receptive to their research interests. Participants provided different examples of peer support and encouragement that supported their need for relatedness: sharing personal experiences, exchanging sympathies and concern for one another, and congratulating each other on achieving degree milestones.

For Julian and other participants (*n*=9), support and encouragement was limited to class-related activities: "Support is nearly non-existent. So aside from taking a class with a person, I have little to no contact or support from other students here." Julian did not provide specific examples of what he considered as student support, other than general statements regarding encouragement he received when preparing for the qualifying examination:

> That community [of students] has been really helpful; reaching out to you at times when you're preparing for qualifying exams, which was pretty awesome. I wish I would have taken more advantage of that, but I think I took as much advantage of it than your average student coming to this program does.

Support from campus programs such as counseling services and the writing support center ranged from no support in the case of some participants (*n*=7) to a

resource that facilitated a smooth process through each of the degree milestones and supporting their needs of autonomy, relatedness, and competence for other participants (*n*=22). Julian's counselor was interested in his family and research, provided frequent personal and professional encouragement, and was highly accommodating to his schedule. Julian made a point to visit campus support programs prior to applying to the program to ensure that he would receive proper personal support that fostered his need for autonomy and relatedness:

> That was hugely important for me especially even if things didn't seem that bad or stressful. To me I loved working on having a support system in place for when something did happen. I would have someone who I built a rapport with and trusted to have that support system in place. It's important that I can go through this [doctoral] program by myself yet have people to call on when I need help.

Participants often sought professional development opportunities offered by their academic department and on-campus offices to enhance their professional skills and competencies. Eva sought out professional development opportunities and fulfilled her need of competence as a result:

> I think that I'm certainly learning a lot in the [Political Science] Ph.D. program, but sometimes I feel I'm learning more about academia than I am about my subfield. And so it's been great for me in terms of professional and research experience, and just the academic aspect of life that has really helped gain insight into myself and what will motivate me to continue in the [doctoral] program.

Most participants (*n*=28) cited support from their family and friends as being important to supporting their need for relatedness. Approximately half of participants (*n*=17) explained that parents and siblings were the most important to their support and ensuing motivation. For Simon, it was his wife and mother:

> My family's been very supportive of pretty much anything that I want to do in my life. I think their support comes from the fact that ever since I've gone through these tough [comprehensive exams], they want to make sure I'm happy and that I'm making the right decisions that relate to my career. Their concern is also with

> my well-being and work-life balance, so that I can keep up the motivation to finish.

Friends were also a source of support. Half of the participants (*n*=18) explained that their friends were a source of motivation as well as personal and professional advice that supported her need for relatedness. Lauren found support from her friends important especially during the comprehensive exam stage of her doctoral program:

> I have a few good friends who were also taking the [comprehensive] exam with me. We all went through the same period of feeling very isolated and not knowing what we were doing. We weren't good friends at that point. We basically just started meeting up weekly to talk about what we're working on. We pulled each other out of states of deep anxiety. And then we've actually become very close friends as a result of that. We enabled each other to find support on-campus and that was really important for me to keep me going in the [doctoral] program.

Participants' communities on and off-campus were also found to be potentially influential with regards to their fulfillment of basic psychological needs. Using the self-determination framework, when linking autonomy-supportive academic environments, such as a doctoral program, with positive doctoral student-faculty interactions, the fulfillment of the psychological needs of relatedness and competence may have the potential to be realized and influence student motivation towards degree completion. In other words, the connections within the social environment in a doctoral program can provide both personal and academic support, as well as instill a deeper understanding of oneself in relation to others in their academic discipline and goals. This deeper understanding may lead to the fulfillment of the need for relatedness and competence while further developing the autonomous motivation necessary to complete the doctoral degree.

Additionally, the findings from the preceding sections support those of previous higher education and psychology studies focused on self-determination theory that the following classroom and department-related factors impact doctoral student motivation: faculty feedback (Reason, 2009), cooperative student learning (Bair, 2004), and faculty's overall experience working with students inside and outside of the classroom (Gardner, 2009). Higher education literature shows that departments with the highest completion rates include those that have a positive and supportive departmental and institutional climate, positive faculty-student relationships, and consistent faculty involvement in all stages of doctoral students' degree progress (Gonzalez, 2006; Millet & Nettles, 2006; Vaquera, 2007). Future research should further investigate the support for SDT's universal needs within a variety of academic environments to further understand the impact they have on doctoral student motivation. It is plausible that students in postsecondary institutions with limited support services and resources may primarily derive support from their family and friends to fulfill their universal needs. The following section describes factors associated with self-determination theory that did not emerge in this study.

Other Aspects of Self-Determination Theory

Aspects of self-determination theory that did not emerge from discussions with participants included the four types of extrinsic motivation relative to autonomy (external regulation, introjected regulation, identified regulation, and integrated regulation) and factors that lead to amotivation towards doctoral degree completion (see Figure 2.1). These aspects of self-determination theory may have not emerged because this study did not focus on the behavioral regulations underlying doctoral student motivation, and how

these behaviors change over time as a student advances towards degree completion. Future studies should focus on these behavioral factors, as they may be important to further understand how the self-determination theory can be used to study doctoral student motivation towards degree completion.

Additionally, factors influencing participants' motivation towards degree completion emerged that were not specified within the self-determination framework included: (a) academic and social integration; (b) financial factors; (c) socialization; and (d) goal orientation. These four types of factors will be examined further in Chapter Five in relation to the fourth research sub-question of this study and may provide potentially disconfirming evidence for the use of self-determination theory.

Summary

In this chapter, a thematic analysis of the findings was presented that focused on the aspects of self-determination theory that seemed relevant to the students' motivation towards doctoral degree completion (universal needs, intrinsic, extrinsic, and autonomous motivation). The analysis also explored the impact of academic and personal forms motivational support derived from individuals within and outside of the academic environment as it related to the self-determination framework.

The findings suggest that intrinsic, extrinsic, and autonomous motivational factors are important in students' progression towards degree completion. Supported by findings from Vansteenkiste et al. (2009), the most frequently expressed motivation, intrinsic, qualitatively represents how self-determined motivation was strengthened and/or facilitated the gradual internalization process. Perhaps the role of faculty and administrators to help doctoral students recognize their strengths in developing intrinsic

motivation towards degree completion, as it seemed important to sustaining participants' motivation in this study.

In this study, extrinsic motivating factors such as career aspirations were cited as an important factor to development of extrinsic motivation to doctoral degree completion, which is supported by other studies that have focused on doctoral students (Gardner, 2008; Ragins et al., 2000). As described in previous studies using self-determination theory (Deci et al., 2001; Vansteenkiste et al., 2010), participants who had autonomous motivation seemed to study out of curiosity and personal interest in learning and research and felt a sense of responsibility to progress towards degree completion. It appeared that structural factors in the academic environment both supported and impeded participants' intrinsic and extrinsic motivation. These factors will be further examined in the following chapter.

Participants also discussed the necessity of self-determination theory's universal needs (autonomy, relatedness, and competency) in order to sustain their motivation to complete the doctoral degree. These findings support previous studies of student motivation using self-determination theory. The first need, relatedness, emerged when participants described the necessity to have close emotional bonds and feelings of connectedness to others in their doctoral programs at Riverside University, and their off-campus communities (e.g., family and friends) to sustain their motivation towards degree completion (Koh et al., 2010). The second need, competence, emerged when participants explained how they successfully engage, manipulate, and/or negotiate their academic environment (Deci, Koestner, & Ryan, 2001). The third need, autonomy, emerged when participants' actions relating to their degree progress when they attributed their program

to their motivation (Ryan & Deci, 2000). The concept of universal needs and their impact on motivation towards doctoral degree completion will be investigated further in the following chapter.

In the next chapter, I will use a cross-case analysis of the findings to investigate the four research sub-questions listed in Chapter One. This cross-case analysis of findings builds on the thematic analysis of the cases presented in this chapter by further analyzing aspects of self-determination theory, as well as other factors that may explain doctoral student motivation towards degree completion including the academic environment and factors not specified within the self-determination framework.

Chapter Five: Cross-Case Analysis

The primary objective in this chapter is to further understand the contributing motivational factors that influence progress towards doctoral degree completion. The findings presented in this chapter build on the thematic analysis of the aspects of self-determination theory that seemed relevant to the students' motivation towards doctoral degree completion discussed in Chapter Four.

Specifically, the cross-case analysis of the findings in this chapter will address each of the four research sub-questions: (1) how motivation towards degree completion differed for participants across the four Social Science academic disciplines; (2) how self-determination theory's concept of universal needs may explain doctoral student motivation towards degree completion; (3) how the academic environment affects doctoral student motivation towards degree completion; and (4) the factors not associated with self-determination theory that was reported by participants as influencing motivation. A summary of findings as it relates to previous literature concludes each of the aforementioned sections.

Comparison Across Academic Disciplines

As discussed in Chapter Three, four academic departments (Anthropology, Economics, Political Science, and Psychology) within the Riverside University were selected for this study. The following section provides an overview of the findings from participants in each of the academic departments based on interviews with the 36 participants. Data was derived from the National Research Council, institutional, and

departmental sources presented in Chapter Three (e.g., Tables 3.2 and 3.3) was used in this analysis to compare how participants discussed the support they received from their academic department and to provide context to participants' experiences.

Anthropology. Participants from the Anthropology department (*n*=8) frequently reported that intrinsic motivation was important to their motivation towards degree completion. Intrinsic motivation was generally derived from the opportunity to pursue research areas that were of personal interest. On the other hand, many Anthropology participants (*n*=5) reported low extrinsic motivation towards degree completion due to the perceived lack of employment opportunities once they attained a doctoral degree in Anthropology. Also negatively affecting the motivation of Anthropology participants is a long time-to-degree completion that averages nine years, the longest time-to-completion rate of the departments in this study.[5] Robert explained his perspective of being a doctoral student in Anthropology and his future employment prospects in the field of Anthropology:

> If you think about graduate school and particularly Ph.D. programs logically, it's basically people asking you to work at a job where you're coming in below the poverty line. Basically for eight plus years with no chance of career advancement or job security during those eight years. You will have to basically teach for the majority of that time and then as soon as you defend in many fields nowadays, particularly in the Anthropology, you have almost no job prospects because the market is oversaturated with Ph.D.s. So you work for eight years basically to get a certificate that says you can do a job for which there are ten openings, which at least 300 other people in the country are qualified for. And if you don't get that key job, you're going to spend the next five years of your life or possibly the rest of your life adjunct teaching for even less than you made during your Ph.D. and with no health insurance. You have to be a little bit insane to think this is a good thing to do with your life.

[5] Degree completion data has been collected from National Research Council and verified with the Riverside University Office of the Registrar.

Consistent with Robert's concerns, nearly half (46%) of Anthropology students complete the doctoral degree within ten years, the lowest completion rate of all the departments in the study.[6] Financial challenges to motivation were also cited as negatively affecting motivation towards degree completion. According to the Anthropology department, students who are admitted to the Anthropology doctoral program are offered a funding package for up to five years of support. Funding packages generally include a first-year fellowship and four subsequent years of a combination of teaching, research, and fellowship support. Students generally must secure their own funds for dissertation field research from external funding sources, which is unlike the other three departments in the study.

Often cited by participants (*n*=6) as positively affecting their motivation was the academic support provided by the department and well-structured degree requirements. According to the Anthropology department, advancement to candidacy in the Anthropology doctoral program requires the completion of course requirements, two research papers, fulfillment of the department language requirement (basic or better proficiency in two languages), and the successful completion of both a oral and written preliminary exam. Alma discussed the academic support she received in the Anthropology department to help her prepare for the preliminary exam to attain candidacy:

> There was a staff person in the Anthropology department who had been there for a very long time and she just knew the graduate program degree requirements like in-and-out just beyond even the basic administrative things like course registration. She knew basically all the things you should be doing when and how

[6] Degree completion data has been collected from National Research Council and verified with the Riverside University Office of the Registrar.

> to prepare for the prelims. She left actually the same year that I passed the prelims, and I'm glad I was able to get all that advice from her before she left the department. And really, I can only say that about one person in the department because there's a lot of other staff, but they kind of just act like we're [doctoral students] annoying, mostly, but luckily there's been at least one person in the office consistently that you can go to that's helpful.

Anthropology had the second smallest doctoral student cohorts in the sample with an average of 17 students during the 2011-12 academic year.[7] Participants explained that student cohorts generally were divided by sub-field, and as a result did not allow for many opportunities for peer-to-peer interaction and support. This fragmentation led some participants (*n*=3) to feel isolated which negatively impacted their motivation. In addition to the student cohort fragmentation, some participants (*n*=4) reported having unsupportive relationships with faculty especially after they had attained candidacy. Anthropology had a 2:1 student-to-faculty ratio (the second highest ratio in the sample).[8] Fortunately, participants (*n*=5) sought academic and/or personal support outside of the department that positively impacted their motivation to complete the doctoral degree. Audrey summarized both her frustrations of being a doctoral student in Anthropology and her positive outlook on graduating after attaining a consistent level of support from doctoral students across campus, as well as from faculty and her family:

> I mean the [Anthropology] department is not necessarily the most encouraging or supportive especially for students of color or people who don't really have the economic means to fall back on another person financially once the financial aid package runs out. This program takes a very long time to complete. In fact I know some people who left the program, because they couldn't find [financial] support for the research they were doing within the department. It's very sad, but I'm going to do my best with what I have left in me to finish. I've made friends around campus that are also dealing with the same types of things, and I have the

[7] Enrollment data has been collected from the Riverside University Office of the Registrar.

[8] Department data has been collected from the National Research Council and verified with the Riverside University Anthropology department.

support of my family and some of my professors to graduate in the next couple years.

Overall, Anthropology participants seemed the least optimistic towards completion of the doctoral degree when compared to participants from other academic disciplines in the sample. Academic support provided by the department and well-structured degree requirements were cited as positively affecting participants' motivation. The lack of financial aid, structural isolation, long time-to-degree rates, and a challenging job market for graduates were factors cited as negatively affecting participants' motivation. When compared to other academic disciplines, the Anthropology doctoral program seemed to lack the human and financial resources to support doctoral students past their fifth year, which became a source of stress for nearly all of the participants interviewed (*n*=6), and as a result may have negatively affected student motivation to complete the doctoral program.

Economics. Participants from the Economics department (*n*=8) frequently reported that extrinsic factors were important to their motivation towards degree completion. According to participants, extrinsic motivators included a healthy post-graduation job market with a job placement rate that averages 95% each year and a vast network of career and academic resources provided by the department.[9] According the Economics department, doctoral students averaged 6.3 years to complete the Economics doctoral degree, with 64% of students completing the degree within ten years.

Intrinsic motivation was not as frequently reported (*n*=2) as extrinsic motivating factors that influenced motivation towards degree completion (*n*=6). Distinguishing from

[9] The Riverside University Economics department verified that up to 98% of doctoral students attain employment within a year of graduation.

other departments in this sample, the Economics department takes part in a national job market clearinghouse hosted by The American Economic Association. Gaby explained the process to prepare for the job market and the support provided by the Economics department:

> Economics is interesting, because the Econ job market is so centralized. Basically it's like you go on the national Econ job market or you're on your own. You basically send the [Economics] department your job market paper and your committee in the department ranks you in your graduating cohort. And they say these are the places you can apply. The [department] staff shepherd you through that. The staff helps you send out all of your [job application] packets. I mean they help an enormous amount if you are applying to things in that job market. It is true that nearly ninety-nine percent [Riverside University] Econ Ph.D.s get jobs once they graduate, but it's very difficult to go on that market if you have location preferences, and the [Economics] department explicitly says that you should not have specific location preferences.

A two-stage preliminary examination process was cited as discouraging and negatively affected the motivation for half of the participants from this department (*n*=4). According to the Economics department, advancement to candidacy in the Economics doctoral program requires the completion of course requirements and the successful completion of two written preliminary examinations. Students are required to complete the preliminary examinations by the end of the third year in the doctoral program in order to attain doctoral candidacy. Daniel discussed his experience failing both preliminary examinations during his first year in the Economics program and the impact this had on his motivation:

> You have to pass two [preliminary examinations] after your first year, and then you have to pass field prelims. Basically, I did really badly my first year despite my best efforts. I studied really, really hard. It was extremely, extremely stressful. At that point in my life my parents were worried about me and my sister was too. And so I didn't pass either of those exams and so I had to retake it, but you also take second year courses. It's a tedious process, and now that I'm in my third year, I should be done with classes, but unfortunately I'm still taking classes. I feel like when we came in we were promised, "oh you're going to get

> out in five [years] if you want." Now, it's like seven because [failing my preliminary examination] sets me back. So it's been very devastating.

Large doctoral cohorts with an average of 28 students (the largest doctoral student cohort in the sample) provided academic and personal support and resources for participants. Nearly all of the participants (*n*=7) extended their network of support beyond the Economics department across campus and to external institutions. This vast network of support was appealing to many students and positively influenced their motivation towards degree completion. Juan explained the supportive relationships he has with other Economics doctoral students:

> I think it's been it's really easy to find people all over the department, since there are so many students. Economists are also scattered all throughout campus in various departments, so it's been really easy to find people to collaborate with or just chat about any topic you have an idea on. There seems to always be someone in or out of the Econ department to talk to and [the Economics department] do a really good job in supporting academic collaboration, but most of all it's great to get the support to make being a Ph.D. student easier here at [Riverside University].

A majority of participants (*n*=7) reported lack of faculty support as the most challenging to their motivation. The Economics department had the highest student-to-faculty ratio (3:1) of all the departments in the study.[10] Lisa illustrated the lack of faculty support in the Economics courses, "There are some classes of Econ students who are pretty fun and they organize things, and there are some that aren't. For me the Econ department has let in a lot of students. They've had very large classes and I didn't like that just because it really puts a strain on the advising resources and makes tons of students around. I think it would be easier in some ways to have maybe a more unified

[10] Department data has been collected from the National Research Council and verified with the Riverside University Economics department.

support system if the classes were smaller." Large classes with students from across the department and campus made it difficult for doctoral students to learn with each other, as Toby explained:

> I kinda resented it a little bit. It turned out fine, but it would have been a lot nicer if I'd been part of a smaller class and it would have been a class only for the Ph.D. students and not open to other students in the department. It just created this weird atmosphere with such a huge class and it made it erode the quality of the teaching, which wasn't super high to begin with. It also made the environment bizarrely competitive. I think there are other places that are way worse, but I and several of my cohort members didn't like it.

Overall, Economics participants seemed the most extrinsically motivated towards completion of the doctoral degree when compared to participants from other academic disciplines in the sample. A high post-graduation job placement rate, academic support provided by the department, and large doctoral student cohorts that provided personal and academic support was cited as positively affecting participants' motivation. A challenging two-stage preliminary examination process, limited faculty advising possibly due to a high student-to-faculty ratio, and large classes were factors cited as negatively affecting participants' motivation. When compared to other academic disciplines, the Economics doctoral program seemed to provide the most professional and career development to doctoral students, and as a result positively affected their extrinsic motivation to complete the doctoral program.

