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Support Systems, Isolation, and Intended Persistence in Doctoral Education

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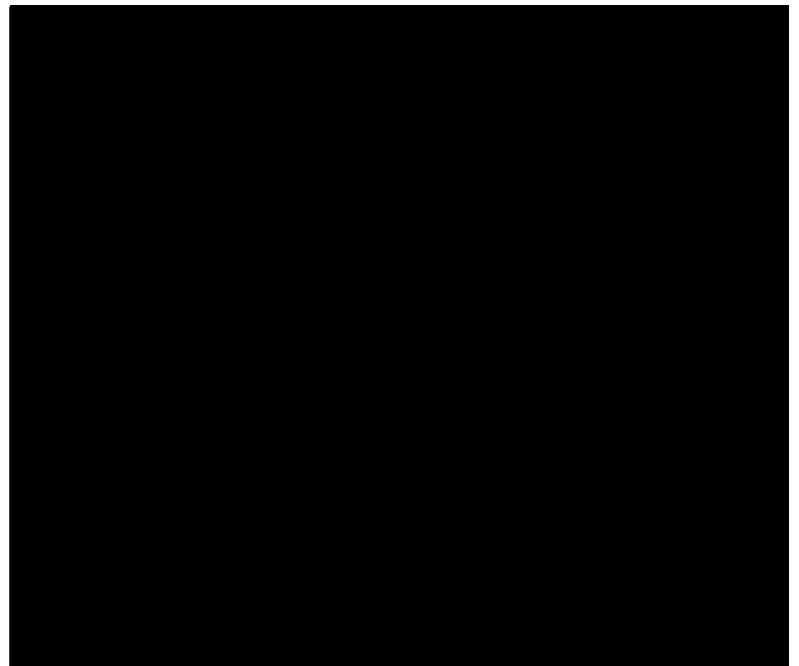The University of Southern Mississippi

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Abstract

SUPPORT SYSTEMS, ISOLATION, AND INTENDED PERSISTENCE IN

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by Casey Nicole Cockrell

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This study investigated the effects of formal academic support systems and stage of doctoral study on persistence, satisfaction, and knowledge of resources, expectations, and customs in doctoral education. Part-time and full-time doctoral students (N=141) enrolled in four public institutions in a southeastern state during the spring and summer semesters of 2007 were surveyed.

An online questionnaire, adapted from the 1999 Survey on Doctoral Education (Golde & Dore, 2001), was used to survey participants. Exploratory factor analysis and reliability analysis were performed to define the variables. A MANOVA was performed to determine if any differences existed between formal academic support system membership and stages of doctoral study on student knowledge of customary field practices and student understanding of program expectations.   There were no statistically significant differences according to MANOVA.   However, there were statistically significant correlations found in student satisfaction with the advisor relationship and advisor practices.

Previous literature suggestions for effective doctoral education practices are supported in the findings of this study. Approximately 94% of participants self-reported intent to persist. The majority of the participants also indicated belonging to at least one support system within the doctoral program. Doctoral programs may consider offering several forms of support to improve doctoral student satisfaction and knowledge of resources while increasing persistence. Doctoral programs also should give close attention to the relationship between the advisor and the student.

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CHAPTER I

INTRODUCTION

The study examined support and isolation as it relates to reported intent to persist among doctoral students. In this chapter, a general brief overview of the literature is presented. The statement of the problem and the purpose of the study is then explained followed by the description of the three hypotheses and relevant definitions. The chapter closes with the delimitations and justification for the study.

Background

A college student's success in transitioning from life before school to the new education setting may impact the success of the entire academic experience. Transition or orientation programs focus on helping the student adjust to the school's culture by implementing strategies such as familiarizing the student with the campus layout, student services, and long-held traditions while simultaneously creating support groups, often dubbed families. These support groups or families play an integral role in helping a student adjust to the new environment. The majority of these programs are focused on freshmen who are leaving home for the first time. Transition activities are in place to help the new student enjoy the collegiate experience while also matriculating. Due to freshman orientation programs, many institutions are experiencing an increase in retention rates, recognizing potential academic problems earlier, and successfully helping freshmen learn skills to cope with overwhelming feelings that may come with a major life transition (Raymondo, 2003).