Political Science. Participants from the Political Science department (n=10) frequently reported both intrinsic and extrinsic motivation factors as positively impacting their motivation towards degree completion. The time-to-degree rate for the Political Science doctoral students was 7.2 years (the second highest time-to-degree rate in the study), with 53% of students completing the degree in ten years (second lowest

percentage in the study).[11] Participants seemed the most optimistic regarding their degree completion when compared to participants from the other departments in the study. Many participants (*n*=6) discussed how the Political Science department encouraged students towards both academic and non-academic careers supported both their intrinsic and extrinsic motivation. Dante explained how his motivation, as it related to his career goals, was supported by the Political Science department:

> Political Science is not a department that has a survival of the fittest mentality. It does expect that everybody that was admitted to the program will complete the program, do good work, and get a decent job. So I've never heard an expectation that a certain number of students are expected to drop out each year or that this student is the person everybody whispers about behind their back because nobody likes them and they're neglected by the department. It's good to know that if I do stick through the program [faculty] will put me forward with pride to the job market. I guess for me, that's especially important to know because I'm a first generation student and trying to navigate this program the best I can.

Some participants (*n*=3) explained that the preliminary examination process in the Political Science doctoral program negatively impacted their motivation. According to the Political Science department, advancement to candidacy in the Political Science doctoral program requires students to complete course requirements and successfully pass two preliminary examinations during their third year in the program. Most fields within Political Science require written exams or a combination of a written and oral exam. Participants explained that they were not well prepared for the written exam due to poorly written instructions on how to complete and submit the exam. Sabrina explained her frustration regarding the Political Science preliminary examination process that also included difficulty accessing the required reading to prepare for the exam:

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[11] Degree completion data has been collected from National Research Council and verified with the Riverside University Office of the Registrar.

> There are things in the department that are a bit more painful than they should be. The one I'm thinking about right now is the preliminary exam for Comparative Politics. We get a large reading list of stuff that we have to read before the prelim [examination]. The instructions are unclear. The reading list hasn't been updated in like a decade. It just takes a couple minutes to get the journal articles for the exam, but then there are a lot of books and book chapters and you know you have a dozen students taking this exam at the same time and the library only has so many copies of the books. It seems like there's a very easy solution which is to have a depository of PDF files of all the readings for anybody taking the exam which you could then copy of download a single set of the exam. You know it should not be a confusing process. It's a silly thing, but it seems like I would like to think that our time can be better used.

A frequent point of both frustration and praise of the Political Science doctoral program was centered on the length of teaching assistant appointments. According to participants, many teaching assistant appointments extended to four continuous years without an option to participate in a research assistantship. Students admitted to the Political Science doctoral program are provided a five-year funding package.[12] This package includes a combination of fellowships and graduate student assistantships (teaching or research-focused). The minimum package included a fellowship in year one and either a teaching or research assistantship in the following years. Some participants, such as Amy, hoped for more teaching and research experience, as it would prepare her for a faculty career:

> During our first year we're not required to work as a [teaching assistant], and actually looking back, I kinda wish we were required to teach or required to work as a research assistant that first year, because that seems to be two activities that we really learned a lot from. I'm in my third year now and I kinda wish I had more experience in both of teaching and research. I'm going on the job market in a year or two as somebody who claims to be prepared for a faculty position, so I feel like the more experience the better.

[12] Financial aid data reported in this section has been collected from the Riverside University Political Science department.

The Political Science department, with an average of 13 students, had the smallest doctoral student cohorts of the departments in this study.[13] According to Tony, smaller cohorts allowed students to learn more about each other "socially, academically, and professionally." As Tony explained his reaction to the support he received in the Political Science department, "Sometimes you could feel lost due to the expansive program due to the large student body, but having a small cohort really made it a better fit for me and others in the program." Similarly, many participants (*n*=6) discussed challenges associated with Political Science faculty that related to receiving low levels of academic and personal support. The Political Science department had a 2:1 student-to-faculty ratio (the second highest ratio in the sample).[14] Jaime explained the need for dissertation support groups to compensate for the lack of faculty guidance:

> I feel like having dissertation support groups for those of us who are just sad, floundering individuals that are making little to no progress would be good. That's something that would be incredibly helpful to me because at the very least it would be nice to have a little pressure to get going instead of just having to check in every once in a while with a faculty member and have to write an e-mail saying, 'I'm sorry. I'm not making progress. Here are my excuses and here's why I'm so slow.' It's depressing to do that over and over.

Overall, Political Science participants seemed to have balanced intrinsic and extrinsic motivation towards completion of the doctoral degree when compared to participants from other academic disciplines in the sample. Small doctoral student cohorts and encouragement and support for both academic and non-academic careers were cited as positively affecting participants' motivation. A challenging preliminary examination process, longer than expected teaching assistantship appointments, and a

[13] Enrollment data has been collected from the Riverside University Office of the Registrar.
[14] Department data has been collected from the National Research Council and verified with the Political Science department.

perceived low level of academic and personal support from faculty were factors cited as negatively affecting participants' motivation. When compared to other academic disciplines, the Political Science doctoral program seemed to provide both strong career and academic support to doctoral students, and as a result, positively affected student motivation to complete the doctoral program.

Psychology. Participants from the Psychology department (*n*=10) frequently reported high intrinsic and extrinsic motivation towards degree completion. The Psychology doctoral program also had highest degree completion rate (93% within ten years) and lowest time-to-degree completion of rate of 5.5 years when compared to the other departments in the sample.[15] Many participants (*n*=8) reported strong, supportive relationships with faculty in the department and across campus with approximately a 1.2:1 student-to-faculty ratio (lowest in the sample).[16] Participants also explained that small doctoral cohorts offered opportunities to interact and expand their support resource to their peers. The Psychology doctoral program averaged 27 entering students a year (second highest in the sample).[17] Participants explained that entering doctoral student cohorts are generally divided by sub-discipline that creates smaller, more manageable cohorts of students.[16] Several participants (*n*=6) explained that these smaller cohorts were a strength of the Psychology department that encourages support and influences motivation. Isaac explained his experience in the department this way:

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[15] Degree completion data has been collected from National Research Council and verified with the Riverside University Office of the Registrar.
[16] Department data has been collected from the National Research Council and verified with the Riverside Psychology department.
[17] Enrollment data has been collected from the Riverside University Office of the Registrar.

> It was great because there're only six people in each [sub-discipline] cohort and so you get to feel like you got to know every faculty member. It's also a chance to familiarize yourself with everyone's research so you don't just get to know your advisor's research. And if there is someone else you want to work with, you've got an opportunity. And I feel like it would be very difficult or awkward to navigate introducing myself to faculty without some kind of formal system like what is in place in other large departments on campus.

Psychology participants did not frequently discuss issues relating to the preliminary examination required to attain doctoral candidacy (*n*=2). According to the Psychology department, advancement to candidacy in the Psychology doctoral program requires the completion of course requirements within a student's program area and the successful completion of a preliminary examination. Preliminary exams vary across program areas, and they include different forms of assessments such as take-home exams, writing grant proposals, and preparing portfolios. Eva explained the challenges to her motivation once she passed her preliminary exam and began to prepare for her dissertation research and career:

> I felt exhausted after my [preliminary] exam, but happy to move on in the program. I set my eyes on my dissertation study and also in what career I wanted to go into. With a Psychology degree especially a social psychology degree you could go into industry. You could do consulting. And you're never supposed to admit if that's what your plan is to professors. I know some people have left either because they wanted to do that or they felt they had to leave because their [faculty] advisor found out that's what they wanted to do. There's also a big stigma attached to going to teaching institutions as opposed to Research I [universities], which is bothersome to me because I want to go to a teaching institution. Thank goodness my [faculty] advisor has been supportive of me, since I think would re-think my options now that I'm close graduating.

Psychology participants did not frequently discuss financial-related issues relating to their motivation towards degree completion (*n*=2). According to the Psychology department, students admitted to the Psychology doctoral program are provided with a five-year funding package. This package combines research fellowships and teaching

assistant positions for a total of five years of support. During the first two years in the graduate program, a student is supported as a research assistant for two academic terms and a teaching assistant for two academic terms. Most students continue their teaching assistantships during their third and fourth years. In the final year, students are supported as a research assistant for two academic terms to facilitate the completion of their dissertation by the end of the fifth year, which was important to Lydia's motivation towards degree completion:

> Some people don't like how competitive the [Psychology] department feels sometimes for funding, but it's actually not too bad for [doctoral] students. I feel like I've great opportunities to both do research and teach, and this is not the case with a lot of my friends in other departments. I've heard horror stories on students having [teaching assistantships] for four-plus years, which makes no sense in order to maintain the level of motivation you need to write your dissertation while teaching students and grading their work. I would be here forever if I had to do that.

It is interesting to note that nearly all Psychology participants in the study (*n*=9) reported to receive some form of personal counseling either through campus counseling service and/or an internal department resource. Ester explained one potential reason for this trend, "Look, the Psychology [doctoral] program can be considered a competitive, pressure-cooker environment. Most students will graduate, but we need support for our mental health to get through it." Ester further explained how she received the support from a department resource, which was needed to sustain her motivation towards degree completion:

> I've never been to [the campus counseling service], but I did get a therapist right downstairs [in the Psychology department], which is so convenient. I forget what it's called exactly, but it's basically the clinical [Psychology] Ph.D. interns. And that was a huge help. Part of my motivation for doing that is what I alluded to earlier feeling somewhat uncomfortable about confiding in people who are in my program who are also my colleagues and research collaborators. The advice several students gave me is to not want to appear too vulnerable to other people

> for fear of being judged about my abilities. Even though that's kind of funny, because out of my cohort of six people, five of us are in therapy. It's kind of the irony of being in Psychology…To me I loved having that support system in place for when something does happen.

When describing the support received from personal counseling, Psychology participants, such as Ester, explained that the support they positively influenced their motivation towards degree completion and overall mental health. The following section summarizes the findings across the four academic disciplines.

Summary of disciplinary differences. Overall, Psychology participants seemed the most intrinsically motivated towards completion of the doctoral degree when compared to participants from other academic disciplines in the sample. When compared to other academic disciplines, the Psychology doctoral program appeared to provide the most human and financial resources to support doctoral student motivation towards degree completion, which was highlighted by frequently cited positive faculty-student relationships and a positive and supportive departmental climate. Bowen and Rudenstine (1992) found intrinsic motivation supported by faculty to be important to doctoral student persistence towards the completion of academic goals, such as completion of a qualifying exam or dissertation.

As reported by previous studies (e.g., Gardner, 2010; Golde, 2005), a perceived competitive environment and faculty perceptions of students' non-academic career pursuits were factors cited as negatively affecting participants' motivation in all four academic departments. By contrast, factors cited as positively affecting participants' motivation were financial and counseling support provided by the department, small doctoral student cohorts, and a low student-to-faculty ratio. Future studies should understand how doctoral students' career interests (e.g., academic vs. non-academic)

impact the type of support they receive from faculty. It is plausible that participants who had non-academic career pursuits felt unsupported by faculty as they may have not perceived themselves as aligning to the career expectations that faculty initially thought they would pursue. The following section will describe how self-determination theory's concept of universal needs influenced participants' motivation towards doctoral degree completion.

Influence of Universal Needs on Motivation

The self-determination theory's universal needs of autonomy, competence, and relatedness seemed to influence participant's motivation towards degree completion in this study. To supplement the discussion in Chapter Four of how participants' universal psychological needs (autonomy, competence, and relatedness) were fostered within and outside of the academic environment, the following section provides an overview of the findings as they relate to the universal needs and their possible influence on doctoral student motivation towards degree completion.

Autonomy. Autonomy was defined as the universal need for an individual to be a causal agent of one's own life and act in harmony with one's integrated self, and represents an individual's inherent desire to feel volitional and to experience a sense of choice and freedom when carrying out an activity (Deci & Ryan, 2000). Approximately half of the participants (n=17) spoke of internal and external motivators that reinforced their autonomy. External motivators, such as opportunities for career advancement and social mobility were discussed (n=15) as they related to participants' need for autonomy. Robert discussed the importance of having academic freedom as it relates to his extrinsic motivation for a career as a Political Science professor:

> Well I like the idea of having some kind of academic freedom now and when I leave and being able to pursue topics I care about, but also, I think I realize as I've been in this longer that I've gotten a better sense of how good I am in Political Science which is okay, but not amazing. I mean I'm not going to probably get a job at a big research university. I'm not going to become a famous person - I'm going to do good work. I'm going to do fine work and that's that. I'm not going to do any groundbreaking, incredible work, but I'm going to be happy with the work I do. The Ph.D. is going to be useful in so many ways I can identify.

Similarly, intrinsic motivators, such as having a strong work ethic and a responsibility to one's family, contributed to participants' (*n*=7) sense of autonomy in developing their career trajectory and professional identity. Simon explained his intrinsic motivation as it relates to his family responsibilities and how a sense of autonomy has increased his focus on completing his doctoral degree in Economics:

> And so I'm really motivated to complete the degree because Econ Ph.D.s get jobs they're very happy with. They earn good salaries, are independent, and they just have good work lives that can support families. Even if I had lost a lot of interest in this, this would still be a really good career path for my family and my well-being and everything. I mean if I had to face a Humanities' type market I would feel differently – as if I didn't have many choices in my life and in my career. Maybe I would have left the program if I had to face that kind of thing, but on average, this is really at this point it really pays off pretty well, so I'm happy about that.

Some participants (*n*=11) discussed the need for achievement serving as a motivator as it relates to their autonomy. Toby explained, "I've always kind of been motivated to do my best and dare to be someone who outperforms others, whether it is through hard work or furthering my education." Similarly, Sabrina noted that her experience as a former college athlete shaped her sense of competition and desire for autonomy:

> I think a lot of our motivation as a department also comes from a sense of being the one at the finishing line first, so the motivation to always succeed or improve, instead of staying stagnant, is important in me finishing my dissertation. To do that, I need to stay self-sufficient and not rely on anyone to do this for me.

Participants (*n*=15) who were nearing completion of their dissertation generally felt a higher sense of autonomy and were motivated to complete the doctoral degree. For example, Gaby explained how she felt once her dissertation proposal was approved by her committee, "I finally could do my own study and am that much closer to having a Ph.D., so there's no turning back now." It was also important for Lydia to feel autonomous during the dissertation phase in order to learn what it meant to be a researcher:

> When you start your dissertation at [late thirties], it's even worse because there's no sense of respect for any kind of practical or life experience by faculty. Because it doesn't contribute to the definition of creating knowledge however, academia has decided to socially construct it, but I've already been thinking about how I'm going to negotiate and navigate that stuff because I don't want to sell my soul to the system. I know I've got to do things; there are politics I have to play. Games that I have to play and all of that, but there's a way of doing that and still being true to myself. This is where I'm thankful for my [dissertation chair], because he's been very good at helping me see how to negotiate the dissertation process and getting out of my way when I need to be left alone.

Additionally, some participants (*n*=13) felt frustration with not having a clear research agenda after attaining doctoral candidacy that impacted their motivation to complete the dissertation. Lydia explained how she circumvented her initial feelings of frustration once she gained a sense of autonomy as a doctoral candidate in the Psychology department:

> You need to get to know faculty members. You're going to have a dissertation committee. You really need to talk to people and be like a voice within the department. Really make use of the staff in your department. Especially in Psychology, we have great staff in student academic affairs. They have been great in helping me with other things that relate to my [dissertation] study. I think it's important to reach out to people. No one is going to help you if they don't recognize you need help. You have to be your own kind of advocate. It took me a while to realize this, but the reason that graduate school can't be a bad experience for me is because this is my career. This is what I'm going to do the rest of my life.

Although some participants discussed their frustration with the research process after attaining doctoral candidacy, Lydia and other participants generally felt a higher sense of autonomy and were motivated to complete the doctoral degree once approaching completion of their dissertation. Other participants reported that having their need for relatedness satisfied was important to their motivation, as the following section will describe.

Relatedness. The universal need for relatedness is satisfied when an individual develops close and intimate relationships with others, as well as experience caring for others (Deci & Ryan, 2000). The need for relatedness seemed important for participants' (*n*=13) motivation towards degree completion. As described in Chapter Four, the personal and academic support Simon received while working on his dissertation was important to his motivation. Simon's motivation was almost equally influenced by the quality of his academic experiences and the advantages of collaborative learning within his doctoral program. He spoke in length regarding how his motivation influenced his motivation towards degree completion:

> And definitely, commiserating with other doctoral students brings about this feeling that you're not alone. There's definitely a sense of effortless perfection; everyone makes it look so easy. Then you realize once you cultivate relationships one-on-one with people that it actually increases your own motivation to finish [the doctoral degree]. I think I have to remind myself a lot of times about this. How [other students] are coming across isn't the most accurate reflection of what they're actually feeling. When there are those opportunities where people open up whether it's advisors or other people who share the same level of anxiety or stress over finishing. I think about quitting all the time. It's cliché, but it makes me feel that I'm not alone in this program and that I can finish the Ph.D. program.

Similarly, participants (*n*=23) that were actively engaged in their professional community were also very motivated and felt affirmed to be part of the professional

community they aspired to join. Isaac explained the opportunities that he had in meeting faculty from other universities that helped motivate him to complete the doctoral degree:

> The things that have encouraged me are seeing students who are of similar backgrounds that have finished and are at their dream jobs. So that's helpful to me, and so when I go to conferences and I meet junior faculty - that helps me. That keeps me motivated. And it just makes me think if they can do it, I can do it.

Participants (*n*=26) who sought out opportunities to engage on-campus with student organizations and access to campus resources also appeared to have an increase in their motivation, as Randy explained:

> It has in many ways been the primary motivation to finishing up this [doctoral] program and staying here at [Riverside University]. It's yielded tremendous amounts of opportunities and larger networks and that's probably been the biggest incentive to stay. In the end the momentum just carries you to finish. The real challenge is navigating the first several years. And you know just realignment and sort of having the opportunity to contribute to something where my input was given some legitimacy it made everything a lot better. I think that's probably why I'm finishing [the doctoral degree].

A majority of participants (*n*=28) reported the importance of developing relationships with fellow doctoral students in order to maintain motivation towards degree completion. This was important to Kayden because she knew that her effort developing these relationships would "add a little bit more to my experience as a doctoral student." Similarly, Robert, like other participants (*n*=9), noted that his academic department's goal of "helping students thrive" motivated he and his peers in creating a supportive atmosphere in order to sustain their motivation:

> We go to dissertation defenses so we can see people finish. It does motivate us to see people finish. The closer I get to the finish line, the more motivated I am. Every year that has become easier. Like every hurdle I clear, I have one less thing that I need to do to graduate. We all have our insecurities, but at some point I watch the people who are succeeding and I'm like, 'they don't have anything that I don't have.' They're just putting one foot in front of the other and they're putting in the time. They're able to shut down that voice in their head that says you can't do it.

Additionally, some participants (*n*=5) discussed having low motivation to complete the doctoral degree when they either moved away from Riverside University or began to isolate themselves from the Riverside University community. These participants often relied on friends and family for a sense of relatedness in order to sustain their motivation to complete the degree. Jennifer explains the importance of her friends and family in fulfilling her need of relatedness. Jennifer lived in the Southwest United States for a few years soon after attaining doctoral candidacy to conduct dissertation field research and subsequently returned to the Riverside University area to finish writing her dissertation, "When I connect with friends and family [there] in [the Southwest] they encourage me to stay in the program. This is especially important being a person of color and reaffirms my commitment to my goals." Building and sustaining relationships with individuals within and outside Riverside University was found to be important to fulfilling participants' need for relatedness. Participants also discussed having their need of competence fulfilled as the next section describes.

Competence. The universal need of competence is satisfied when an individual experiences mastery and feels effective in interacting with their environment (Deci & Ryan, 2000). Participants (*n*=17) discussed internal and external motivators that impacted their need for competence. Some participants (*n*=12) began to feel more control and gained mastery once they attained doctoral candidacy and began the dissertation process. Kirsten explained the increase of motivation and competence once she began her dissertation field research in Southeast Asia:

> I think for me the turning point was when I started doing fieldwork in [a country in Southeast Asia]. I ended up actually doing my own survey that was away from [faculty] study. That was incredibly rewarding. That was really satisfying. It felt like I was learning a ton, and having an experience that I would not be able to

> have elsewhere. I always thought of Ph.D. programs as an apprenticeship. You start out and learn different skills all the way through. I think beginning my [dissertation] study was one that sort of like a student progressing towards becoming an independent scholar. That was sort of a beginning of that internal change, and that was really motivating and satisfying.

The feeling of competence was also exhibited soon after participants completed their comprehensive examinations. Cecily explained that passing the Psychology comprehensive exam was, "a way of getting affirmation by faculty members" and was important in feeling a sense of "gaining mastery of the process of becoming a Ph.D." Similarly, participants (*n*=9) that were near the end of the dissertation process felt a stronger sense of control of their degree outcome, as Audrey explained:

> The way I've been describing it to friends that now that I'm applying to 10 or 12 of these visiting faculty positions, I can finally be able to maintain my motivation. I imagine a couple of different futures for next fall [semester] and I haven't gotten to do that in a while. Anytime I've imagined the future it was pretty speculative. There's some real excitement that in about 12 months I could be moving depending on how things work out with my dissertation committee. It's kinda nice not to know what's next. On the other hand I don't really know what's next - the only thing I know is I can't still be doing [dissertation writing] in 12 months.

Participants generally had low levels connectedness during the initial stage of their dissertation study until they were near completion. Eva explained the dissertation writing process as a "rollercoaster of doubt. I wasn't sure if what I was writing would be acceptable to the committee, which slowed my motivation to complete." Although there was much stress and concern regarding the end product, participants explained preserving once they felt control of their study and set aside their fears. Justin explained his motivation was increased once he was able control his anxiety and begin to gain a sense of competence:

> I want to work hard; it's just that it's this vicious cycle of stress and unproductivity. It's like you're unproductive; you feel guilty. Being guilty makes you really lethargic and unproductive. You're like the sad blob of a doctoral

> student who is doing nothing during the dissertation stage, which is unfortunate. But the things I think that have kept me in [the doctoral program] are that I do have relationships, particularly with my partner and with friends in the program. I do enjoy the subject matter that I'm studying and it excites me, for sure. I don't think I have much left to quote unquote "learn." I feel like it's more like a push to do this thing they're asking me to do asking all of us to do to get the degree.

Additionally, fulfilling the need of competence seemed important to participants who were focused on completing their doctoral degree regardless of the challenges confronted. Some participants (*n*=12), such as Ester, were able "to see that they were going to finish no matter what obstacle was in front of them" even though they may have doubted their ability to complete the doctoral degree. Ester explained that she continued forward in her doctoral study by reminding herself of why she entered the Psychology doctoral program and the knowledge she has gained since gaining admission to the program:

> The decision to stay in the program is a daily struggle. For me it is a combination of a number of things. Do I still feel in touch with what I came here to do? It's been fun writing my job packet materials because I've pulled out my statement of purpose and my app to get in [to the doctoral program]. I looked at my job cover letter and I'm going I feel like I've been through a lot of winding paths, but they're inherently the same. I haven't changed. It tells me that I've still managed to be able to keep my focus. The questions I cared about then are still the questions I care about now. Part of the reason why I came back to [attain a doctoral degree] was to help enhance clinicians to do better work for folks like my former clients who I felt that I wasn't fully equipped to work with. So that really keeps me it keeps me going, but really when I think about what motivates me to stay, it's I can't get my previous work experience out of my head. Knowing that the same bad practices are perpetuating themselves, I can't live with that. That's really the thing that keeps pushing me towards getting this [doctoral degree] done.

It was important for Ester, and other participants in the study, to reflect on why she pursued a doctoral degree in Psychology as it related to her need for competence. Reflection on the doctoral degree process also seemed important for participants to acknowledge when their universal needs were met and how fulfilling these needs may

have positively influenced their motivation. The following section summarizes the findings as they relate to the impact of self-determination theory's universal needs on doctoral student motivation.

Summary of motivational impact of SDT universal needs. Supported by previous research (e.g., Brickell, 2007; Koh et al., 2010; Nota et al., 2011), three noteworthy findings were found in this present study as they related to self-determination theory's universal needs and their impact on doctoral student motivation towards degree completion. First, when participants felt a sense of autonomy from faculty, it seemed to promote sustaining intrinsic and/or extrinsic motivation. Second, when participants' competence needs are met, they are more likely to be intrinsically motivated by the task, which includes enjoyment and involvement in activities relating to their coursework and/or dissertation research. Third, when the need of relatedness was met, participants' felt affirmed to be part of the professional and/or academic community that seemed to increase their motivation to complete the doctoral degree.

Future research should continue to analyze self-determination theory's universal needs as they relate to doctoral student motivation as it is plausible there may be other needs that may be universal to the doctoral student experience that may also help explain motivation towards degree completion. The following section will describe how the academic environment seemed to impact participants' motivation towards doctoral degree completion.

The Academic Environment and Doctoral Student Motivation

Various aspects of the academic environment were found to potentially impact participants' motivation towards doctoral degree completion. Four themes emerged

when analyzing data relating to how the academic environment influences doctoral student motivation, these included:

1. Supportive academic learning environment
2. Faculty-derived support
3. Department-based academic resources
4. Institutionally-based academic resources

Supportive academic learning environment. I found that a supportive and encouraging academic learning environment offered participants an opportunity to thrive and attain or sustain motivation. Some participants (*n*=9) explained that the classroom-based learning environment was vital to developing their research and writing, thus providing them the confidence to persist through the other degree requirements such as the comprehensive exam and dissertation. Alma explained that the rigor of Political Science courses strengthened her academic abilities and impacted her motivation to continue in her doctoral program:

> It might not always have been as interesting reading, but you know at least in classes we were reading a couple hundred pages a week, almost per class. Sometimes it was a book a week per class. It was tough, but it showed me that I could move forward in the [doctoral program]. I think another thing graduate students have it's not just that you know how to study; it's that you know what kind of studying works for you. You got here because you're good at this. Why would you try and change everything right now and try all these different study habits because you saw other people do them? That doesn't make sense, especially in trying the maintain motivation when writing your dissertation.

The doctoral student community appeared as an integral component of the academic learning environment for over half of participants (*n*=21), but its role was only partially important to the participants' motivation, because often it was limited to a particular course and course-related activities and varied with each course. Doctoral

students also provided support and encouragement to each other through social interactions that often occurred during course-based group projects or in on-campus meetings. Javier explained how members of his Anthropology doctoral cohort positively influenced his motivation both in his personal development and in completing the doctoral degree:

> When I entered the [doctoral] program, I saw that I had picked the right place. There was a community of students of color outside of Anthropology, but it still was very small and it would take a lot of effort to access that community. And I don't know, maybe it's just me, but I wasn't initially interested in making a community of friends. That was just not relevant to the professional world that I was going to be in. Then after a while, I learned that my cohort is where I'd find commonality, and a group of people that could help me develop my research ideas over a beer, and keep me sane and motivated since we're all taking the same types of courses and dealing with the same things.

Participants seemed to benefit from a supportive academic environment created in their doctoral programs. The doctoral programs were cited as having high academic standards (*n*=19), a focus on research skill development (*n*=23), and opportunities for group learning (*n*=17). These benefits also included the clarity of degree requirements that was important to some participants (*n*=14). Will explained that the Political Science doctoral program provided opportunities to attain support and encouragement from faculty and other doctoral students that differed from when he was an undergraduate student:

> It was important for me to keep good relationships with the faculty and other students, not to burn bridges and get what you cannot in a utilitarian fashion, but get what you can personally and professionally from people when they're willing to give it. And by the way that you've received support in the past as an undergrad is completely inaccurate now. It used to be you get patted on the back. Now, it's the more about what time people are willing to put into you and rip you apart, that's the compliment. Because if they don't give a rat's ass about you, then they're not going to waste their time, but if you have that red ink bleeding all over the page, that means they see something in you. So you have to do this radical reprogramming that most of us aren't used to experiencing.

A supportive and encouraging academic learning environment, as Will described, seemed to provide opportunities for participants to thrive and sustain motivation towards completion of the doctoral degree. Also important to participants was support derived from faculty within and outside of their doctoral program as the next section will describe.

Faculty-derived support. Faculty support varied for all 36 participants in the sample. Support, or the lack thereof, depended on the level of the faculty member's commitment to students, communication style, readiness and ability to provide the necessary guidance, and knowledge of the doctoral degree process. Primary faculty advisors were cited (*n*=33) as having been the most influential on doctoral student motivation within the academic environment. Support from faculty advisors came in the form of personal encouragement, assistance with personal issues, and guidance on academic and career goals. In such cases (*n*=18), an advisor's support seemed to positively affected participants' motivation towards degree completion. By contrast, some participants (*n*=6) reported to not receive any support or assistance from their initial faculty advisor, and subsequently changed their advisor. Gaby discussed a similar experience with her initial faculty advisor:

> I felt as if [the initial faculty advisor] just didn't care about me and my [doctoral degree] progress. He would ask how I'm doing, but the conversation ended there. It seemed like he had to play the role as advisor to appease the department chair, but when it came down to it he wasn't really doing his job. I decided to switch advisors, since I needed support and I just didn't want to waste any more time with professors that don't care or want to help their students.

Support derived from faculty internal and external to participants' home academic department was also described as positively influenced participants' motivation. These faculty often provided a source of support when a primary faculty advisor was

unavailable or incapable of providing support. Lisa explained that faculty outside of Anthropology were a frequent source of support and motivation.

> Several members of the Sociology and Women's Studies faculty have been very consistently supportive. It's sort of one of those things you realize in hindsight because the faculty have commitments to a number of students, but I've been in situations where a few of them have expressed genuine concern in my success and that's been really motivating and completely unexpected. I was not expecting that sort of concern because my personality is one that I prefer to just get the minimum out of the faculty-student relationship because there's not enough time to cultivate a relationship with all the faculty, but they haven't allowed me to just get away with that. They've reached out to me. In particular [faculty member] has been extremely helpful without a doubt especially in motivating me when I was having a hard time choosing a [dissertation] research topic.

Consistent feedback described as important to participants feeling supported in their pursuit of doctoral degree completion. For the most part, feedback from faculty was professional, prompt, and useful to over half of the participant sample (*n*=20). Faculty feedback was often directly related to their involvement with the courses they were teaching, their readiness to teach doctoral-level courses, and their commitment to students. Participants also benefited when faculty members were willing to meet outside of class time, as Alma explained of faculty in the Psychology department:

> We have a casual feel in our department. It's not too stressful or competitive. I think I've had positive experiences with the majority of the faculty members I've met. If I was taking their classes they would put aside time for me to help me not just in the class, but to develop as a researcher. For example, when I was working on my thesis, one of the faculty members took three hours out of her day to go over with me step-by-step about stuff that I was having a hard time with. And so I would say in general, I have a really good relationship with the faculty I do interact with. It's a huge department so you don't know everyone, but getting to know people helps, since most people are willing to meet over coffee.

Additionally, positive affirmation by faculty members was reported as beneficial to students (*n*=11) who may have felt like imposters, or outsiders, in their doctoral program.

Isaac explained how his faculty advisor affirmed his identity as a scholar, thus providing him the encouragement and support to move forward in the doctoral program:

> It was interesting to have my identity as a scholar sort of legitimated when meeting with my academic advisor last semester. To me that was very rewarding because I didn't come in here with that intention that when you enter a program like this, it's clear who the ambitious scholars are going to be and who is indifferent about that pursue that route. So I think that experience has been the most rewarding. To actually have some people come up and say, 'You're perceived as a scholar here' has been one of the most encouraging aspects of being a student in the [Political Science] department.

Providing positive affirmation to participants, such as Isaac, seemed to depict a faculty member's commitment to participants' doctoral degree progress. Participants explained that this type of encouragement positively influenced their motivation within the academic environment. Support derived from department resources were also cited as influential to participants' motivation as the next section will illustrate.

Department-based academic resources. Department services such as staff support, guest speaker seminars, and professional development workshops were cited as important to participants' motivation towards degree completion. Some participants (*n*=15) explained that department-based resources included career and professional development, teaching development, and dissertation writing support. Other participants (*n*=12) described their disappointment of the lack of resources available in their department. Amy was disappointed in the resources provided in the Political Science department and recommended hiring additional staff to offer student support services:

> I would say a staff member hired by the [Anthropology] department to act as a sort of graduate advisor or coordinator for doctoral students would be great. And not basic advising offered by faculty, but focused support on how to submit your article to a journal or how to a write a grant proposal. The staff member can also help doctoral students who have conflicts with faculty members in the department and teach them on how to better navigate those relationships. We lost a staff member in my first year in the program and we haven't had a replacement since.

> Everyone loved her, because she fought valiantly for the graduate students and always knew what to do. If you were in a bind or didn't know how to do something with the [course registration system] she would know what to do with your problem and help you fix it. She was just a phenomenal resource.

Departmental staff were cited as an important source of support to students in large departments such as Psychology and Economics, since participants such as Amy felt "lost in a sea of students without much faculty support" and needed resources that faculty may not have time or ability to provide in order to sustain her motivation. Some participants (*n*=8) explained that department staff also "filled in" for faculty by providing resources on academic advising and degree completion requirements, as Toby explained:

> Only a small portion of professors are going to be teaching classes that you're taking and building those relationships is tricky. There are still professors who don't teach classes that I've never talked to and I don't know what they do. I'm sure if they were in my specific research area, I'd make an effort. It's one of the down sides of having a massive department like Psych. There's a lot of flexibility, but there's also a lot of anonymity and a lot of opportunity to just kinda linger and not complete your work. So having staff support is good, since they can help me keep on track and motivated towards finishing [the doctoral degree] when faculty aren't around.

Several participants cited a reduction in staff and high staff turnover was an issue that negatively affected the types of services offered by academic departments. Julian discussed the importance of academic support services provided in Anthropology to sustain his motivation:

> Our department has gone through a major staffing change and so the administrators who have been keeping an eye on this stuff have moved on to new positions in other departments. And the only people who are two financial aid administrators. They're the ones who we go to. Everyone who's been walking into the office today has been like, "Who do I talk to?' and we respond, 'I don't know.' It's one of the sad things 'cause a lot of people don't recognize how big an impact the staff is, but they really matter. Having someone with institutional memory is really key, especially if you're having trouble forming relationships with professors. Having someone like that would be wonderful, but unfortunately our department is losing them.

Support derived from department-based resources seemed important to sustaining Julian's motivation towards degree completion as he explained the departure of department support staff. As the next section will illustrate, Julian and other participants also described that institutionally-based services was a source of support when departments were unable to provide adequate resources to doctoral students.

Institutionally-based academic resources. Institutionally-based services such as the writing center, counseling center, and technology support office were cited (*n*=27) as positively providing support and encouragement to many participants in the study. The services offered by the Graduate School office at Riverside University were the most frequently cited source of support. Ivan reported being able to access training on statistical software that the Economics department was unable to assist him with:

> [Riverside University's Graduate School] research resources have been great. I learned a bunch of GIS stuff that was able to help with some of my dissertation research. And boy, when you encounter those really, tricky statistical questions, having some statisticians in that office really helped out, because econometrics is not my strong suit nor is it with many of students in my department. Having folks that you can go to that aren't going to look down at you like those in my department for not knowing this already was important. Faculty in my department would be like 'well you should have learned that in first year' and I would be back to square one with my research.

Over half of participants (*n*=22) received support through personal and/or mental health counseling services offered either by the campus or their academic department. Kirsten discussed her experience with the campus counseling service and the frequent usage of the service by other doctoral students in the Political Science department:

> The [campus counseling service] has been a fantastic resource. It's a terrible long-term resource, but a good short-term resource. From what I hear from some of the people who work at the [campus counseling service], my particular academic department has an astonishingly high proportion of students who frequent them.

Campus counseling services often aided participants with both personal and professional challenges that impacted their mental and physical health and to sustain motivation towards degree completion. Ivan frequently met with a mental health therapist during the pre-candidacy stage of the Economics doctoral program to sustain his motivation towards degree completion:

> I went to [the campus counseling service] for a few months and my therapist that I was seeing there was really wonderful. I think it really helped me conquer some personal issues in my life, as well as academic issues, and so [the campus counseling service] has been great. So yeah, I take advantage of those kinds of things as much as I can so that I keep motivated to finish.

Additionally, participants discussed receiving support and encouragement from membership in graduate student organizations, as well as campus-based programs designed to support graduate student retention. Support services that were specifically designed for doctoral students were highly lauded by participants (n=17). These services included professional development workshops, activities for graduate students with children, and mental and physical health-related programming. Audrey discussed participating in a program designed to recruit and retain graduate students of color that positively impacted her motivation:

> The [graduate student program] was very supportive. Being in an environment with people from different departments and of other ethnicities was a good place to go and was a very nice space away from everything in a way. Away from department politics, but at the same time discussing ways of how to better negotiate the politics. How to deal with faculty and moving forward in the Psychology program. We don't just go to socialize, I think mainly because students needed to make a commitment to share their wisdom and be open to learning from others. It felt like I was on level playing field and not competing with other students like I do in my department.

The importance of programming designed for doctoral students was cited as important to Audrey and other participants as these programs aimed to provide students

the tools necessary to overcome challenges they encounter while in their doctoral program. The following section will summarize the findings that pertain to the academic environment and its impact on doctoral student motivation.

Summary of motivational impact of the academic environment. Overall, several aspects of the academic environment were found to impact participants' motivation towards doctoral degree completion. The importance of having an effective support infrastructure for doctoral students has been well established in the literature (Gardner, 2010; Golde, 2005; Vaquera, 2007). In a study conducted by Vaquera (2007), support originating from the academic department was found to be a significant factor for doctoral student academic success, while Golde (2005) and Gardner (2010) reported access to campus student support services was an important factor in persistence towards doctoral degree completion.

In this study, academic-based support from faculty through academic-related services was cited as important towards degree completion motivation. A supportive and encouraging academic learning environment, such as group-based learning exercises in courses, was cited as the second most important to motivation. Department and institutionally-based resources, such as writing and research development workshops and mental health support, were the third most cited factors affecting participants' motivation towards degree completion.

Support from family and friends outside of Riverside University was also important to participants' motivation. Perhaps support derived from the academic environment is important to sustaining motivation towards academic goals, whereas support derived outside of the academic environment is important to sustaining

motivation towards career and personal pursuits. Additional research is needed to improve understanding of the impact the academic environment has on doctoral student motivation as it relates to the types of support doctoral students find the most beneficial.

Support resources derived from Riverside University were important to participants' motivation, but not all of the motivational factors found within the academic environment were specified within self-determination framework. The following section will describe factors not associated with self-determination theory that seemed to influence participants' motivation towards doctoral degree completion.