Recognizing the success of comprehensive first year orientation programs, subsequent studies have explored the transition issues that occur in the sophomore, junior, and senior years of college (Gardner & Van der Veer, 1998). Although each stage of academia is developmentally different, with each having a unique set of concerns, the process of adjustment for all life transitions may be similar. For example, a senior may be facing the decision between graduate school and a professional position upon graduation while a sophomore may be choosing whether to change his or her major from accounting to art; both have to go through a similar process of coping with change. Both students may either fail to perceive these situations as transitions or the transitions might significantly affect them. For example, the student who is contemplating changing majors might upset his or her family. In this situation, what could be an insignificant change to some becomes more important. Both students may find the transition process easier with a formal support system, a factor contributing to undergraduate retention. Hence, one will see a myriad of support systems available to undergraduate students (Wang, 2003). These support systems can be found in extracurricular activities, religious organizations, Greek life, athletics, and residence hall associations. In the undergraduate student literature, the knowledge that transitions are experienced throughout the undergraduate curriculum is recognized in the field of student affairs. Transition programs and the application of theories can be beneficial to students in various phases of coping with change and new challenges at any academic stage (Gardner & Van der Veer, 1998).

Both the undergraduate student life experience and undergraduate persistence have been extensively studied, producing significant implications for practices in student life programming (Wang, 2003). However, a gap exists in research related to doctoral education practices in the areas of student life and persistence (Wang; Gaff, 2002).

The doctoral student, like the freshman student, is entering a new life situation with a unique set of traditions and expectations. Unlike the undergraduate, the doctoral student is facing a new type of academic rigor which often revolves around research (Johnson, Lee, & Green, 2000). The nature of research may be isolating to some doctoral students. Whereas the new undergraduate enters college with hundreds of other classmates being grouped together in activities, the doctoral student may enter with only a few other students who will probably not be organized into a formal peer group (Golde, 2005; Johnson, Lee, & Green).

Increasing knowledge of doctoral student needs and how such needs relate to persistence may improve outcomes for both the student and the institution. The research is not sufficient in applying the knowledge gained from undergraduate student transition practices and theories to understanding the needs of the adjusting doctoral student (Wang, 2003). Doctoral students who do not adjust to the demands of doctoral work are at risk of leaving school, which may present problems for both the student and the college or university. The increasing success of transition programs for undergraduate students leads to the assumption that similar transition programs and formal support systems that

provide guidance and social support might also improve doctoral student success (Gardner & Van der Veer, 1998; Wang).

<div align="center">Statement of the Problem</div>

Attrition rates among doctoral students in the United States are up to or sometimes exceed 50% of students withdrawing from doctoral study before completion (Dorn & Papalewis, 1997; Golde & Walker, 2006; Kerlin, 1995; UGA Graduate School, 2004). Although doctoral programs are continuing to admit qualified and talented individuals, the program structure is at times not conducive to completion of the program. High attrition rates can have negative consequences for both the institution and the student. Since 2000, numerous studies have addressed different aspects of what factors might be problematic in graduate school persistence (Gaff, 2002; Golde, 2005; Golde, 2000; Golde & Dore, 2001; Johnson & Conyers, 2001; Johnson, Lee, & Green, 2000; Katz, 2002; Maher, 2005; Maher, 2004; McCormack, 2004; Nyquist, 2002; Polson, 2003; Stimpson, 2004; Tenenbaum, Crosby, & Gliner, 2001; Wang, 2003; Weidman & Stein, 2003; Wright, 2003).

The present study examined several variables among a sample of doctoral students; each variable chosen was supported by research in undergraduate or doctoral education. Specifically, year in program and program structure were examined because previous research suggested these two areas have the potential to be particularly problematic (Golde, 2005; Johnson, Lee, & Green, 2000). According to Golde, risks and costs of attrition to the student and the institution vary depending on year. Further, program structures are a complex

combination of individual variables; therefore three additional variables were included. These variables were satisfaction in program, support and isolation, and knowledge of resources, expectations, and customs. The inclusion of these variables is supported by research such as Tenenbaum, Crosby, and Gliner (2001), Dorn and Papalewis (1997), and Chickering (2000). For example, satisfaction was included as a variable by Tenenbaum, Crosby, and Gliner who found that mentors who offered psychosocial support increased doctoral student satisfaction in the program. Support and isolation as they relate to persistence are important variables in the current study affirmed by the findings of Dorn and Papalewis, who found that students surveyed suggested that there is a positive relationship between group cohesiveness and persistence. The researchers state that one way universities and colleges are trying to reduce the high attrition rate is through group cohesiveness. Knowledge of resources, expectations, and customs was chosen as a variable because support systems in the form of learning teams have been identified in previous persistence research. Students in these learning teams help one another and through combined knowledge, identify available sources and recognize expectation and customs (Chickering). The present study addresses how each of these variables interacts and relates to self-reported persistence of doctoral students.