Factors Not Associated with Self-Determination Theory

The fourth research sub-question addresses motivational factors that were not specified within the self-determination framework. As will be presented in this section, participants discussed several additional factors that impacted their motivation towards degree completion and provided potentially disconfirming evidence for the use of self-determination theory. Each of these factors enhances our understanding of doctoral student motivation:

1. Academic and social integration
2. Financial factors
3. Socialization
4. Goal orientation

Academic and social integration. As reviewed in Chapter Two (e.g., Holder, 2007; Reason, 2009), higher education academic and social integration frameworks, as they pertain to doctoral students, generally focus on the influences that impact a student's fit and commitment to an institution in his or her academic goals. Aspects of the

academic and social integration frameworks reviewed in Chapter Two emerged from participants' descriptions of how they developed and sustained motivation towards degree completion. These descriptions included the way they integrated to the Riverside University campus, dealt with challenges that impeded their integration, and discussed motivation influenced by support networks.

Integrating both academically and socially into the campus community was considered challenging for approximately half of the participants in the sample (*n*=17). Participants discussed that these challenges negatively impacted their motivation to complete the degree due to the social isolation they felt during various stages of the doctoral program, including the dissertation stage. Participants in larger doctoral cohorts (Economics and Psychology) generally found it easier to socially integrate on campus and make friends.

Nearly all of the Psychology participants (*n*=8) found that integration, both academic and social, was easier than for participants in the other three departments. Participants explained that faculty availability, peer mentoring, and department-sponsored events and programming led to reducing the feeling of isolation and increased integration into the department. Participants (*n*=27) cited support derived from doctoral peers as an important source of support and feeling of integration to the campus. Isaac in Political Science, another relatively large department, explained the types of relationships that he developed with fellow doctoral students and how these relationships impacted his integration to the campus:

> I have different levels of relationships and friendships with students in my department and on campus. There are a few students outside the department with whom I have lunch or coffee at least once a semester just to catch up and talk about various things. And for me frankly, I think part of part of what drives these

> relationships is when we're in a relaxing conversation, because we find comfort in knowing we're in this together. It makes me feel closer to [Riverside University] and knowing that I made the right decision to be here and get a Ph.D....it's great to have a large network of friends outside of the department.

By contrast, some participants (*n*=16) discussed the challenges of integrating into their academic department. Robert explained his struggles in finding his place within the Anthropology department, "Students needed to have more direction by faculty to really engage with research and what it meant to be a scholar in the field. I just didn't understand why things were certain ways in Anthro and weren't malleable to each student." Regardless of the challenges of attempting to integrate into their department or campus, participants (*n*=7), such as Kayden, decided that it was best to maintain their motivation by working in relative isolation:

> The only thing that keeps me going right now is I would be so disappointed in myself if I made it this far and didn't finish. Which is totally a fallacy and I realize that, but you know to spend nine years in graduate school for a Ph.D. is a little ridiculous even if I have two master's degrees. That's a long time for two master's degrees. And my husband will be disappointed if I don't finish. My father will be disappointed if I don't finish so you know I've got to finish. And most everyone at [Riverside University] would be disappointed in me, because of everything they have done for me to finish this dissertation even though I didn't see eye-to-eye with many in Econ. I've invested too much in [Riverside University] to just get up and leave with nothing, so I'll just work by myself so that I can get this done.

Participants who were the most engaged on campus tended to be the most motivated, had a strong support network, and frequently accessed resources available across campus. Many of these participants also actively sought out opportunities to socialize and collaborate with students outside of their department. Coupled with this need, having clear academic and research goals was cited as important to some participants (*n*=5) in order to feel integrated within into their doctoral program. Audrey explained that she felt integrated within the Political Science doctoral program once she

developed a clear direction in her dissertation research, and as a result she was able to share her knowledge and develop relationships with her peers:

> For students that have a hard time in anything – I tell them to keep the momentum going. Even if it's one little thing a day, writing a paragraph a day, reading a book or something because if not, it's like, 'What's the point of being here in the doctoral program?' We could be working somewhere else and getting paid whatever. We're here for a reason and all this has happened for a reason. So it's better to find your way in the department and in your research, so that you graduate and move on with your life. It may take a long time to feel like you're part of [the Political Science] department and not alone, like it did for me, but hey who cares as long as you feel like you're being supported?

Feeling integrated and supported within the Political Science doctoral program seemed to reduce Audrey's feeling of isolation that may have positively influenced her motivation. The next section will describe financial factors that may influence doctoral student motivation towards degree completion.

Financial factors. Financial factors were reported frequently as influencing participants' motivation towards degree completion. As reviewed in Chapter Two (e.g., Border & Barba, 1998; Bowen & Rudenstine, 1992; Herzig, 2004), these factors have been found to both positively and negatively influence doctoral student persistence. When discussed, financial-related issues generally impeded the motivation of participants to complete the doctoral degree. These issues included:

1. The impact initial financial aid packages had on motivation.
2. Attaining funding for research-related expenses.
3. The effects of incurring student loan debt on motivation.
4. The financial impact of Riverside University's Continuous Enrollment Policy on motivation.

As previously mentioned, nearly all of the participants in the sample (*n*=34) received a multi-year financial aid package when first entering their respective doctoral programs. The offer of multi-year funding packages was attractive to students and influenced their decision to pursue a doctorate at Riverside University over other institutions. By contrast, participants who exhausted their initial financial aid package and were required to find their own funding or risk withdrawing from the doctoral program reported an increase of financial challenges. Jennifer explained the stress she incurred due to lack of financial support once her four-year funding package from Anthropology was exhausted:

> My husband took seven months to find a job and I couldn't find any way to pay my tuition. I think about some of these folks who come in with young kids and they can't do it, and it's really sad to see them suffer as Ph.D. students. This really slowed my [degree] progress, because instead of being focused on my [degree] progress, I was worried about bills. I can only imagine if I had kids with loan debt racked up on top of that, I would probably quit [the doctoral program] and get a job somewhere.

Participants (*n*=15) seemed to increase their motivation and attain a sense of belonging to the teaching and research communities within their department when holding a research or teaching assistantship. By contrast, some participants (*n*=7) explained that multiple years of teaching and research assistantships became cumbersome to their degree progress. Lauren explained that her experience as a teaching assistant provided her, "an opportunity to really see what it was like as professor. That was a major plus of having a few years of funding, even though it was more than 20 hours a week, which is slowing my [degree] progress."

For some participants (*n*=14), the lack of research funding negatively impacted their motivation to complete the doctoral degree. Lydia explained the struggle she had in

not having funding to conduct her dissertation study and slower than expected degree progress that resulted:

> I just don't have funds to do my [dissertation] study, so the alternative has been to cut out the travel portions and minimize the time points [of the study]. I can't do this perpetually as a student, so I just want to graduate and find my own funding as a faculty member.

Other participants (*n*=8) resorted to their personal savings and/or attained federal and private students loans to supplement their financial aid. Participants (*n*=7) also discussed using student loans and their personal savings to pay for research-related expenses in order to sustain progress towards degree completion. Randy explained his decision to use his personal savings to supplement the financial aid he received and continue his progress in the Political Science doctoral program:

> I think [the fellowship stipend] was about [stipend amount] last year and that's really hard to live off of. I pretty much am pulling into my savings, which is really stressful. At this point I'm not going to give up on the Ph.D. just for that because it's better to graduate then leave with all this debt and no degree. At least I have that savings to draw on and that's because I worked at [a federal agency] for three years, but you know that's money I was hoping to save up and have eventually at least a portion of a down payment on a house. Now, I'm using that to help me pay bills. It's a little frustrating, you know.

Additionally, family-related financial obligations incurred stress and often negatively impacted participants' motivation. A few participants (*n*=4), such as Eva, explained feeling "overwhelmed and unmotivated to finish [the doctoral degree]" due to incurring unexpected financial expenses when her mother was hospitalized. Similarly, some participants (*n*=11) explained that the Riverside University Continuous Enrollment policy had negatively impacted their motivation to the complete the doctoral degree. The Continuous Enrollment policy recently enacted at Riverside University requires Ph.D. students to register for Fall and Winter semesters until they complete their degrees unless

they are on an approved leave of absence or on extramural status.[18] The Continuous Enrollment policy was enacted to improve the likelihood that Ph.D. students will complete their degrees at Riverside University. Tony explained how the Continuous Enrollment policy negatively impacted his motivation to complete the Anthropology doctoral program due to the lack of funding to pay for living expenses that are not covered while on a tuition-only Continuous Enrollment fellowship:

> Unfortunately, the continuous enrollment policy damages people in my shoes because I could take a leave of absence, but then that could be only for one term. I would also lose my health coverage as a result of it. I mean if I could find a job I'd leave the University in a heartbeat and take a tuition fellowship, but there's only a finite number of [fellowships available]. Once you hit your sixth or seventh they'd start to be in jeopardy. So I feel stuck, since I don't have the money to pay tuition on my own, but it's going to take another two years to collect all the data for my [dissertation] study.

Financial issues, such as Tony incurred, generally impeded the motivation of participants to complete the doctoral degree. Participants explained that they had limited options to pay for tuition and related expenses, thus increasing feelings of hopelessness towards degree completion. The next section will discuss socialization as it related to doctoral student motivation.

Socialization. As reviewed in Chapter Two (e.g., Ward & Bensimon, 2002; Weidman et al., 2001), higher education socialization frameworks, as they pertain to doctoral students, generally focus on how students internalize professional norms and attitudes into their personal identities. Aspects of socialization frameworks reviewed in

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[18] Students who are in good academic standing who wish to pursue research or study that is relevant to their doctoral study at another education institution may apply for Extramural Study status. The Continuous Enrollment policy at Riverside University states that if a student does not register for a term, he or she will be considered withdrawn from the University and therefore, discontinued from their Ph.D. program.

Chapter Two emerged from participants' descriptions of how they developed and sustained motivation towards degree completion. These descriptions included the way they were socialized to research and faculty careers and discussed motivation towards degree completion influenced by teaching and research assistantships.

The type of socialization varied amongst all the participants in this study. For participants seeking a career in academia, a prevalent socialization theme was that strong relationships with faculty tended to encourage participants to see themselves as future faculty, which impacted their motivation to complete the doctoral degree. Alma explained being socialized towards a faculty career:

> It's crazy because I feel like profs tell me over and over again, 'You can do this [become a faculty member].' They tell me, 'You have a clear goal for where you want to be and it's very clear you are thinking about how to do this on your terms.' And that is so powerful and motivating to hear, since I have been conditioned not just as a teacher, but also as a future scholar in the Political Science field.

Additionally, socialization took different forms in each of the academic discipline in this study. Economics and Political Science participants reported many examples of being socialized to various academic and non-academic careers, whereas participants in Psychology and Anthropology reported being trained and socialized for research and faculty positions. Daniel discussed the challenges of doctoral students who decided not to pursue a faculty career in Anthropology:

> Being accepted by faculty here [in Anthropology] is hard once you come out and say you plan to do something else other then being a faculty member. Students sometime are neglected and treated me not like other doctoral students in the program that have that as a career goal. My professors do not give me the same opportunities to publish or take part in major research projects. I personally feel like I'm getting a second-class treatment compared to other students.

Another prevalent theme regarding socialization and its impact on motivation towards doctoral degree completion is the opportunity for participants to be appointed as teaching assistants alongside faculty members. Teaching assistantships provided many participants (*n*=21), such as Alma, the opportunity to "try out teaching and figure out if they want to do it as a career." Also, beneficial to socialization, but not as often cited (*n*=13), were appointments as graduate research assistants that provided participants the opportunity to learn about research design and "life as a full-time faculty member." Will explained how his motivation towards degree completion increased once he had the opportunity to assist with his faculty advisor's research projects as a graduate research assistant:

> I pretty much ruled out a career as a professor before I came here [to Riverside University], because I didn't think I'd be happy in that type of environment. I've kinda figured out that working at a teaching university or some sort of international work would be a better fit for me. Then I changed my mind once I had a [graduate research assistantship], because I learned more about what life was like as a professor. It wasn't as dull and boring as I initially thought it was. So now by earning a Ph.D., it seems like a good idea regardless of what I end up doing cause even if I end up doing research, so it makes sense to finish [the doctoral degree] and have my [career] options open.

Socialization to a career in research and/or as a faculty member provided Will and other participants a opportunity define their career goals and positively impacting their motivation towards degree completion. The following section will discuss participants' goal orientation as it related to their motivation to complete the doctoral degree.

Goal orientation. As reviewed in Chapter Two (e.g., Ames, 1992; VandeWalle, 1997), psychology goal orientation frameworks, as they pertain to doctoral students, refer to individuals' behavioral tendencies in achievement-oriented tasks, such as planning and goal setting towards dissertation completion. Aspects of goal orientation frameworks

reviewed in Chapter Two emerged from participants' descriptions of how they developed and sustained motivation towards degree completion. Two types of goal orientation emerged from the data. Mastery-oriented participants expressed developing new skills (e.g., research and academic skills) and believe that their degree completion is realized by achieving self-referenced standards. By contrast, performance-oriented participants expressed concern with being judged as capable to complete doctoral degree requirements and attempted to outperform other students in their doctoral program (e.g., attaining a high grade in a course).

Over half of participants (*n*=19) expressed a mastery orientation towards their pursuit of a doctoral degree by being proactive in developing the abilities that would aid them in meeting their academic goals. Their statements were tempered with the understanding that sometimes life could hold unexpected surprises for them, and they would need to learn to self-correct their approach to handling these challenges. Most focused on developing their academic and research abilities, and others discussed their intentions to further their personal (e.g., stress management) and professional (e.g., public speaking) skills that would help in developing or increasing motivation. Carlos stated that he further developed his quantitative skills after failing the comprehensive exam in Economics:

> After I failed [the comprehensive exam], I thought very, very carefully about whether or not it was worth it to try again. And I don't think a Ph.D. is the only thing I could do that would make me happy, so I begin to doubt why I'm here. I then remind myself that if I improved my quantitative skills that I would probably pass [the comprehensive exam]. I thought very carefully about whether or not to leave [the doctoral program], and told myself, 'If it doesn't work out then it doesn't work out'. If I thought there was something else that would make me happier, I would do that, but I don't think there is. That was a very conscious decision. I was not like - I'm just going to try and study again to improve my

> quant skills. I'm going to learn whatever I need to pass [the comprehensive exam] and finish the [doctoral] program. I'm going to try my hardest.

By contrast, when encountering an obstacle, or a series of obstacles, participants' psychological ability to overcome certain situations at times triggered self-doubt about their ability to complete the doctoral degree. Some of these participants (*n*=11) expressed a performance orientation and relied on their extrinsic motivation towards degree completion. Simon explained that the "longer students were in the doctoral program and dealt with high levels of stress the less motivation they had to complete the doctoral program." Similarly, Dante explained that the major challenge to his motivation was time management and comparing his degree progress to other students, but strived to outperform others in his doctoral cohort:

> Managing my time was my biggest challenge overall. This temptation to do better and outpace my cohort - I feel like theoretically I could turn out three publications a year, but I couldn't quite meet that goal. I'd say this summer has been a really big turning point for me. Basically deciding not to work as much as some of my peers, which is hard because I still compare myself to them or worry about being judged by others [in my cohort]. I definitely struggle with self-motivation and believing in my own ability to keep up the pace, but I know that I can do far more then most regardless of what challenges are in front of me.

Similarly, Lisa struggled with self-doubt regarding her academic abilities, but kept focus on developing "realistic goals" in order to maintain her motivation towards completion of her dissertation:

> I think that the inability to complete a project is probably something that's going to be the hardest. I've started several projects, but I haven't seen to many of them to completion. My idea of completion is, for example, to get a publication come out of a project. I would like to see that before I graduate. So those are my goals, but realizing how long that process takes and getting over the hump of sharing your work and being okay with people critiquing it. Because you know you just feel embarrassed or disappointed in some of the errors you might have made and how imperfect the design ended up being because you had to realize once you actually start collecting the data, there are so many logistical things that take place that you have to cut back on the design. So I've had to create smaller, more

> realistic goals, and that has helped me with motivation in getting my dissertation done.

Participants (*n*=11) seemed to improve their self-efficacy skills, a proximal outcome of goal orientation, by attaining support from family, friends, other doctoral students, and faculty. Kirsten explained that her self-efficacy was further developed when she began to take responsibility for her own decisions as a doctoral student and "didn't have to rely on professors to help me all the time. I think it's more about social norms so I've never really had anyone say, 'hey you've haven't done enough work the past week, you better step it up'." Additionally, some participants (*n*=4), such as Javier, explained the feeling of "momentum" which was important to attain a sense of degree progress and strengthened their self-efficacy:

> Momentum has in many ways been the primary motivation to staying here at [Riverside University] and finishing up this [Anthropology doctoral degree] program. Especially once you get past sort of the hump of year four going into year five. And when you clear one of the big [degree] milestones you're like, 'I might as well finish it.' In the end, your momentum just carries you to finish. The real challenge is navigating the first several years of the program.

Javier's momentum depicted the importance of his goal orientation towards attaining the doctoral degree and in developing self-efficacy as he progressed through the Anthropology doctoral program. Findings that related to the factors that were not specified within the self-determination framework will be summarized in the next section.

Summary of factors not specified within SDT. This section addressed motivational factors not specified within self-determination framework (academic and social integration, financial factors, socialization, and goal orientation). Consistent with previous studies (e.g., Astin, 1993; Gardner, 2007; Pascarella & Terenzini, 2005), the

participants who seemed the most integrated in their department and/or campus generally were the most motivated, had a strong support network, and frequently sought out resources across campus. Financial issues (e.g., lack of financial aid, incurring student loan debt) were described to impede the motivation of participants to complete the doctoral degree and is consistent with previous research on doctoral students (e.g., Bowen & Rudenstine, 1992; Golde, 1998).

The type of socialization varied amongst the participants in this study. A prevalent socialization theme was strong relationships with faculty; these tended to encourage participants to see themselves as future faculty members, thus positively impacting their motivation to complete the doctoral degree. Finally, most participants expressed a mastery orientation towards their pursuit of a doctoral degree by being proactive in developing the abilities that would aid them in meeting their academic goals. This finding complements prior research on learning goals that has shown that self-efficacy, knowledge development, and increased metacognitive activity have been positively linked to mastery orientation (Ford et al., 1998).

By contrast, the sizeable portion (31%) of participants who expressed a performance orientation were concerned with being judged as capable, attempted to outperform other students, and seemed extrinsically motivated towards completion of the doctoral degree. Future research should further examine doctoral students who either have a performance or mastery orientation to understand how intrinsic and extrinsic factors affect their motivation. Perhaps participants who expressed a performance orientation may have turned to extrinsic motivation due to personality or behavioral

differences when compared to participants who expressed a mastery orientation and intrinsic motivation towards degree completion.

Summary

In this chapter, the cross-case analysis focused on the four research sub-questions guiding this study that aimed to further understand the contributing motivational factors that influence progress towards doctoral degree completion. Three noteworthy findings were found in this chapter as it related to self-determination theory's three universal needs of autonomy, competence, and relatedness. These findings complemented findings from previous studies using self-determination theory to study student motivation (Grolnick & Ryan, 2004; Ryan & Deci, 2002; Vansteenkiste et al., 2004). First, when participants felt a sense of autonomy from faculty, it seemed to aid in sustaining their motivation. Second, when participants' competence needs were met, they were more likely to be intrinsically motivated by the task, which includes enjoyment and involvement in activities relating to their dissertation research. Third, when the need of relatedness was met, participants' felt affirmed to be part of the professional and/or academic community, thus increasing their motivation towards degree completion. Future research should further examine self-determination theory's universal needs and their affect on doctoral students' motivation, as it is plausible that the duration and type of support may affect how students perceive satisfying each need.

Motivation towards degree completion differed for participants across the four Social Science academic disciplines in this study (Anthropology, Economics, Political Science, and Psychology). These differences resulted from a variety of factors that included time-to-degree completion rates of other doctoral students in their program,

financial challenges, academic support provided by the department, the size of doctoral student cohorts, and post-graduation job prospects. Many of these themes were also discussed when assessing how the academic environment impacts doctoral student motivation. These factors included the academic learning environment, faculty support, academic department services, and institutional resources. These findings were consistent with findings from Vaquera's (2007) study on student adjustment to doctoral programs, as it appeared that participants understood and expected the challenges of attaining a doctoral degree and that support for academic and/or personal needs were to be sought outside of their home department. Additional research is needed to understand how students adjust to doctoral programs, as it is plausible students who do not fully understand or expect the challenges of attaining a doctoral degree may have different needs than those who have been prepared for or aware of these challenges.

Next, in Chapter Six, I discuss the thematic and cross-case findings by incorporating relevant theories from the literature reviewed in Chapter Two, and provide contributions of this study to higher education literature. Chapter Six concludes with recommendations for future research on doctoral student motivation and implications for practice.

Chapter Six: Discussion

Findings from this study add to research on motivation of doctoral students by identifying factors contributing to and/or impeding students' motivation towards degree completion using a multiple case study design. The thematic analysis presented in Chapter Four discussed several aspects of self-determination theory that seemed relevant to the students' motivation towards doctoral degree completion. Additionally, the cross-case findings in Chapter Five revealed that participants who received support for the psychological needs of autonomy, relatedness, and competency developed motivation to articulate their needs and approached personal growth with a self-motivated mindset. These findings provided further evidence of how self-determination theory could be used to understand doctoral student motivation in future research. Examining doctoral student motivation using the lens on self-determination theory may improve our understanding of how this complex construct influences student progress toward degree completion.

What follows is a discussion of the findings, and how these findings support or differ from previous research related to doctoral student motivation. The chapter is organized into four sections: (a) discussion of findings organized by each research question; (b) implications for practice; (c) implications for future research; and (d) the conclusion.

Discussion of Findings

Despite the extensive research that has been conducted on doctoral students, there are few theoretical models of doctoral student motivation in current higher education

scholarship as it relates to reducing the attrition. While motivation theories abound for K-12 and undergraduate students, this is not the case for doctoral students. The assumption that doctoral students' experiences are so specialized within various academic disciplines that they lack commonalities has discouraged some from attempting to develop a conceptual framework to describe their motivation towards degree completion (Gardner, 2008; Millet & Nettles, 2006).

This present study illustrated the complex nature of doctoral student motivation that is influenced by a multitude of variables. Motivation towards degree completion was dependent on many factors: challenges set by conducting independent research, financial burdens, time management, and absent or questionable support from faculty, doctoral peers, friends and/or family. Participants' lack of motivation was often attributed to a failure of becoming socially and academically integrated, as well as other factors internal and external to the academic environment. The following section provides a summary of the findings as they relate to the guiding question and each of the four research sub-questions of the study.

Self-Determination Theory and Doctoral Student Motivation

The guiding research question of this present study was aimed to understand how self-determination theory could help explain the relationship between students' motivation and their progress toward doctoral degree completion. As revealed by themes that related to self-determination theory explicated in Chapter Four coupled with the findings from the cross-case findings described in Chapter Five, participants in this study reported various motivational factors relating to the self-determination framework. As such, this section will explain how aspects of self-determination theory (intrinsic and

extrinsic motivation, autonomous motivation, and psychological need for competence, relatedness, and autonomy) discovered in this study have the potential to improve our understanding doctoral student motivation towards degree completion. Characteristics portrayed by participants that relate to each aspect are presented in Table 6.1.

Table 6.1. Self-Determination Characteristics Portrayed by Participants

Aspect of Self-Determination Theory	Characteristics Portrayed by Participants
Intrinsic Motivation	Inherent satisfaction of learning, pursuing research area(s) of personal interest, and/or having a high sense of responsibility for degree progress and completion.
Extrinsic Motivation	Attaining the doctoral degree with the goal of career advancement, social mobility, and/or other external influence or reward.
Autonomous Motivation	Self-reliant, sense of psychological freedom, and/or internally perceived locus of causality towards degree completion.
Need for Relatedness	Proactively developed relationships with faculty, staff, and/or students across campus as a form of support and caring for others.
Need for Competence	Effective in dealing with the academic environment, perceived ability to influence academic-related outcomes, and/or experience mastery.
Need for Autonomy	Acting with a sense of volition in order increase choice and freedom in their academic and/or personal lives.

Intrinsic and extrinsic motivation. Nearly all of the participants in this study were intrinsically or extrinsically motivated to complete the doctoral degree. Using the self-determination theory framework as a lens (see Figure 2.1), my interpretation of their motivation included the way they embraced academic priorities, dealt with challenges that impeded their motivation, and discussed potential extrinsic rewards offered by attaining a doctoral degree. In particular, participants discussed their motivation towards degree completion as primarily informed by an intrinsic orientation (i.e., influenced

primarily by inherent interest and/or personal enjoyment of the activity), extrinsic orientation (i.e., influenced primarily by external pressures, guilt, and/or social anxiety) or autonomous orientation (i.e., influenced primarily by self-awareness and/or a sense of volition).

The thematic analysis (Chapter Four) and cross-case analyses (Chapter Five) revealed that both intrinsic and extrinsic motivation were important in developing and sustaining motivation towards degree completion. Explicating processes leading to extrinsic and intrinsic motivation is the foundation of self-determination theory. Participants who were intrinsically motivated enjoyed learning and acquiring new information and had a high sense of responsibility for the degree process and outcome. Intrinsic motivation included enjoyment for learning, attaining the doctoral degree as a personal challenge, a high sense of responsibility for the process of attaining the degree, enjoyment of experiencing a new academic learning environment, and the pursuit of research areas of personal interest. Intrinsic motivation is what Deci and Ryan (2000), and many other self-determination theory scholars (Niemiec et al., 2006; Vansteenkiste et al., 2009) explain as having a strong influence on long-term persistence towards an achieving an academic or personal goal, such as completing the dissertation.

By contrast, self-determination theory scholars have found that extrinsic motivation influences an individual to pursue an activity for a separable outcome and has the potential of increasing amotivation towards a goal (Sheldon et al., 2004; Williams & Deci, 2000). Extrinsic motivation factors that emerged from this study include career advancement, social mobility, being recognized as a doctoral degree recipient, and a potential increase in future income. Career aspiration was also cited as an important

factor in development of extrinsic motivation to degree completion, which is supported by other studies that have focused on doctoral students (Gardner, 2008; Golde, 2000; Ragins et al., 2000). Several participants discussed their extrinsic motivation to attain the doctoral degree as part of their career goals and to use the training received while in the doctoral program in their future career as faculty or researchers.

Future investigation is needed to better understand the intrinsic and extrinsic factors that support and impede doctoral student motivation. Perhaps intrinsic motivation is most important for a short-term career goal-related activity the student finds to be interesting (e.g., attending research seminars to learn about other research projects), whereas extrinsic motivation is more important for the attainment of long-term career goals (e.g., applying to and attaining a faculty position).

Autonomous motivation. As a function of self-determination theory (see Table 2.1), participants in this study explained that autonomous motivation (individual responsibility of the learning process) was important to their persistence towards degree completion. Within the self-determination theory, autonomous (or volitional) motivation is understood to consist of two subcomponents: intrinsic motivation and well-internalized extrinsic motivation (Vansteenkiste et al., 2009). In this present study, students who described autonomous motivation were found to have their learning characterized by a sense of psychological freedom and an internal perceived locus of causality (cause of success or failure is based on one's ability and effort).

Deci and his colleagues (2001) found that autonomous-based intrinsic motivation was reported as one of the significant factors for academic goal completion, such as attaining a doctoral degree. Receiving constructive feedback from both faculty and

doctoral peers seemed to encourage many participants to work harder and become personally responsible for the research they produced and increased their self-confidence and self-responsibility, thus positively influencing their autonomous motivation. Vansteenkiste and his colleagues (2010) found personal responsibility, through autonomous motivation, was one of the contextual factors that helped students complete successfully and to feel self-motivated towards degree completion.

Doctoral programs have the potential to support motivation towards degree completion by promoting autonomous behavior both in and outside of classroom, creating a cooperative learning environment that minimizes competition and isolation, and supporting the academic, financial, and personal needs of doctoral students. However, this study also raises questions as to why doctoral programs vary in support of doctoral student motivation, and specifically autonomous motivation, that has not been explained in current literature on doctoral students. Perhaps an approach would be to understand the perspectives of faculty and staff as it relates to their role in supporting doctoral students to better ascertain the function of and support for autonomy of doctoral students. Future studies focused on the effects of autonomous motivation in a larger sample of doctoral programs may provide further understanding of its relationship to motivation towards doctoral degree completion.

Concept of universal psychological needs. Of particular interest in this study was an improved understanding of how the academic environment (e.g., the classroom, doctoral program, and campus community) influences motivation towards doctoral degree completion. Participants explained that the classroom community was influential with regards to the development of degree completion motivation and fulfillment of self-

determination theory's concept of basic psychological needs. Supporting these findings, Brickell's (2007) study found that classroom community mediated the relationship between students' intrinsic motivation and fulfillment of each of the universal needs from pre to post-semester.

Supported by previous studies of self-determination theory, classroom-related factors that seemed to impact doctoral student motivation in this study included: faculty feedback (Reason, 2009), autonomy support (Deci, Koestner, & Ryan, 2001), competition and cooperation amongst students (Castillo, 2002), cooperative student learning (Bair, 2004), and faculty's overall experience working with students inside and outside of the classroom (Gardner, 2009). The classroom community, in relation to self-determination theory's concept of universal needs, should continue to be investigated as it may further explain how doctoral student motivation can be promoted within a classroom setting.

The doctoral program community was also associated with participants' motivation towards degree completion. From Lovitts's (2001) research, one could expect that in a doctoral program community, often characterized by increased cooperation and decreased or lack of competition, autonomous motivation may flourish. Using the self-determination framework, when linking autonomy-supportive academic environments (such as a doctoral program) with positive doctoral student-faculty interactions the fulfillment of relatedness and competence psychological needs may have the potential to be realized, thus having the potential to foster intrinsic motivation. In other words, the connections within the social environment in a doctoral program may provide both personal and academic support and instill a deeper understanding of oneself in relation to

others in their academic discipline. Perhaps his deeper understanding of oneself may also positively influence motivation towards doctoral degree completion.

The self-determination theory framework can also help explain how institutionally-based services support doctoral student motivation towards degree completion. When participants became independent, their autonomous motivation increased. These participants began to use services and develop relationships with individuals across Riverside University. Additionally, participants often increased the size of their support network by developing relationships with faculty and students in other academic departments fulfilling the need of relatedness, and expanded opportunities for career and professional development, thus satisfying the psychological need of competence. These findings support Deci and his colleague's (2001) argument that students' autonomous motivation can be encouraged and sustained by becoming independent of their primary advisor for academic and personal support, as many services provided by campus units may supplement what academic department do not have the time, ability, and/or resources to offer.

It was not clear what types of mechanisms doctoral programs or faculty use to help support the psychological needs of autonomy, relatedness, and competence of students. Perhaps some faculty attempt to understand the needs of doctoral students during advising meetings, and adjust the type and frequency of their support based on their own assessment of the student's cognitive and/or non-cognitive abilities. Future research should further investigate the perspectives of doctoral program faculty and staff on doctoral student motivation to better ascertain the effectiveness of using self-determination theory with this student population.

Aspects of SDT that did not emerge in these analyses. Additionally, future studies using self-determination theory to understand doctoral student motivation should focus on the aspects of the theory that did not emerge, these aspects include: the four types of extrinsic motivation relative to autonomy (external regulation, introjected regulation, identified regulation, and integrated regulation) and factors that lead to amotivation towards degree completion (see Figure 2.1). The purpose of future studies may not be to confirm self-determination theory, but rather to understand how other aspects of the theory could aid in understanding the motivational dynamics and associated behaviors of doctoral students that did not emerge in this study. Perhaps a study that is designed to solely focus on how doctoral students regulate their extrinsically motivated behavior could improve understanding of how these factors influence their motivation towards degree completion.

In addition, there is an interesting and related phenomenon that has yet to be explained by self-determination theory. Specifically, there may be values that doctoral students hold that are not coherent with respect to their integrated selves as it relates to the completion of degree requirements. For example, it was not clearly explained by the self-determination framework where participants who reported attaining a doctoral degree to spite those who did not believe s/he could attain the degree would be placed along the SDT continuum. Although this may not be the student's primary goal in the doctoral program, their negative behavior may impact progress towards degree completion over time. Perhaps these students would be placed in introjected regulation phase of the extrinsic motivation spectrum due to ego-involvement and the internal rewards it would give them to earn the doctoral degree. Limitations in higher education

literature can be addressed with further research on how students internalize the requirements of doctoral programs through use of self-determination framework, and how this internalization can lead to balancing their personal values with those of the doctoral program.

Additionally, self-determination theory does not explain the affects of social contexts within which doctoral students operate, however proximal (e.g., interpersonal relationships with their doctoral cohort) or distal (e.g., cultural values), affect their motivation and fulfillment of their academic and personal needs. Perhaps, social contexts affect whether students' academic goals and aspirations may be more intrinsic or more extrinsic, thus affecting important academic outcomes. Based on the findings from this study, additional research on the contexts that promote (e.g., career support) or hinder (e.g., financial factors) motivation towards degree completion may provide a better understanding of how the different types of motivation within self-determination theory can be applied to the study of doctoral students.

Despite its limitations, self-determination theory contributes to our understanding of doctoral student motivation as it provides a theoretical basis for explicating some of the environmental factors that are likely to facilitate intrinsic motivation and internalization of surrounding social values. Moreover, this study shows that doctoral students come across many factors that affect their motivation towards degree completion. Future studies that continue analysis on aspects of self-determination theory have the potential to further illustrate the complex nature of doctoral student experience as it relates to motivation towards degree completion and how the academic environment support and/or impede this motivation. The following sections provide a summary of the

findings as they relate to each of the four research sub-questions of the study.

Comparison Across Academic Disciplines

The first research sub-question addresses how motivation towards degree completion differed for participants across the four Social Science academic disciplines. The multiple case study analysis in Chapter Five demonstrated that participants had a variety of positive and negative experiences with their respective doctoral program as they related to their motivation towards degree completion. Participants described how characteristics of the doctoral program impacted their motivation; these included organization of degree requirements, availability of staff and faculty, academic and personal support services provided, and the opportunity to learn from other students and faculty. Other positive characteristics of doctoral programs included their national and international reputations within an academic discipline, high academic standards, clarity of student and faculty expectations as it relates to academic advising, meeting students' needs, clarity of degree requirements, and faculty support both in and outside of the classroom.

Interactions with faculty positively and negatively affected the participants' motivation. Students who proactively sought support and engaged with their doctoral program generally received more meaningful and constructive feedback from faculty. Students who isolated themselves from their doctoral program tended to receive little or no support from faculty, and often had a negative view of their academic department and motivation to complete the doctoral program. Overall, participants who seemed more motivated to complete the doctoral degree were more likely to report academic and

personal support by doctoral peers and faculty, opportunities for professional and career development, and clear degree requirements by their respective doctoral program.

These findings were consistent with the limited research on the structure and content of doctoral programs and their impact on doctoral student motivation and persistence. For example, Ferrer de Valero's (2001) study found that departmental factors positively or negatively affected time-to-degree completion rates. Some of those factors included the relationship between coursework and research skills, faculty and staff attitudes towards students, and student engagement.

In her qualitative study of doctoral students' experiences, Golde (2005) argued some students' reasons for leaving a doctoral program were rooted in unwritten or ambiguous rules or protocols that students must follow in their department. Golde, and illustrated in the findings in this present study, explains that doctoral candidates, who often lack consistent presence on-campus, are at a loss for recognizing and coping with such ambiguity, and must rely upon guidance from a faculty and/or other doctoral students.

The following section has been organized thematically to discuss the findings presented in Chapters Four and Five as they relate to how motivation towards degree completion differs for doctoral students across the four Social Science academic departments in this study. The major themes that seemed to either promote or inhibit motivation include: intrinsic and extrinsic motivation, financial factors, academic and personal support, student engagement, and doctoral cohort support. Developed from the thematic analysis presented in Chapter Four and findings from the cross-case analysis in

Chapter Five, the factors that appear to promote and inhibit motivation towards degree completion are presented in Table 6.2 for each academic discipline.

Table 6.2. Doctoral Student Motivation across Social Science Academic Disciplines

Factors Affecting Motivation	Anthropology	Economics	Political Science	Psychology
Intrinsic Factors	+		+	+
Extrinsic Factors	+	+	+	+
Financial Factors	-	-	-	
Student Engagement	-			+
Faculty Support	-	-		+
Academic Support	+		+	
Personal Support	+	+	+	+
Career Support		+	+	+
Cohort Support	-	+	-	+
Personal Issues				-

Note. [+ factors that reported to promote motivation; - factors that reported to inhibit motivation]

Intrinsic and extrinsic motivation. Variations were found in participants' intrinsic and/or extrinsic motivation that influenced their completion of the doctoral degree in their academic department. Participants from Anthropology, Political Science, and Psychology frequently reported intrinsic motivation as important to their motivation towards degree completion. Several participants from these three departments explained that their intrinsic motivation was supported when department faculty encouraged them to conduct research topics that were of personal interest. Bowen and Rudenstine (1992) found that when intrinsic motivation was supported by faculty, it promoted doctoral student persistence towards the completion of academic goals (e.g., dissertation).

Participants from Economics less frequently reported intrinsic motivation as positively impacting their motivation towards degree completion. Some students from

this doctoral programs explained that applying their research directly to policy and practice in order to prepare for the job market was the source of their intrinsic motivation. Perhaps, finding practical applications of their research brought students closer to envisioning themselves in their future career role, thus influencing their motivation to complete the doctoral degree and enter the job market. This form of intrinsic motivation has been found to also lead to shorter time-to-degree rates for some doctoral students, since it is usually intertwined with extrinsic goals such as career advancement (Border & Barba, 1998).

Participants in all four departments discussed having a form of extrinsic motivation that influenced their motivation towards degree completion. External motivating factors such as attaining increased earning power and social mobility has been found to be also common with students in terminal business and medical degree programs (Gardner, 2010). Students from the Economics department reported that extrinsic motivation was important to their motivation towards degree completion, which was influenced by a promising post-graduation job market. Economics students seemed to also be more optimistic regarding post-graduation employment when compared to participants from other departments in the study, which may be due to the extensive career support offered to doctoral students by the department and a promising job market.