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

The purpose of the study was to determine which, if any, program structures relate to doctoral student satisfaction and intent to persist. This study also examined program structure's relationship to a student's knowledge of

resources, expectations, customs, and requirements. Administrators of doctoral programs may use this information to design program structures and create doctoral department environments that might encourage doctoral student persistence thereby reducing attrition rates.

The study investigated if a difference exists between students in formal academic support systems (e.g. cohorts, mentors, or graduate student organizations) and those students not identifying themselves with a formal support system. Further, the study examined the differences in intent to persist associated with satisfaction and knowledge of resources and expectations in the doctoral program, the institution, and the academic field.

Hypotheses

The study was designed to address the following hypotheses.

H1: Students who report being members of formal academic support systems will feel more satisfied with their doctoral program than students who report that they are not connected to a support group.

H2: Students who report being members of formal academic support systems will self-report plans for completing doctoral study more often than those who report that they are not associated with a formal support system.

H3: Students who are members of formal academic support systems will report more knowledge about academic field, university, and departmental resources, requirements, expectations and customs than those who report that they are not associated with a formal academic support system.

Definitions

For the purposes of this study, the following definitions will be used.

Cohort: a group of students who begin doctoral study together, share program goals and classes, and complete the program at approximately the same time (Bentley, Fangxia, Reames, & Reed, 2004).

Formal Academic Support Systems: only support systems found in the doctoral program and school were studied, excluding other types of support such as family, friends, and community.

Graduate Organization: an organized group that formally meets a minimum of once per month and that a student considers as an active form of support.

Individual Researcher: a student who does not identify being a cohort or graduate organization member and does not identify a mentor.

Level of Support: refers to type and number of variables present: mentor, cohort, graduate organization, or individual researcher.

Mentor: a faculty member who the student chooses and recognizes as a source of psychosocial, professional, and academic support (not necessarily an advisor).

Moving In: labels the beginning phase of transition and used for the student in the first year of doctoral study (Schlossberg, Lynch, & Chickering, 1989).

Moving On: labels the ending phase of transition and used for the student who is finishing graduation requirements (e.g. comprehensive exams, dissertation, etc.) and is planning for life after doctoral study (Schlossberg et al., 1989).

Moving Through: labels the middle phase of transition and used for the student who has completed the first year yet not completed course work or other

graduation requirements (Schlossberg et al., 1989).

Phase of Study: is a term that encompasses all three phases of doctoral study - moving in, moving through, and moving on.

Resources: academic field, university, and departmental assistance and information.

Socialization: is characterized by "interaction with others, integration into or sense of fit with the expectations of faculty and peers, and learning of knowledge and skills necessary for professional practice" (Weidman & Stein, 2003, p. 643).

Student Involvement: "refers to the amount of physical and psychological energy that the student devotes to the academic experience" (Astin, 1984, p. 518).

Delimitations

1. The study is delimited to only doctoral students in a public university with a Carnegie rating of RU/H (high research activity) in a southeastern state.

2. The study is delimited to a convenience sample of only doctoral students or students receiving terminal graduate degrees.

3. The study is delimited to only quantitative aspects that will be derived from the survey.

4. The study is delimited to only support systems found in the school setting and excludes support systems found in the family, peers outside of school, or outside organizations.

Justification

Doctoral education has historically been characterized as isolating, autonomous, scholarly work. Such characteristics are so closely associated with

pursuing the doctorate that the practices are not analyzed as a potential problem yet simply accepted as the structure of doctoral studies (Johnson, Lee, & Green, 2000). Investigation of doctoral social support is valuable to doctoral education for several reasons. One, modest amounts of research focus on doctoral student life compared to the extensive amount of research focused on undergraduate students (Gaff, 2002; Wang, 2003). Current research is explicit that there is a lack of systematic study of doctoral cohorts (Miller & Irby, 1999) which limits the ability to generalize this limited knowledge of these cohorts (Tenenbaum et al., 2001). With the lack of studies and attrition rates around 50%, more research on this population is needed (Dorn & Papalewis, 1997; Kerlin, 1995; UGA Graduate School, 2004).

The financial cost to the student as well as the institution and state is another incentive to study doctoral education. Attrition can be costly for all stakeholders in doctoral education (Wright, 2003). The school that does not help the doctoral student adjust to the new demands of research study might suffer great loss. As attrition rates increase so do losses in research productivity, financial cuts in scholarships or assistantship funds, and even lost opportunities to produce a prestigious alumnus scholar who contributes to the school, society, and academia. For the institution, graduate student retention can be a performance indicator. If students are not completing or if students are taking a long time to complete doctoral study, departments risk being seen as inefficient and possibly become vulnerable to sanction policies (Wright). Sanctions, at the very least, establish a less than desirable reputation, resulting in fewer students

applying and a reduction in support from the academic community (e.g. grant funding, rankings).

Retention is a significant problem in the first year of doctoral study noted by Becher et al. (1994) (as cited in Wright, 2003), who found students are at higher risk of leaving the program from feelings of being marginalized and not having adequate supervision. Research supports the importance of the close advisor/advisee relationship in doctoral student success. However, the needs of the research student are numerous and the advisor relationship may not be designed to successfully meet all the needs, leaving the doctoral student with a void (Wright).

Such a void could be filled with organized support systems. Today's students have been accustomed to collaborative work as undergraduates and desire to have collaboration in graduate school (Gardner & Van der Veer, 1998). In undergraduate studies, social support and involvement are encouraged because of the positive outcomes demonstrated for undergraduates who have support systems (Astin, 1984). Doctoral students, even with differing academic challenges than undergraduate students, still may need formal support systems for success. Wang (2003) encourages doctoral programs to focus more on social support because of students' reported feelings of isolation. Indeed, in one recent study, attrition was directly linked to students being isolated from peers and faculty (Golde, 2005). Not only do students expect and need support, Gardner and Van der Veer state that "social support is clearly visible in the routines of the best graduate students. They do not spend all their time alone" (p. 177).

Doctoral education was designed to be rigorous, demanding, and challenging (Anderson & Swazey, 1998). Yet there are some aspects of doctoral education that could be improved to make it more beneficial to the students and the field they are entering into as professionals or academics (Anderson & Swazey). A better doctoral school experience contributes to a higher quality education that better prepares students for life as professionals.

Past research in doctoral studies has focused on the characteristics of students that could lead to attrition yet researchers are more recently being encouraged to examine program structure (Golde, 2005). Researchers in doctoral study ask for more communication among doctoral education faculty and administrators to determine the best practices (Golde & Dore, 2001). This study aimed to add to that conversation by focusing on program structure. The study was designed to focus on the effects of the departmental structures and practices on student satisfaction, intended persistence, and knowledge. Golde (2005) also states that previous research studies have not adequately provided recommendations for practice to improve doctoral education, therefore in the following chapters the present study offers practice implications for doctoral programs from the data collected.

CHAPTER II

LITERATURE REVIEW

Background

Approximately 40,000 students graduate from doctoral programs in the United States every year (Golde & Dore, 2001). These individuals form a diverse group with a variety of distinct experiences yet all hold the doctorate degree. The doctorate is generally thought of as a research degree obtained through the apprenticeship model and used to mold students into independent scholars. However, even if the apprenticeship model is used, the structure and culture of each doctoral program varies greatly from institution to institution and even from department to department within one institution (Golde & Dore).

The origins of doctoral education date to the beginning of the university in the late 11th and early 12th centuries in Bologna, Italy and Paris, France. The doctoral education system known today in the United States was created from two 19th century university perspectives. One was the German research university which valued advanced knowledge. The other was the American land-grant university which appreciated serviceable knowledge. Together, the two schools of thought make up the current doctoral education system, one that combines theory with practice (Stimpson, 2004).