Similarly, Political Science and Psychology students seemed to be encouraged by both academic and non-academic careers goals that supported their extrinsic motivation to complete the doctoral degree. Anthropology students reported extrinsic motivation towards degree completion less frequently than the other three academic departments, which may have been due to limited post-graduation employment opportunities and

career-related support from the department. Future research should continue to unpack how academic disciplines influence intrinsic and extrinsic motivation of doctoral students, especially during a challenging job market that many current doctoral students are entering.

Financial factors. Bowen and Rudenstine (1992) explained that financial factors were obstacles for many doctoral students who did not complete their doctoral programs. Participants in this present study often cited financial factors in describing challenges to their motivation towards degree completion. Anthropology participants discussed financial challenges negatively affected their motivation towards degree completion. Unlike participants from other departments in the study, Anthropology participants frequently reported having to secure their own funds for dissertation field research from external funding sources (e.g., federal and private student loans). This seemed to create stress and anxiety for many participants in the study. Golde (1998) also found that that the lack of research funding was a crucial barrier for many doctoral students and resulted in extended time-to-degree completion rates.

Previous studies have found that major differences between the completers and non-completers of doctoral degrees were related to support received from multi-year financial aid packages (Border & Barba, 1998; Golde, 2005). In this present study, for example, the Psychology doctoral program has a degree completion that averaged 5.5 years and provided students with a five-year funding package. A funding package that closely matches the average time for degree completion may explain why Psychology participants did not frequently discuss negative financial-related issues relating to their motivation.

Coupled with multi-year funding packages, a frequent point of frustration for Political Science and Economics participants was centered on long-term teaching assistant appointments. Many teaching assistant appointments averaged four continuous years, which students explained did not provide them an opportunity to further develop their research skills. Perhaps alternating between teaching and research assistantships, such as the Psychology doctoral program frequently does, could help students design and conduct research in preparation for their dissertation that also may increase their intrinsic motivation towards degree completion. Future research should continue to elucidate the effects of multi-year funding and appointments to long-term teaching assistantships to better ascertain the financial factors that both support and impede progress towards degree completion.

Academic and personal support. Similar to the financial support-related findings, the frequency of faculty interactions, as it related to academic support, influenced motivation. Academic support derived from faculty has been shown to have a profound effect on doctoral student persistence and motivation (Gonzalez, 2006; Herzig, 2004; Millet & Nettles, 2006; Nerad & Cerny, 1993). Additionally, close supervision and evaluation of students' progress has been found to increase the likelihood of students' persistence and reduce time-to-degree completion rates (Bair & Haworth, 1999; Herzig, 2004).

Psychology and Economics participants discussed their relationships with faculty more frequently when compared to Anthropology and Political Science participants. Several Psychology students reported frequent interactions with faculty, which may due to Psychology having the lowest faculty-to-student ratio of all the departments in the

sample. By contrast, participants in Economics reported lack of faculty interaction as negatively influencing their motivation, which may be due in part to Economics having the highest faculty-to-student ratio of all the departments in study. Higher education literature shows that departments with the highest completion rates include those that have positive faculty-student relationships and consistent faculty involvement in all stages of doctoral students' degree progress (Herzig, 2004; Millet & Nettles, 2006; Vaquera, 2007). However, previous studies do not explain the affects of faculty-to-student ratios on doctoral student motivation, thus the affects of these ratios should be further examined to provide insight on how the impact of high faculty-to-student ratios have on progress towards degree completion.

Personal support was reported by students in all four academic departments as important to motivation towards degree completion. Psychology students received some form of personal counseling to assist with mental health-related issues either through the campus counseling service and/or a department-based resource. This form of support was cited as important to sustain their motivation towards degree completion. Many Economics students extended their network of support beyond the department to across campus sources as they felt it was important to network with individuals to learn about future career opportunities. Supported by findings by Herzig (2004), this vast network of support was appealing to many students and seemed to positively influence their motivation.

Similarly, Anthropology and Political Science students sought a form of personal support from the students and staff in and outside of their home academic department that was reported as positively impacting their motivation. Perhaps students derive support

from sources outside of their academic department during certain stages of the doctoral program (e.g., writing support during the dissertation stage, preparing job applications) and for reasons that they feel their home department are unable provide. Future studies should investigate the impact of personal support derived outside a student's home academic department on their motivation, as it seems that these sources of support were at times of similar importance to the support derived from participants' own academic department.

Student engagement. Similar to the academic and personal support derived from departments, participants in each of the four academic departments differed in their engagement with their doctoral programs. Research has found that doctoral students who are engaged with their academic department and doctoral program tend to thrive, while those who do not are at greater risk for attrition, as lack of engagement may lead to a lack of sense of belonging to the institution, department, and/or their doctoral program (Bair & Haworth, 1999; Golde, 2005). Thus, it may that students must learn the "rules of the game" of their doctoral program if they are to sustain motivation towards degree completion (Nettles & Millett, 2006, p. 67).

Participants from the Psychology department most frequently discussed being engaged in their department. By contrast, negatively affecting the motivation of Anthropology students were frequent reports of disengagement from the department when conducting dissertation field research. The Anthropology doctoral program had the longest time-to-degree average completion rate in the sample (nine years); that many participants attributed this in part to dissertation studies that require multiple years of data collection and analysis.

Economics and Political Science students had mixed experiences with regards to engaging with their respective doctoral programs and the influence it had on their motivation. Perhaps a diverse set of career interests may explain these variations. Students in Economics and Political Science may have lost interest in engaging in their department over time as they progressed in the doctoral program became focused on preparing for their career and networking with individuals outside of Riverside University. Future studies should investigate doctoral student engagement with various academic disciplines to better understand the effects student engagement has on motivation towards degree completion.

Doctoral cohort support. Of particular importance to participants' motivation was the support received from doctoral cohort members. A doctoral student's perception of his or her fit within student groups, such as doctoral cohorts, has been found to contribute to a sense of belonging and integration within the institution and positively influences motivation and persistence (Braxton et al., 1997; Gardner, 2008). Economics doctoral cohorts, the largest in the sample, provided academic and personal support and resources that encouraged students to motivate one another towards degree completion. Psychology doctoral cohorts, second largest in the sample, were divided by sub-discipline. These smaller sub-divided cohorts were reported to offer students an opportunity to frequently interact and support each other. Several participants explained that the sub-divided cohort structure was a strength of the Psychology department and positively influenced their motivation towards degree completion.

Contrary to the student experiences in Economics and Psychology, students in Anthropology and Political Science were members of smaller doctoral student cohorts

and frequently reported feeling isolated from members of their doctoral cohort. Political Science doctoral cohorts tend to be divided by sub-field that participants explained did not allow for much peer-to-peer interaction. This was opposite of the experiences of students in Psychology who were also members of sub-divided cohorts and enjoyed developing strong relationships with members of their cohorts. Economics students discussed the need to interact with many students in and outside of their department for both networking and personal purposes, which may account for the differences between the two departments. Similarly, Anthropology participants, who were members of the smallest doctoral cohorts (total cohort size) in the sample, discussed challenges in developing relationships with other students and receiving low levels of academic and personal support compared to the other departments in the sample.

Perhaps Anthropology students feel a greater sense of isolation during certain stages of their doctoral program (e.g., dissertation field research) that require additional doctoral peer interaction and support when compared to the other three departments. Using either a academic or social integration framework, future research should further investigate the effect of doctoral student cohorts have on motivation towards degree completion, as it seems to have had an impact on many of the participants in this study. The following section will discuss the findings that pertain to how self-determination theory's concept of universal needs influenced participants' motivation towards doctoral degree completion.

Influence of Universal Needs on Motivation

The second research sub-question addresses how the universal needs of autonomy, relatedness, and competence influenced doctoral student motivation towards

degree completion. Three noteworthy findings were found in the present study. First, feeling a sense of autonomy seemed to help sustain students' intrinsic and extrinsic motivation towards degree completion. Second, when the need of relatedness was met, participants felt affirmed to be part of the professional community, thus increasing their motivation to complete the doctoral degree. Third, when participants' competence needs are met, they are more likely to be intrinsically motivated by the tasks that lead to degree completion.

Autonomy. Autonomy is the universal need to be causal agents of one's own life and act in harmony with one's integrated self, and represents an individuals' inherent desire to feel volition and to experience a sense of choice and psychological freedom when carrying out an activity (Deci & Ryan, 2000). Students' perceptions of autonomy support from faculty seemed to positively influence their motivation. Results from this study confirmed the importance of allowing students some choice in their classroom activities and to feel understood by their instructor (measures of autonomy support). This finding also supports Vallerand's (1997) model and Brickell's (2007) model that asserts that autonomy support by the faculty, rather than faculty control, is an important environmental influence on motivation.

The present study supports suggestions for academic environments that fosters autonomy and cooperative interaction amongst students and encourage supportive relationships with students and faculty. These suggestions are what Pontius and Harper (2006) also find when students complete a major degree milestone, such as successfully completing the comprehensive examination, which generally felt autonomous and thus were intrinsically motivated to complete their degree.

External motivators to earn the doctoral degree, such as career advancement and social mobility, were frequently discussed as it related to participants' need for autonomy. Extrinsic motivation has been associated with feelings of hopelessness (Deci et al., 1994). Perhaps it might be that when a doctoral student feels autonomous, yet is extrinsically motivated, having the freedom to make choices may be too overwhelming for the student to initiate action. This could result in a student feeling anxious and hopeless in successfully completing the doctoral degree requirements on his or her own. Thus, additional research is needed to further understand how autonomy affects doctoral student motivation as it may have varying influences on students' help-seeking behaviors that have also been found to be important to academic goal completion (Karabenick & Newman, 2006).

Relatedness. The universal need for relatedness is satisfied when individuals experience a sense of communion, develop close and intimate relationships with others, and experience caring for others (Deci et al., 2001). As discussed in Chapter Two, the path from student connectedness to students' psychological need fulfillment for relatedness is important to autonomous motivation. According to Deci and Ryan (2000), relatedness is the driving force for internalization of motivation. If students are to internalize external events they must understand their purpose for completing the doctoral degree and how building relationships with others (faculty, students, staff, etc.) can support them in their degree progress.

Some participants discussed having low motivation to complete the doctoral degree when they either moved away from Riverside University or began to isolate themselves from the campus community. Supporting the findings from Niemiec and

Ryan (2009), these participants relied on friends and family for a sense of relatedness outside of the campus in order to sustain their motivation to complete the degree. The need for relatedness for these participants may explain the importance of support derived from social relationships. For other participants, relatedness expressed in the form of appearing competent to others and following self-prescribed social norms as doctoral students to avoid imposter syndrome (see Clance, 1985).

In another study of student motivation (Ntoumanis, 2001), relatedness was found to be a positive, yet weak, predictor of intrinsic motivation. Participants who were actively engaged in their professional community (e.g., membership in The American Economic Association) seemed intrinsically motivated towards degree completion as they felt more affirmed by being a member in their professional community. Perhaps participants in this study who sought out opportunities to participate in student and professional organizations, as well as other campus programs, reported feeling engaged in the Riverside University community because they perceived positive relationships that developed over time through self-reflection. Perhaps participants who did not participate with student organizations or campus programs may have also received support, but have not reflected on the impact their participation has had on their motivation towards degree completion.

Competence. The universal need of competence is satisfied when an individual experiences mastery and feels effective in interacting with his or her environment (Deci & Ryan, 2000). Two general findings that relate to need for competence derived from this study. First, when a student's competence needs are met, he or she was more likely to be autonomously motivated to attain the doctoral degree. Second, it seems that when

students felt some sense of competence their motivation to complete the dissertation increased. Many participants began to feel more control and gained mastery once they attained doctoral candidacy and began the dissertation process. According to Deci and Ryan (2000), this form of competence is important to developing autonomous motivation.

Similarly, participants who were near the end of the dissertation process felt a stronger sense of control of their degree outcome. It seems plausible that if autonomous motivation is a goal that includes students' psychological need of competence to be fulfilled, one might start by enhancing feelings of connectedness and community among pre-candidate students in the classroom rather then later during the dissertation stage of a doctoral program. Developing student connectedness and community would include cultivating respect among students and value for all members' contributions in the classroom community.

Although there was much stress and anxiety regarding the completion of a dissertation, participants seemed to gain motivation once they felt control of their study and set aside their fears regarding the overall process of completing the dissertation. According to this finding, we can see the importance of fulfilling a students' sense of competence to increase motivation towards degree completion suggested by previous studies of doctoral student motivation (Gardner, 2005; Ryan & Brown, 2003). By fulfilling the need of competence, participants who once considered not completing the doctoral degree may increase their sense of effectiveness and mastery of their own doctoral study rather than relying on external sources (e.g., a faculty advisor) for motivation to complete their dissertation.

Future studies should focus on further understanding the influence of self-determination theory's universal needs of autonomy, relatedness, and competence on doctoral student motivation towards degree completion as each of the universal needs seem to provide possible motivational linkages between doctoral students and their academic environment. Perhaps students may feel as their need of competence is partially fulfilled when their instructor provides consistent feedback on coursework. Receiving consistent feedback in the classroom setting may result in an increase in the student's intrinsic interest applying what they learned in the course to their dissertation research in the future. The following section will discuss the findings that pertain to how the academic environment affected participants' motivation towards doctoral degree completion.

The Academic Environment and Doctoral Student Motivation

The third research sub-question addresses how a student's academic environment impacts their motivation towards doctoral degree completion. Four themes emerged regarding this question; these included:

1. Supportive academic learning environment
2. Faculty-derived support
3. Department-based academic resources
4. Institutionally-based academic resources

Supportive academic learning environment. Of particular interest in the present study was a better understanding of how the academic environment influences doctoral degree motivation. Support from faculty and staff through academic-related services were cited as influential towards degree completion motivation. A supportive and

encouraging academic learning environment was also important to participants' motivation. Additionally, campus resources available to doctoral students, such as writing and research development workshops, were described as affecting motivation towards degree completion.

Participants discussed many themes relating to supportive academic learning environments; these included feedback received from faculty, autonomy support, competition and cooperation with other students and faculty, cooperative learning, and faculty's overall experience working with doctoral students. As supported by previous studies on doctoral student persistence and motivation, a supportive and encouraging academic learning environment offers students an opportunity to thrive and attain or sustain motivation (Ferrer de Valero, 2001; Golde & Dore, 2001; Nerad & Cerny, 1993). Additionally, the doctoral student community was described as an integral component of the academic learning environment, but its role was only partially important to the participants' motivation because it often was limited to a particular course and course-related activities and varied with each course.

Some participants explained that the classroom-based learning environment was important to the development of their research and writing skills, thus providing them the confidence in being able to persist through other courses and degree requirements such as the comprehensive exam. Supporting this finding, researchers have found that doctoral students who are actively engaged in their learning are more likely to persist through degree completion (Gardner, 2005; Golde, 2001). Additionally, participants benefited from their respective courses provided by their doctoral programs, because they had high academic standards and opportunities for group learning. It is plausible that students who

perceive a less welcoming and supportive academic environment are less likely to be engaged with their learning, thus become unmotivated to complete other requirements towards degree completion.

As discussed in Chapter Two, there is limited research on the influence of doctoral programs, and specifically the academic learning environment, on student motivation. Lovitts (2001) found that doctoral programs provide a multitude of academic resources to students, but vastly differ from each due to size of the program, financial resources available, training of staff and faculty, degree requirements, and overall structure of program. Future research should to continue to investigate the influence of the academic learning environment in fostering intrinsic motivation.

Faculty-derived support. Primary faculty advisors were frequently reported source of academic-based support, but faculty support varied throughout the sample. As reported by participants, support, or the lack thereof, was contingent on communication style and ability to provide the necessary guidance of the doctoral degree process. Support from a faculty advisor came in the form of personal encouragement, assistance with personal and academic issues, as well as guidance on academic and career-related goals. In such cases, an advisor's assistance positively affected the participant's motivation.

Some participants did not receive support from their initial faculty advisor, and subsequently changed advisors. Participants who perceived a lack of support from their faculty advisor discussed receiving inadequate support, encouragement, and guidance from faculty, and attributed their sense of fear in approaching faculty regarding their need for support and difficulty sustaining their motivation towards degree completion to this.

This finding supported those by previous studies attributing lack of support and encouragement from faculty to a reduction of student motivation and persistence (Ferrer de Valero, 2001; Golde, 2000; Lovitts, 2001).

Most importantly, this present study illustrates how faculty are crucial to the professional development of students' academic competence and motivation, especially during the more advanced stages of a doctoral program. During the pre-candidacy stage, participants explained that faculty advisors' roles typical revolve around students' coursework and preparation for qualifying examinations, while at the dissertation stage, participants explained that advisors focus more on research skill development and managing the dissertation process. During the final year(s), faculty advisors focused on equipping students with skills and knowledge to be independent researchers and scholars as they transition into their careers.

Students' perceptions of faculty as encouraging, trustworthy, and having genuine interest in students' academic development seem to be important in fostering successful mentoring and advising relationships. In prior research, non-completion of a doctoral program was reported to be due, in part, to inadequate or inaccurate faculty advising, lack of interest or attention on the part of an advisor, and unavailability of an advisor (Bowen & Rudenstine, 1992; Golde, 2000). In a study on doctoral graduates and non-completers, Lenz (1997) found the absence of a strong advisor-advisee relationship was one of the primary reasons students who had attained ABD (All But Dissertation) status did not complete their doctoral program. Perhaps participants in this study who did not receive support from their primary faculty advisor, yet were motivated towards degree completion, attained alternative sources of motivational support from other faculty within

and outside of their department. Future studies should focus on further understanding the complex nature of faculty and doctoral student relationships to provide insight on how faculty can improve support for student motivation towards degree completion.

Department-based academic resources. Department services such as staff support, guest speaker seminars, and professional development workshops were cited as important to participants' motivation towards degree completion. The importance of having an effective support infrastructure for doctoral students has been well established in the literature (Gardner, 2010; Golde, 2005; Vaquera, 2007). In a study conducted by Vaquera (2007), student support within an academic department was a significant factor for doctoral student academic success, while Golde (2005) and Gardner (2010) reported access to campus student support services was a significant factor in persistence towards doctoral degree completion.

Departmental staff in this present study were cited as important to students in large departments such as Psychology and Economics, since many participants were in need of resources that faculty may not have time or ability to provide. Participants explained that department staff "filled in" for faculty by providing resources on academic advising and degree completion requirements, thus positively influencing their motivation towards degree completion. Several participants cited that a reduction in department staff and/or high staff turnover was an issue affecting the types of services provided by their doctoral program. Although this finding has not been thoroughly explicated in literature on doctoral student motivation, the impact of the departmental support infrastructure on student motivation to complete the doctoral degree may be more important than is currently acknowledged. Future studies should examine the role of

department staff and department-based programming in supporting doctoral students. This may illicit a better understanding of how department staff supplement the guidance and training of doctoral students provided by faculty.

Institutionally-based academic resources. Institutionally-based services such as the writing center, counseling center, graduate student organizations, and other support services were cited as positively providing support and encouragement to many participants in the study. According to findings from this study, support services that were specifically designed for doctoral students were the most influential to student motivation. These services included professional development workshops, mental health support, and library and research support services. Participants seemed to be more intrinsically motivated and be able to sustain their motivation with the support they received from these services.