The first doctorate of philosophy was awarded in approximately 1861. The original requirements for acquiring the degree were similar to the process known today (Graham & Diamond, 1997;Storr, 1973). These requirements included completing two years of doctoral study, passing a final examination, and writing a

thesis. In that time, the two years of doctoral study were composed of classes from two departments and the thesis or final research product did not have to be from original research (Storr). These requirements were the few universal requirements at that time.

Despite the large numbers of students earning the doctorate each year and despite the ways in which doctoral programs differ across department and discipline, one constant remains. Attrition from doctoral programs is high. Nearly 50% of students who begin doctoral study will leave before completing the program (Dorn & Papalewis, 1997; Kerlin, 1995; UGA Graduate School, 2004).

The most frequently cited reason for leaving doctoral study relates to financial expenses (Storr, 1973). This relationship exists despite the creation of financial aid to support advanced study and is demonstrated by the findings of a study from Cornell University which showed the effect of financial support on completion, dropout, and time to degree rates in graduate students in four distinct departments (Ehrenberg & Mavros, 1995). But, there are other clear reasons given for leaving study before completion. These include inadequate student and faculty relations, unclear program expectations, unorganized program structure, low satisfaction with the doctoral program, and feeling isolated (Boyle & Boice, 1998; Burnett, 1999; Ehrenberg & Mavros; Golde, 2000). Regardless of the reason, doctoral attrition is costly. Attrition is expensive not only for the departing doctoral student, who is losing time and money, but attrition also costs the department, university, and state (Bradburn, 1988; Kerlin, 1995).

Internationally, such as in Australia, the pressure to understand doctoral

student expectations, development, satisfaction, and success is intensified because funding for research is given at the time the student completes the program (McCormack, 2004). If the student takes a long time to complete or does not complete at all then funding is not received, thereby causing these universities to experience a deficit or not receive resources as expected (McCormack).

Even in the absence of sanctions, high attrition in a department is discouraging for all involved (Fischer & Zigmond, 1998). The many stakeholders in doctoral education extend beyond the student to include faculty members, funding entities, and employers (Nyquist, 2002). If attrition is the system's proposed method to keep only the strongest students, while facilitating the departure of the rest as is sometimes suggested (Fischer & Zigmond), then it is doing so at an expensive price, both emotionally and financially. In 1998, doctoral training per student in the sciences was estimated at $250,000 for the complete training of one student (Fischer & Zigmond). However, that number is just one estimate and estimates only the cost of training. Attrition can be expensive in ways that are not always so clear.

The loss of funding that comes from attrition could potentially earn the department a reputation for having inadequate funding which may then deter other prospective students from applying to that department. In the United States, potential doctoral students apply to approximately five doctoral programs (Ehrenberg & Mavros, 1995). If accepted into two or more schools, the student then typically compares the financial aid offers from each school. Most times the

student selects the school that offers the best financial aid package. Indeed financial aid is frequently the most influential factor in choosing a doctoral program with financial aid factors often outweighing school ranking and other factors in a student's decision on where to attend (Ehrenberg & Mavros). Therefore, if high attrition rates cause a school to lose funding which in turn may impact financial aid, the doctoral program may then be vulnerable to losing students due to the inability to offer competitive funding. A competitive education system based on high attrition then comes at a price of the financial health and sustainability of the doctoral program.

Yet some believe a competitive doctoral education system is doing the job it was designed to do by eliminating weaker candidates, especially with a poor academic job market in some fields combined with an overabundance of doctoral students (Fischer & Zigmond, 1998). A quote from one professor illustrates the extreme of this perspective, stating: "Spending time on professional development is nothing more than coddling poor students. At my institution we simply place students in a lab, close the door, and see what they're like five years later. The good ones always survive" (Fischer & Zigmond, p.38).

Others in doctoral education feel assuming only the weak leave is faulty logic. The conventional belief, and not typically questioned, is that those who complete study are successful and those who leave are not (Golde, 2000). The students who leave doctoral study may not be leaving out of an academic weakness but could be leaving for reasons outside of their control and those lost doctoral students may be lost talent (Fischer & Zigmond, 1998).