Participants discussed receiving support and encouragement from members of graduate student organizations and programs designed to provide personal and academic support for graduate students. Graduate student organizations and programs also seemed to provide an emotional outlet away from the academic department that influenced autonomous motivation. Herzig (2004) discussed student-led organizations as potential mediators between the social and academic environment and motivation towards academic goals. Similarly, Bair and Haworth (1999) found that the relationship between students and of their academic environment outside of the classroom was important to sustaining motivation and may also mediate the psychological needs of autonomy, competence, and relatedness.

Additionally, providing psychological support for participants was found to be important as it related to mental and physical health. Many participants received psychological support through personal counseling services offered either by on or off-campus resources. Campus and department-based counseling services also assisted students with both personal and professional challenges that impacted their mental and physical health, and provided support to encourage or sustain motivation towards degree completion. Yet many students, including some in this study, do not seek support for issues relating to stress, depression, and feelings of hopelessness that may negatively impact their motivation to complete the doctoral degree. It is plausible that students who may be aware of their mental health situation are afraid to seek support, as they fear being perceived as unable to complete the doctoral degree by faculty and doctoral peers. The issues relating to doctoral student mental health should be further investigated as an increase in the number of doctoral students across the country who have sought mental health support has been recently reported (Council of Graduate Schools, 2011; Gardner, 2009). Support resources derived from Riverside University were important to participants' motivation, but not all of the motivational factors found within the academic environment were specified within self-determination framework. The following section will discuss the factors that were not specified within the self-determination framework that influenced participants' motivation towards doctoral degree completion.

Factors Not Associated with Self-Determination Theory

The fourth research sub-question addresses motivational factors that were not specified within the self-determination framework. Each of these factors impacted participants' motivation towards degree completion in various ways and provided

potentially disconfirming evidence for the use of self-determination theory. The factors were organized into four categories as they relate to the literature reviewed in Chapter Two:

1. Academic and social integration
2. Financial factors
3. Socialization
4. Goal orientation

Academic and social integration. As reviewed in Chapter Two, higher education academic and social integration frameworks as they pertain to doctoral students generally focus on the influences that impact a student's fit and commitment to an institution in their academic goals (e.g., Holder, 2007; Reason, 2009). It has been argued, in fact, that engagement or involvement may be the largest determinant of doctoral student persistence (Gardner, 2007; Golde, 2005; Pascarella & Terenzini, 2005). Supporting this argument, researchers have found that doctoral students who are less engaged in the academic environment are less likely to persist through graduation (Astin, 1993; Pascarella & Terenzini, 2005; Taylor & Antony, 2000). Aspects of the academic and social integration frameworks reviewed in Chapter Two emerged from participants' descriptions of how they developed and sustained motivation towards degree completion.

Ryan and Deci (2000) found that friends were a source motivation and integral for an individual's development of autonomous motivation. Supporting this research, participants in this present study from larger doctoral programs (i.e., Psychology and Economics) seemed to be able to more easily integrate on campus and make friends with students inside and outside of their academic department when compared to students in

smaller doctoral programs (i.e., Anthropology). Similarly, doctoral peers were cited as an important source of support and developing social integration to the campus for many of the participants. It is plausible that the number of orientation events, peer mentoring, and social events and activities in larger departments (i.e., Psychology) outweighs those in smaller academic departments (i.e., Anthropology) that may result in an increase of opportunities for students to meet other individuals in their academic environment. Additionally, it is plausible that these types of interactions are important to reducing a sense of isolation and increasing student engagement.

It was important to many participants to feel integrated through proactive engagement with members of their doctoral program, faculty, and staff. These findings support previous research that explains that engagement takes place both inside and outside the classroom and have the potential to increase a sense of belonging and motivation to continue engaging in the academic community, thus positively influencing motivation and persistence towards doctoral degree completion (Lawson & Fuehrer, 2001; Leatherman, 2000). Research indicates that students who are actively engaged in their academic environment experience more developmental gains, both personally and academically (Lovitts, 2001; Nerad, 1999).

By contrast, socially integrating into the campus community was considered challenging for many participants in this study. Some participants found it difficult to maintain a sense of integration because of the social isolation during the dissertation stage of their doctoral programs. However, previous studies on doctoral students do not explain how students maintain a sense of integration during the dissertation stage. Perhaps students who perceive a less supportive environment are likely to be less

engaged with the environment, thus impacting their motivation to complete the doctoral degree. Future research could further investigate how doctoral students maintain a sense of academic and social integration in order to sustain their motivation in less supportive, isolated academic environments. Financial factors relating to doctoral student motivation will be discussed in the next section.

Financial factors. Financial factors were frequently reported as influencing participants' motivation towards degree completion. As reviewed in Chapter Two, these factors have been found to both positively and negatively influence doctoral student persistence (e.g., Border & Barba, 1998; Bowen & Rudenstine, 1992; Herzig, 2004). When participants mentioned this as a factor, financial-related issues generally impeded the motivation of participants to complete the doctoral degree. These issues included:

1. The impact initial financial aid packages had on motivation.
2. Attaining funding for research-related expenses.
3. The effects of incurring student loan debt on motivation.
4. The financial impact of Riverside University's Continuous Enrollment Policy on motivation.

Nearly all participants (n=34) in this study received a multi-year financial aid package from their respective doctoral programs. The offer of multi-year funding packages was attractive to students and often times was a deciding factor in enrolling at Riverside University over another institution. By contrast, an increase of financial challenges was reported by participants who exhausted their initial financial aid package and frequently were left on their own to find funding, resulting in an increase of stress and self-doubt in completing the doctoral degree. This finding supports Golde's (1998)

study that found that financial commitments were crucial barriers leading some participants to not complete their doctoral program.

Not having enough research funding also negatively impacted the motivation to degree completion for many participants in this study. This finding supports Border and Barba's (1998) finding that a lack of research funding was an obstacle for some doctoral students and frequently resulted in long time-to-degree completion rates or in some cases students not completing their doctoral program. Several participants in this study resorted to using their personal savings and/or attaining a substantial amount of federal and private student loans to supplement financial aid provided by their doctoral programs in order to progress towards degree completion. Bowen and Rudenstine's study (1992) of doctoral programs throughout the nation found completion rates were as low as 14.2% for doctoral students relying on their own financial support, especially during the dissertation stage of doctoral programs. Future research should investigate the effects of personal funding sources, such as private student loans, on doctoral student motivation, especially in academic disciplines that generally do not provide student funding past year five, such as Riverside University's Anthropology doctoral program.

Findings from this present study also suggest that students with research and teaching assistantships become part of the teaching and research communities within their academic departments that generally results in increased formal and informal contact with faculty members and doctoral peers. Thus, teaching and research appointments have the potential to increase opportunities for student involvement in departmental activities and may increase motivation to complete the doctoral degree. Previous research supports this hypothesis, suggesting that financial support that requires

teaching or research not only enriches overall experiences, but also provides opportunities for apprenticeship and increases students' ability to adjust to doctoral study, which is a reason why doctoral programs provide students multi-year funding packages (Bowen & Rudenstine, 1992; Herzig, 2004). They, like Border and Barba (1998), also support the notion that fellowships that require no work may increase the likelihood that doctoral students, especially those in Humanities become isolated or even "lost in the bowels of the vast research libraries and the complexities of the subjects hard to unravel without collaborators and some modicum of structure" (p. 188).

Participants also discussed encountering financial challenges that incurred due to the Riverside University's Continuous Enrollment policy that requires Ph.D. students to register for Fall and Winter semesters until they complete their degrees, unless they are on an approved leave of absence. Although there is limited research on the effects of continuous enrollment-related policies on doctoral student motivation, having externally-driven deadlines for degree completion set by either the department and/or graduate school have been found to those beneficial to sustaining motivation (Nerad & Cerny, 1993). Additionally, a higher of frequency of stress has been reported due to lack of funding to pay for tuition and associated fees has been found to be an impeding factor incurred by these types of policies (Gardner, 2009).

This study shows that different forms of financial aid have different effects, positive and negative, on motivation towards degree completion. However, some of the findings in this study (e.g., the financial effects of Riverside University Continuous Enrollment policy) have not previously been described in doctoral education literature as it relates degree completion. Future research should continue to analyze financial factors

that could improve or impede doctoral student motivation towards degree completion. Replications of previous financial-based studies are also needed at various types of institutions to strengthen the reliability of current financial-related constructs that have the potential to further explain doctoral student motivation. Findings relating to socialization and doctoral student motivation will be discussed in the next section.

Socialization. As reviewed in Chapter Two, higher education socialization frameworks pertaining to doctoral students generally focus on how students internalize professional norms and attitudes into their personal identities (e.g., Ward & Bensimon, 2002; Weidman et al., 2001). Aspects of socialization frameworks reviewed in Chapter Two emerged from participants' descriptions of how they developed and sustained motivation towards degree completion. The type of socialization varied amongst the participants in this study. A prevalent finding from this study was that strong relationships with faculty tended to bring students closer to seeing themselves as a faculty member in the future, thus positively influencing their motivation to complete the doctoral degree.

Weidman et al. (2001) regard doctoral programs as a socializing agent that provides students with knowledge, skills, and values necessary for integration and success in their disciplines and professions through interactions with faculty and with doctoral peers. In this present study, learning took place both informally and formally, as students would learn the most by observing the actions and behaviors of faculty interacting amongst their faculty colleagues and other doctoral students. In these ways, socialization can occur when students become aware of behaviors and attitudes of the academic discipline and profession, learn by observing primary advisors and other faculty

through apprenticeship, and learn from their doctoral peers. This may culminate in students' behavior reflecting orientations and habits of their academic discipline and professions, thus increasing their motivation to enter the profession upon degree completion and success in their career thereafter.

Coupled with socialization received from faculty, participants also expressed a strong desire to maintain relationships with other doctoral students after graduation, as it was important for these individuals to support their professional development and career goals. Ward and Bensimon (2002) reported that peers often act as resources for information, career networking, and provide encouragement when students become discouraged with their academic and/or career progress. Encouraging the importance in maintaining relationships with their doctoral peers and faculty especially during times of isolation in the doctoral program (e.g., dissertation writing phase) may also motivate students to complete the doctoral program and pursue their career goals.

Additionally, understanding how personal characteristics affect doctoral student socialization has the potential to elucidate the influences of these characteristics on motivation towards degree completion. The results of this research may also inform institutional structures, academic programs, as well as career advising to improve the doctoral student experience. Participants' goal orientation towards doctoral degree completion will be discussed in the next section.

Goal orientation. As reviewed in Chapter Two (e.g., Ames, 1992; VandeWalle, 1997), psychology goal orientation frameworks, as they pertain to doctoral students, refer to individuals' behavioral tendencies in achievement-oriented tasks, such as planning and goal setting towards dissertation completion. Aspects of goal orientation frameworks

reviewed in Chapter Two emerged from participants' descriptions of how they developed and sustained motivation towards degree completion. Two types of goal orientation emerged from the data. Mastery-oriented participants expressed developing new skills (e.g., research and academic skills) and believe that their degree completion is realized by achieving self-referenced standards. By contrast, performance-oriented participants expressed concern with being judged as capable to complete doctoral degree requirements and attempted to outperform other students in their doctoral program (e.g., attaining a high grade in a course).

As previously discussed, this study shows that important early socialization efforts can contribute to students' apparent adoption of one learning goal over another. Findings from this present study support prior research, which suggests that classroom learning environments influence how students view themselves and the learning process (Ames, 1992). Many mastery-oriented participants expressed the belief in themselves and that they could meet their goal of attaining a doctoral degree after completing the required coursework in order to move towards the dissertation stage. This finding complements prior research on learning goals that has shown that self-efficacy, knowledge development, and increased metacognitive activity have been positively linked to mastery orientation (Ford et al., 1998).

Doctoral students in this study who were disappointed with the limited opportunities for professional and personal development by their academic department tended to assume a performance goal orientation to the pursuit of doctoral degree. Austin (2002) found that doctoral students who believed that doctoral programs that emphasized content knowledge offered few opportunities for rich interaction between faculty and

peers and limited opportunities for self-reflection that was found to sustain long-term motivation. Although focused and guided self-reflection is integral to many participants' sense-making process, it should not be the sole responsibility of faculty advisors or doctoral programs facilitate this process. The responsibility of facilitating focused and guided self-reflection should be shared with campus resources, such as the career center, that can support students with a performance goal orientation towards the completion of the doctoral degree.

Although several participants discussed struggling with academic challenges as they progressed in their doctoral program, perhaps it was important that these students develop plans based on their own goal orientation to deal with future challenges that they may face in order to sustain motivation to complete the degree. Future research should examine the effects of learning goals on degree completion motivation. Such research might address questions such as:

(a) Is mastery orientation or performance orientation most likely to contribute positively to long-term motivation and degree attainment?

(b) How does mastery or performance orientation interact with a doctoral programs' mission to influence motivation and persistence?

From conducting this study, I learned that increased personal and academic support by faculty could encourage a student's goal orientation towards doctoral degree completion. I acknowledge that individuals who pursue a doctoral degree have a wide range of skills, interests, and personalities, and as a result, it can difficult for faculty and staff to provide varying levels of support and attention to students who seek their support. Future research should understand how faculty and staff perceive doctoral student

motivation as it relates to factors that lead to degree completion. The following sections will provide further implications for practice and research.

Implications for Practice

Unfortunately, high rates of doctoral student attrition (upwards to 40-50% in certain academic disciplines), funding challenges, lengthy time-to-degree completion rates, limited academic job market in some academic disciplines, and inadequate training for teaching and research have continued to hinder doctoral education, thus leading higher education scholars to focus on the issue of motivation (Bair & Haworth, 1999; Gardner, 2010; Golde & Dore, 2001; Lovitts, 2001; Nettles & Millett, 2006). In response to these issues, this study has provided insight into the issue of students' doctoral degree completion motivation in four Social Sciences doctoral programs. The major contribution of this study is providing further understanding of some of the important factors affecting students' matriculation in doctoral programs and demonstrating what the knowledge of such factors could provide with regard to supporting students in their completion of the doctoral degree.

The results of this study are aimed at numerous stakeholders: policy makers and higher education administrators, doctoral program staff, faculty, and students who currently are pursuing their doctoral degrees or intending to do so. Knowing the potential predictive power of selected external and internal factors to students' motivation may assist doctoral programs in developing strategies to enhance doctoral motivation towards degree completion. Although cause and effect relationships cannot be inferred from the present study, I suggest four recommendations for practice.

First, faculty should promote student motivation inside of the classroom setting. The findings from this study show that doctoral students benefit the most from courses when an instructor acts as facilitator of learning, is actively involved with student learning, and provides encouragement and support to students. To fulfill this role, faculty should be prepared to teach doctoral students, design courses specifically tailored to the doctoral students, and be prepared to provide consistent and timely feedback on course assignments. Faculty should also promote autonomy-supportive behaviors by supporting students' feelings of competence through regular and constructive feedback on both course and degree-related progress. Faculty can enhance feelings of relatedness through mentoring support, positive role modeling, and small group work in courses. Teaching practices could be improved through faculty development workshops focused on how to increase student motivation, develop a sense of community in the classroom, and improve collaborative student learning. These enhancements to the academic learning environment can have considerable influence in the stimulation of autonomous motivation for doctoral students.

Second, in this study, the role of the faculty advisor was considered important for several students' motivation towards degree completion. This finding supported previous studies on doctoral students that suggested that faculty advising is an essential component of the doctoral degree completion process (Gardner, 2007; Golde, 2005). Accordingly, the responsiveness of faculty advising in doctoral programs should be consistently maintained and increased as appropriate. Students should receive professional advising and guidance from their faculty advisor throughout their tenure in the doctoral program, and faculty should continue to foster respect and support for the career ambitions of their

advisees. As such, responsive assistance with academic and career-related issues as well as personal encouragement should be part of advisor-advisee relationship.

Third, dissertation support groups should be organized utilizing cognitive restructuring, stress management, and time management, which have been shown to successfully ameliorate procrastination (Gardner, 2008), and were praised by participants in this present study. For example, a four-session training program for newly developed dissertation support groups conducted by faculty members and/or recent graduates should review topics such as time and stress management, dealing with negative emotions, motivational strategies, managing relationships with the dissertation chair and committee, and coping with writer's block. Students who remain ABD (All But Dissertation) two years after achieving candidacy or another determined length of time should also be encouraged to participate in these types of dissertation groups.

If students who are likely to procrastinate are identified early in the doctoral program, they could be directed to a pre-dissertation support group at the outset of their matriculation in a doctoral program, or could at least be advised of the potential difficulties ahead and offered advice on how to avoid procrastination. Similarly, students who have high dependency needs, or an external locus of control, could be directed to tailored academic support interventions offered by a department or campus-based resource. Recruiting group facilitators with strong interpersonal skills could assist in students developing the genuinely warm, empathic relationships referred to by Hirsch (2001). Hirsch suggested that these relationships can assist students in using more cognitively and behaviorally structured interventions to invoke insight into the causes of their academic difficulties.

Finally, a department and institutional support infrastructure should be in place to assist doctoral students with their needs, problems, and concerns. In Chapter Five, participants explained that the role of department and institutional support in their motivation was important, especially when departmental resources are limited. Such infrastructure should include all the possible services doctoral students might need during their degree progression, beginning with the admission to the doctoral program, and ending with filing the dissertation and applying for graduation.

Possible future areas of department and institutional program development may incorporate the research of Colquitt et al. (2000), emphasizing the importance of tailored interventions for students to promote the development of non-cognitive skills. The research called for faculty to develop tailored interventions that would identify specific barriers for individual students and engage students in actively working through these barriers. Based on the results of this study, it may be worthwhile to expand department and institutional programs to provide more personalized interventions based on student academic and motivational support needs. Placing students in discussion groups that meet monthly with other doctoral students based on psychosocial or non-cognitive measures might accomplish this.

Implications for Future Research

Although numerous studies have been published on various aspects of student motivation and persistence, much is still unknown. There are a number of directions for future research on doctoral student motivation that can be considered by higher education scholars that are discussed in this and previous chapters. The most evident direction for future studies on motivation is to empirically test the relationships proposed in the

conceptual framework in Figure 2.2 presented in Chapter Two. Additionally, multilevel qualitative and quantitative methodologies can help scholars further analyze the effects of intrinsic and extrinsic motivation described in Chapter Four and Five. In order to assess these relationships, future research should rely not only on the significant factors identified in Chapter Two by higher education scholars (e.g., socialization and academic integration) and in the findings of this study (Chapters Four and Five), but also develop and operationalize additional variables that reflect the underlying psychological constructs related to motivation (e.g. autonomous motivation within the self-determination framework). Thus, there are four directions I would recommend for future research on doctoral student motivation.

First, it is important to reexamine commonly held beliefs about intrinsic motivation as it relates to doctoral students. Several of the studies reviewed in Chapter Two suggest that intrinsic motivation is only partially responsible for psychological adjustment, and that identified regulation (relatively autonomous) can make a major contribution to certain academic disciplines with extrinsic-related objectives (e.g., Business Administration programs). Future research should examine the complementary, or synergistic, roles of intrinsic and extrinsic motivation for growth and adaptation of doctoral students, including the social and cultural factors that facilitate or undermine a student's sense of volition and initiative. Perhaps intrinsic motivation is most important for a short-term goal-related activity the student finds to be interesting (e.g., course paper completion), whereas identified regulation (relatively autonomous motivation) is more important for the attainment of long-term goals (e.g., dissertation completion, attaining a faculty position).