While research in undergraduate retention is widely available, studies of doctoral education remain relatively scarce (Gaff, 2002; Wang, 2003). However, recent reform efforts as well as ongoing research projects are adding to the literature. Doctoral education reform is now being recognized as an important issue made evident by support from a variety of foundations and organizations such as the Carnegie Foundation for the Advancement of Teaching, the Ford Foundation, the Andrew W. Mellon Foundation, Alfred P. Sloan Foundation, Woodrow Wilson National Foundation, and the Council of Graduate Schools (Stimpson, 2004).

These reform efforts have meant that positive changes are occurring in doctoral education (Stimpson, 2004). Instead of the stereotypical attitude of the indifferent graduate school, the culture is shifting to one of more concern (Stimpson). For example, there is increased concern for training future faculty how to teach. Caring about socializing the doctoral student into the field and preparing the student for the job market appear to be priorities for doctoral departments. Diversity is now more present in some fields than in the past and grievance policies are in place if a doctoral student feels mistreated or abused (Stimpson).

Doctoral education reform requires both the departments and disciplines to respond and change accordingly (Applegate, 2002). One example of a discipline's response is the reform initiatives from the field of history. The American Historical Association created the first Committee on Graduate Education in the 1950s but the current reform movement in doctoral education in

history did not begin until the mid-1990s. These reform initiatives are responsive to many doctoral students' needs and include better financial aid offers, recruitment of talented undergraduates, and shortening time to degree (Katz, 2002). Further, faculty members in the field of history learned that early attrition is preferred over later attrition because of the expense related to staying in doctoral education longer (Golde, 2005; Katz). Methods discussed to prevent attrition included faculty members guiding doctoral students and making a daily effort to have informal contact with students (Katz).

However, even with the promising changes that have occurred in doctoral education, scholars agree that more reform is needed and that program personnel will need to anticipate that possibilities and conflicts are associated with subsequent changes (Nyquist, 2002). Doctoral students are often exposed only to the academic career options yet prior research indicates reform efforts should address providing students with the knowledge of all career options beyond the traditional academic track. Further, the ambiguity in time to degree needs to be clarified while also continuing to increase the representation of minorities and females in some fields (Nyquist).

Doctoral students in the United States today are a different population than in the past. Many work full time and began careers after receiving bachelor's degrees (Polson, 2003). They are more assertive about their education (Nyquist, 2002). They are more likely to commute and not be familiar with the institution as they probably did not attend the institution as undergraduates. They have commitments outside of school such as work and family. Many are part-time

students and may attend off campus centers or take online classes. Given these circumstances, many find themselves without a support group of peers. In the face of high and costly attrition, the diversity of program structures and the changing face of the doctoral student today require doctoral program practices to change to meet the new needs (Polson).

<div style="text-align:center">Student Development Theory</div>

While some attrition is expected and sometimes helpful to students in discovering what they are willing and wanting to do, a high number is not good for students nor the department thus encouraging many departments to adopt practices that may help reduce attrition rates (Golde, 2005). Policies and theories that are often applied in undergraduate programming may be applicable and beneficial to the doctoral student. In a 2003 study, 2,504 graduate students surveyed indicated graduate students have a similar level of engagement as undergraduate students (Wang, 2003). Often, adult students will experience similar development issues encountered by the younger students (Chickering & Reisser, 1993; Evans, Forney, & Guido-DiBrito,1998). In Chickering's seven vectors describing the student development of identity, he recognized that older students, such as doctoral students, may share identity vectors commonly encountered by traditional undergraduates (Evans et al., 1998). Chickering and Reisser believe, "whether young or old, people new to college tend to feel inadequate and need direction about how to function in a new system" (p. 132).

Learning Communities

Doctoral study literature echoes Chickering's (2000) suggestions for

successful undergraduate programming. One of these practices includes creating a community of learners who are involved in the education process and have opportunities to interact daily in and out of the classroom (Chickering). Learning communities are not only the trend in higher education today (Maher, 2005), they are priority in the scholarly discussion on both undergraduate and graduate education (Applegate, 2002). Community and collaboration are increased when interactions during class are maximized. Trust and understanding can be built throughout the classroom community when topics such as personal or social matters are discussed.

Maximizing interactions among classmates outside the class, however, may be difficult because of the various student schedules and conflicts. Some students may be commuting, others may be working, or class schedules and course demands may conflict (Chickering, 2000). Even though outside-the-classroom interactions may be difficult to arrange, Chickering states that this is important in creating community. He suggests that instead of conventional face to face meetings, a professor or instructor can arrange for conference calls, e-mail lists, listservs, or chatrooms to increase interaction.

Creating learning teams among classmates is important for a variety of reasons. Teams create a place where students may gain further understanding by clarifying and discussing topics in a group. The team also combines the knowledge of several students which helps more accurately identify available resources (Chickering, 2000). In these learning communities, students register to take approximately two or more courses together, forming a built-in study group.

Students may be able to share educational experiences across the curriculum, connecting what they are learning from one course to the next while sharing the learning experience with others (Tinto, 1998). Learning communities shift the environment from a class that is teacher controlled to a collaborative environment guided by groups that provide both emotional and academic support (Chickering).

Like undergraduates, doctoral students may benefit from the shared learning and support found in learning communities. In doctoral programs these support systems are sometimes available in a cohort model. Students who are members of a cohort are less likely to suffer from the negative effects of isolation often associated with doctoral study because of the benefits of common goals and positive group identification found in a student cohort (Bentley et al., 2004). Belonging to a cohort is not feasible for all students due to factors such as program organization or maintaining part-time student status. However, a creative program design and department effort can provide these students the same benefits of support gained through the traditional cohort. Although the doctoral student is facing a much different curriculum from the undergraduate, the basic student needs of belonging to a group and being supported are present. Further, recent findings suggest for future research to focus on the development of formal support systems to prevent students from being isolated (Wang, 2003). Wright also encourages educators to support plans to "increase the sense of community and reduce the sense of isolation for students" (p. 224).

Learning communities do require more commitment and involvement not

only from the students but also from the faculty and administration. However, the increased commitment from all parties to learning communities can result in increased student persistence (Tinto, 1998). According to Tinto, the benefits from learning communities include social and academic support from peers who meet regardless of classroom requirements. The active learning extends after class because the group continues to work together. For the most part, the students learn more while enjoying the companionship found in group work. In one study, with the exception of Chemistry students, students reported that they learned more from one another than from the faculty (Anderson & Swazey, 1998). The same group of respondents who had high frequency of group interaction also had an optimistic outlook for program completion. Ninety-four percent stated they were very or somewhat certain they would complete their degree (Anderson & Swazey).

Student Involvement

Alexander W. Astin (1984) in his Student Involvement Theory proposed that student involvement is associated with retention of the student. According to Astin, the more the student is involved in the learning process (e.g. classes, faculty/student interactions, and student organizations) the more likely the student will stay in school until completion. Astin's theory has five basic postulates:

1. Involvement refers to the investment of physical and psychological energy in various objects. The objects may be highly generalized (the student experience) or highly specific (preparing for a chemistry

examination).

2. Regardless of its object, involvement occurs along a continuum; that is, different students manifest different degrees of involvement in a given object, and the same student manifests different degrees of involvement in different objects at different times.

3. Involvement has both quantitative and qualitative features. The extent of a student's involvement in academic work, for instance, can be measured quantitatively (how many hours the student spends studying) and qualitatively (whether the student reviews and comprehends reading assignments or simply stares at the textbook and daydreams).

4. The amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program.

5. The effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement (Astin, 1984, p. 519).

To clarify how powerful student involvement is in the educational experience, Astin compares three common theories to his theory to show how they differ. The subject-matter theory or content theory focuses on the content of the course. Faculty members usually favor this approach because of the emphasis on class content. However, this approach may encourage the student to be disengaged because the student may not have to participate in class

activities or discussion if the classroom experience is only lecture (Astin, 1984).

The resource theory is a favorite among administrators and policy makers. The idea supporting this theory is the more resources (e.g. libraries, technology, buildings, and money), the more the student will learn. Administrators who subscribe to this theory often find their most important job is to obtain as many resources as possible. The drawback is that resources may or may not be used by the students and furthermore, resources may not encourage involvement (Astin, 1984).

The third theory is the individualized or eclectic theory, a favorite of developmental and learning psychologists. This theory focuses on each individual by attempting to identify what is the best approach for each student. The problem here is that of cost as it can be expensive to have such individualized time with each student to understand the individual's learning needs (Astin, 1984).