Second, as findings from this study implied, future research should focus on how doctoral students engage differently within the multiple concentric environments they occupy. Multi-institutional and departmental studies of doctoral student motivation should include measures related to academic environments, moving beyond the standard measures of institutions (e.g., size, student demographics, and selectivity) to include measures of organizational behaviors. As it relates to the academic environment, motivation should ideally be studied utilizing a longitudinal study design as it is expected to be dynamic across a doctoral student's pursuit of a degree. Perhaps students in doctoral programs with high attrition rates (e.g., 40-50% per doctoral cohort) may engage differently with their academic environment when compared to students in doctoral programs with high completion rates (e.g., 90-95% per doctoral cohort).

Third, future studies should examine distinct regulatory styles and personalities of students to account for situational and dispositional influences. This study was unable to assess how situational and dispositional influences would impact participants' motivation that may provide a more nuanced approach to understanding doctoral student motivation. By utilizing the General Causality Orientations Scale (GCOS) developed by Deci and Ryan (1985) the relative influence of intrinsic motivation and internalization can be studied at a more global level of personality functioning and its effects on motivation. The use of GCOS has recently gained popularity among psychologists and self-determination scholars, as it was developed to measure differences in an individual's general orientation toward autonomous motivation (Koka, 2010; Vansteenkiste et al., 2005). The scale has three subscales (autonomy, controlled, and impersonal) that are designed to assess enduring aspects of personality as they relate to motivation. For

example, the autonomy scale of the GCOS has been associated with a high degree of integration in personality, a persistent approach toward one's goals, flexible decision-making, and positive social relations with both academic peers and faculty advisors (Chu & Koestner, 2008; Levesque, et al., 2004).

Finally, we must continue the process of theory building in this area. Although I presented a comprehensive conceptual framework on doctoral student motivation incorporating self-determination theory in Chapter Two and a thematic and cross-case analysis of doctoral student case studies in Chapters Four and Five, there are a number of other perspectives (e.g., self-theories and attribution theory) that have the potential to make important contributions to our understanding of doctoral student motivation (see Dweck & Master, 2008; Weiner, 2000). Recent psychological approaches (Arbona, 2007; Meier, 2003) have increased knowledge about motivation in other academic contexts (e.g., K-12 and undergraduate education); unfortunately, empirical evidence for these models is lacking in the doctoral education literature. Perhaps, future studies using self-theories as a lens can illustrate other factors (e.g., grit and resilience) that may also influence student motivation towards doctoral degree completion. A thorough study of motivation requires a research design that can explain not only the direct relationships of each variable affecting doctoral student motivation, but also the interactions between the variables that affect motivation towards degree completion. Fortunately, higher education researchers have recently begun moving toward advanced analytic designs and methods to study student motivation, such as multilevel discrete-time hazard analysis (Wao, 2010) and ordinal logistic regression (Vaquera, 2007).

This study also highlights several questions and potential approaches for future research that may provide further understanding of the factors that influence doctoral student motivation towards degree completion. Examples of unanswered questions include:

1. What is the motivation of female doctoral students towards degree completion, and how does it differ from male students?
2. What is the nature of motivation for students of underrepresented groups (e.g., Latino and African American), and how can self-determination theory be applied to their situation?
3. What are the psychological factors of motivation that inhibit doctoral students in pursuing intermediary goals towards degree completion, such as comprehensive exam and course completion?
4. What are effective autonomy-supportive models that are currently in practice by doctoral programs, and how can other programs use these models?

The following sections will summarize the discussion of findings and provide concluding remarks regarding doctoral student motivation towards degree completion.

Summary

Doctoral education is an integral element of higher and postsecondary education, producing not only the next generation of scholars, but also the development and distribution of knowledge through performing key functions of research universities that include assisting with teaching and research. Since the founding of the Association of American Universities in 1900, graduate deans have criticized doctoral attrition as a waste of student energy, hope, financial resources, and the unproductive "dissipation of

faculty time and effort" (Bair & Haworth, 1996, p. 16). Not only are individual faculty, departmental, and institutional resources affected by doctoral student attrition, but also students who do not complete their doctoral degree may leave with a feeling of regret, demoralization, and/or anger towards their decision, and the subsequent time and effort expended, to pursue a doctoral degree. To understand factors that promote and impede doctoral student motivation, this study interviewed a sample of 36 students in four Social Science doctoral programs at one institution.

As demonstrated in this study, the appeal of self-determination theory, in applying it to doctoral student motivation, is to broaden the notion that doctoral programs should focus only on skill building and content learning for future employment, but rather doctoral programs should promote students' curiosity, interest, and confidence, thereby fostering the development of intrinsic motivation towards degree completion. When institutions and educators embrace such a view, they can inspire students to become critical thinkers and active members of their professional community.

Additionally, the use of self-determination theory in this study attests to the growing body of evidence that when academic environment conditions support the intrinsic motivation of students by supporting their basic psychological needs for autonomy, competence, and relatedness, students are more likely to flourish and develop to their fullest potential. In contrast, when an academic environment consists of controls, demands, pressures, and performance-contingent rewards, both its quality and its influence on the student are diminished. Such findings not only teach us about efficacy in educational practices, but also a fundamental aspect of human nature: it is only when doctoral students are motivated and deeply invested in their work that they can be truly

successful.

Although the students in this study expressed different reasons for pursuing a doctoral degree, their implicit need to seek meaning and purpose for completing a doctoral degree was similar. Perhaps Frankl's theory is relevant to this research, as he believed that "man's search for meaning is the primary motivation in his life, and his search must be fulfilled by him alone as a means to achieve personal significance" (Frankl, 1959, p. 121). By providing students with structured support, meaningful information, and ongoing encouragement, they may discover a greater sense of purpose and visualize a hopeful future as a doctoral degree recipient.

Conclusion

The overarching question guiding this study was: *How do aspects of self-determination theory explain doctoral student motivation towards degree completion?* Some higher education scholars would suggest that students' motivations differ due to the individual attributes they hold when they enter a doctoral program, and that differences exist in the use of the motivation theories simply because certain student characteristics and features of institutions advantage some students towards degree completion over others. My response to those scholars would be that while this may be true, we must also consider the motivation that students internally develop once they enroll in a doctoral program and adapt over time as they progress towards degree completion.

At the core of self-determination theory is a focus on the inherent resources of doctoral students to adapt and to organize knowledge themselves under the appropriate social conditions. This focus offers opportunities to conceptualize our models of effective academic environments that contribute to doctoral student motivation. This

perspective also moves us away from viewing faculty as controllers, monitors, and trainers to being facilitators, guides, and supporters of doctoral students. In the controlling approach, faculty are responsible for ensuring that students learn, which paradoxically undermines a student's sense of ownership, agency, and satisfaction in learning. These experiences can have undesirable effects to their motivation towards degree completion.

Appendices

Appendix A. Participant Recruitment Email: Potential Participant

Dear [NAME]:

My name is Julio Cardona, and I am a Doctoral Candidate in the School of Education at the University of Michigan, Ann Arbor. You have been identified as currently being enrolled as a doctoral student at [name of institution]. It is my hope that you would agree to participate in my dissertation study on doctoral student motivation.

This study is being conducted to identify and analyze the motivational factors associated with the pursuit of a doctoral degree. This information is very important in order to aid in understanding how to reduce the high dropout rate of students from doctoral programs (30-50% in certain academic disciplines). You have been selected as a participant in this study, as your input will help in understanding what is like to persist in a doctoral program. The potential results of the study will help to further improve the quality of doctoral programs at the [name of institution] in order to better support the needs of doctoral students.

To participate in this study, you are being asked to complete an online pre-interview survey that will include questions regarding demographic and background information, such as age, race/ethnicity, and gender. One-on-one interviews will be digitally recorded, and it is anticipated that each interview will average 60-90 minutes in length for which you will be compensated $25.00 via an Amazon.com Gift Card. The interview will be arranged at your convenience and will be held on the [name of institution] campus.

Please note that your participation is voluntary and if you agree to participate in the study, you may leave the study at any time. All information you provide will be confidential, and no identifying information about any participant of the study will be disclosed. Dr. Deborah Faye Carter is the primary faculty advisor for this study. You may contact her at dfcarter@umich.edu if you have any further questions. Additionally, prior to the scheduled interview, you will receive a study information sheet that will provide you with the contact information for Dr. Carter and me.

If you are interested in participating in this study, please email me at: jraya@umich.edu. I will follow-up with interview scheduling information. Thank you for your time and consideration in taking part in this study.

Warm regards,

Julio J. Cardona
Doctoral Candidate and Research Assistant
Center for the Study of Higher and Postsecondary Education
School of Education
University of Michigan, Ann Arbor

Appendix B. Participant Recruitment Email: Academic Department Staff

Dear [NAME]:

My name is Julio Cardona, and I am a Doctoral Candidate at the Center for the Study of Higher and Postsecondary Education at the University of Michigan conducting my dissertation research on the motivational factors associated with the pursuit of a doctoral degree. One of the goals of this study is to provide insight on how to improve the quality of [name of institution] doctoral programs and better support the needs of doctoral students. I am seeking your assistance in identifying participants for this study.

This study is qualitative in nature, utilizing interviews as the primary data collection tools. Towards this end, I am interested in interviewing current doctoral students from Social Science doctoral programs. One-on-one interviews will cover issues such as in and out-of-classroom experiences, salient relationships with family and peers, and motivational factors that lead to doctoral degree completion. Interviews will not exceed 90 minutes, and participants will be compensated for their time.

Each interview will be arranged at the participants' convenience and will be held on the [name of institution] campus. To participate in this study, participants will be asked to complete an online pre-interview survey that will include questions regarding demographic and background information, such as age, race/ethnicity, and gender prior to their scheduled interview.

Will you be able recommend potential participants for this study? I am seeking contact information (name and current email address) for current doctoral students of Social Science doctoral programs (Anthropology, Economics, Political Science, and Psychology).

Should you have any concerns please feel free to contact me via email: jraya@umich.edu or my primary faculty advisor, Dr. Deborah Faye Carter (dfcarter@umich.edu). I look forward to hearing from you or your staff soon – thank you for your time and assistance.

Sincerely,

Julio J. Cardona
Doctoral Candidate and Research Assistant
Center for the Study of Higher and Postsecondary Education
School of Education
University of Michigan, Ann Arbor

Appendix C. Interview Protocol

Interview Protocol

Participant #:
Participant Name:
Date:
Time:
Length of Interview:

Motivation to pursue the doctoral degree (SDT: Autonomy and Competence)

1) In the Pre-Interview Survey you filled out, you mentioned that you are currently in your XXXX year in the XXXX doctoral program. Is this correct?
Probe: Did you attend any other institutions prior to the [name of institution] as a Ph.D. student? (*if applicable: probe why the participant transferred to* [name of institution])

2) Why is it important for you to earn a doctoral degree?
Probe: Reflecting back, what did attaining a doctoral degree mean to you when you were an undergraduate student?

3) What is it about your doctoral program that made you pursue the doctoral degree?
Probe: How did you learn about the doctoral program?

4) How do you feel about your decision to pursue a doctoral degree at the [name of institution] other institutions?
Probe: What other institutions did you consider?

5) How would you describe your doctoral experience at [name of institution] so far?
Probe: What has been the most rewarding part of your doctoral experience so far?
Probe: What has been the most challenging or discouraging about your doctoral experience so far?

Personal factors relating to motivation (SDT: Autonomy and Relatedness)

6) Is there someone in your life who inspired or encouraged you to pursue a doctoral degree? If so, please describe your experience with this person.

7) In general, are your family and/or significant other supportive of your pursuit of a doctoral degree?
Probe: What is the nature of that support?

8) To what extent have family or personal obligations taken time away from your doctoral study?
Probe: How have you managed your academic obligations with your personal obligations?

9) Have you made any personal sacrifices in order to pursue a doctoral degree? (i.e., financial and career) If so, please tell me about these.
Probe: If yes, can you identify those sacrifices and how you have overcome these challenges?

The role of the academic environment (SDT: Autonomy, Relatedness, and Competence)

10) What are some of the challenges to your degree progress in your doctoral program?
Probe: How have you handled those challenges?

11) What are your most important sources of support that you have had on-campus? (e.g., friends and student organizations)

12) What types of on-campus resources have assisted you in your degree progress? (e.g., Graduate School workshops and the Writing Center)
Probe: How have these services/workshops/activities helped you?

13) What is the role of the department staff in your degree progress?
Probe: How do you typically communicate with your department staff? (via email, in-person, etc.)

14) In your opinion, what types of support resources should be available to help doctoral students, either by your department and/or the campus?

The role of the faculty (SDT: Autonomy, Relatedness, and Competence)

15) Has your faculty advisor been supportive in your degree progress? If so, how?
Probe: What is your perception of your faculty advisor(s) understanding of your needs?
Probe: How has your faculty advisor(s) demonstrated support of your needs?

16) How would you describe your relationship with other faculty members in your department?
Probe: How have they been supportive in your degree progress? In what way?

17) How would you describe your relationship with other faculty members outside of your department?
Probe: How have they been supportive in your degree progress? In what way?

Motivation to complete the doctoral degree (SDT: Autonomy, Relatedness, and Competence)

18) Have you ever thought of leaving your doctoral program? If so, why?
Probe: What made you decide to continue in the program?

19) Do you know of any students who have left their program? If so, why do you think they left?

20) What things have positively affected your desire to complete your doctoral degree?

21) What things do you foresee will negatively affect your desire to complete your doctoral degree?

22) Suppose I was a new student to your Ph.D. program. What would you tell me in order to successfully complete the degree in a reasonable time?

Conclusion

23) What else would you like to tell me about your experience in pursuing a doctoral degree that we have yet to discuss? Do you have any questions for me?

Appendix D. Participant Pre-Interview Survey

Pre-Interview Survey

Study on doctoral student motivation

Contact and Demographic Information

1. Name_____
2. Phone _____
3. Email Address_____
4. Mailing Address (for research study participation compensation):
5. Street_____
6. City _____ State_____ Zip_____
7. Gender: Male____ Female ____ Other (please identify) _____
8. Age_____
9. Ethnicity (please identify)_____
10. Race (please identify)_____

Academic Information

11. Name of Doctoral Program_____
12. First Year Enrolled in the Doctoral Program_____
13. Current Year in the Doctoral Program (i.e. second, fifth, etc.)_____
14. Have you attained Doctoral Candidacy? Yes / No
15. Anticipated Year of Doctoral Degree Completion _____
16. Master's Degree Institution_____
17. Major(s)_____
18. Graduation Year_____
19. Undergraduate Institution_____
20. Major(s)_____
21. Graduation Year_____

Career Plans

22. Briefly explain your long-term career goal(s)_____

Background Information

23. Family Structure:

Two Parent Household _____

Single Parent Household (Mother) _____

Single Parent Household (Father) _____

Caregiver/Guardian (not a biological parent) _____

Other (please explain):_____

24. How would you characterize your socioeconomic background while growing up?

_____ Poor/Low Income _____Working Class

_____ Middle Class _____Wealthy/Affluent

25. Mother's Education Level:

_____No College _____Some College (but did not graduate)

_____Bachelor's Degree _____Master's Degree

_____Doctoral Degree _____Professional Degree (J.D., M.D., etc.)

Mother's Occupation (if known)_____

26. Father's Education Level:

_____No College _____Some College (but did not graduate)

_____Bachelor's Degree _____Master's Degree

_____Doctoral Degree _____Professional Degree (J.D., M.D., etc.)

Father's Occupation (if known)_____

Appendix E. Participant Consent to Interview Form

Research Participation Consent Form

Study on doctoral student motivation

Researcher

Julio J. Cardona, Doctoral Candidate, University of Michigan, Center for the Study of Higher and Postsecondary Education

Study Description

This research study is designed to identify and analyze the motivational factors associated with the pursuit of a doctoral degree. In addition to the examination of motivational factors, support systems that will help increase understanding on how students persist in doctoral programs will also be analyzed. The study is designed to benefit faculty and administrators by providing insight on how to improve the quality of doctoral programs and better support the needs of doctoral students. You will potentially benefit from participating in this study by having the opportunity to reflect on your doctoral experience, and discuss the aspects of your doctoral education that have been the most enjoyable and/or useful to you.

Participant Informed Consent

You are being invited to participate in an interview that will be approximately 60-90 minutes in length to discuss your experiences as a doctoral student. To participate in this study, you are being asked to complete an online pre-interview survey that will include questions regarding demographic and background information, such as age, race/ethnicity, and gender.

Along with the completion of the online pre-interview survey, your participation in this study involves one one-on-one interview that will be arranged at your convenience. Interviews will be held on the [name of institution] campus, and will cover issues such as in and out-of-classroom experiences, salient relationships with family and peers, and motivational factors that lead to doctoral degree completion.

Voluntary Nature of Participation

Your participation in this study is voluntary and you may withdraw or discontinue participation at any time without penalty. You will be compensated with $25.00 via a Amazon.com Gift Card for this interview. During the interview, you will be asked reflective and thought-provoking questions. However, you have the right to decline to answer any question or to end the interview at any time.

Due to the nature of this research, all interviews will be audio recorded and transcribed. The audio recordings and transcriptions will be securely stored and backed up on a computer in the office of the researcher and destroyed upon the conclusion of the study.

Risks of Involvement
Study participants may find that the interviews are enjoyable and provide a unique opportunity to reflect upon the doctoral student experience. There is no risk associated with this study where the probability of harm or discomfort is greater than that encountered in daily life.

Confidentiality of Records and Data
Your confidentiality as a participant in this study will remain secure through the assignment of a pseudonym. A separate list matching participants' names with their pseudonym will be filed and secured and backed up on a secure computer in the office of the researcher. All information collected will remain confidential to extent governed as required by local, state, and federal law.

No personally identifiable information will be used for purposes of this research study. Additionally, no one in your academic department or doctoral program will have knowledge that you have participated in this study. All collected participant data will be destroyed following the conclusion of the study.

Contact Information
Should you have questions about this research study, you may contact:

Principal Investigator: Julio J. Cardona, Ph.D. Candidate, 610 East University, 2117 SEB, Ann Arbor, MI 48109-1259, (734) 834-1165, email: jraya@umich.edu

Dissertation Advisor: Dr. Deborah F. Carter, Associate Professor, 610 East University, 2117 SEB, Ann Arbor, MI 48109-1259, (734) 764-8423, email: dfcarter@umich.edu

Should you have questions regarding your rights as a participant in research at the [name of institution], or wish to obtain information, ask questions or discuss any concerns about this study with someone other than the researcher, please contact:

University of Michigan Health Sciences and Behavioral Sciences
Institutional Review Board (IRB Study# HUM00062435)
540 East Liberty, Suite 202
Ann Arbor, MI 48104-2210
(734) 936-0933
email: irbhsbs@umich.edu

By signing this document, you are acknowledging that you have read and understand the explanation provided to you in this participant consent form. In addition, you agree that you have had all of your questions answered to your satisfaction and voluntarily agree to participate in this study. You will be provided a copy of this consent form, which includes a description of the research study, and one copy will be kept for study records. Please sign below if you are willing to participate in this study:

I agree to participate in this study and be audio recorded.

_____
Participant's Name

_____ _____
Participant's Signature Date

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