Astin's involvement theory encourages the focus to be less on what the faculty and administration do and more on what the student does in the learning process. The theory was formed from a longitudinal study that showed the relationship between positive involvement and retention whereas lack of involvement was associated with dropout rates of undergraduate students (Astin, 1984). Astin's study created overwhelming support for involvement increasing persistence, whereas attrition could be connected to a student's lack of involvement (Astin).

The longitudinal study also showed that students who were active in any

type of extracurricular activities were not as likely to leave school. Doctoral students who are involved in learning communities or graduate student organizations and activities may not be as likely to leave study as the students who are not involved in the doctoral student community. For example, working on campus also increases retention presumably because of increased involvement but attrition could increase with off campus employment (Astin, 1984). Taken to extreme, when doctoral students are employed full time, their involvement in their career could take priority over studies, leading them not to complete the degree (Golde, 2000). Astin's theory equates isolation among students (through lack of involvement) with higher attrition rates.

Similarly, Tinto (1998) found that the higher social and academic integration, the higher the likelihood of student persistence, although differences tend to appear between two-year and four-year colleges. In two-year colleges, where most students are not residential, most contact time with school is in the classroom. Because of this, the academic experience should be very involved, providing students ways to become integrated (Tinto). Doctoral study is comparable to the two-year college students' experience because most doctoral students are not living in campus housing and even if they are, most time is spent in classrooms, labs, or the library.

Transition

Clearly movement toward degree is a process. Doctoral students, similar to undergraduates, need support from the academic community through transitions or phases of this process. Schlossberg, Lynch, & Chickering's (1989)

transition theory for adults stresses the importance of support in healthy transitions. Transition theory describes the phases of transitions with the three labels of "moving in", "moving through", and "moving on" (Schlossberg, Lynch, & Chickering). In the first year of the doctoral program, the student is moving in to the new environment and must learn to cope with new expectations, people, and routines. Moving through would be considered the midpoint, after the routine sets in but long before graduation. Moving on is the phase in which the doctoral student finishes the last requirements such as taking the comprehensive exams, writing the thesis or dissertation, and preparing for life after graduate school by initiating the job search. Ideally, the student needs and benefits from guidance through every phase of transition in the doctoral program.

Tinto's labels of separation, transition, and incorporation that describe the phases associated with transition in the collegiate environment parallel Schlossberg's stages (Tinto, 1988). Separation is when a student leaves the previous communities that he or she was an active member in to move to the next community. Separation from these communities, which include family and friends, does not necessarily mean that the student loses contact with family or friends but the level of interaction changes as the student enters a new stage of life. This separation can vary in degrees of difficulty from student to student. In some cases, the separation can be so difficult that the student decides to leave school (Tinto).

Tinto's separation and transition phases, which involve leaving one community and transitioning to the next, are analogous to Schlossberg's moving

in stage. In these phases, membership to previous communities has been severed or at least changed. At this time, the student has no firm commitments to the past yet the student has not been actively present in the new communities long enough to form meaningful commitments to the present. This stage might leave the student feeling isolated which increases the risk of leaving (Tinto, 1988).

Incorporation, Tinto's third phase, is the time in which the student learns the norms and expectations of the new society, very much like Schlossberg's moving through stage. Orientation and student groups are designed to be an environment where students either explicitly or implicitly learn these new cultural norms. In the absence of support systems, however, often times doctoral students must learn these norms on their own. Further, orientations alone are usually short-lived and not all students belong to student groups, leaving many students to find their own way which may lead to attrition (Tinto, 1988).

It is important to note then that Tinto (1988) refers not only to the integration of the student into the intellectual community but the social community as well. If a student does not successfully integrate into both there is the possibility of leaving and if they do persist they may not have as rewarding an academic experience compared to those students fully integrated (Tinto). First Year Experience programs have addressed the integration of the student into both the intellectual and social communities in the first year of undergraduate study. These programs have recently grown into transition programs that can be found throughout the undergraduate years (Gardner & Van der Veer, 1998).

However, a comprehensive national approach such as the First Year program has not been actively implemented or monitored in doctoral education.

In understanding transition theory, it should be noted that students go through different stages at different times and many times may not understand what they are experiencing (Tinto, 1988). A transition is only a transition if the student perceives it to be one (Evans, Forney & Guido-DiBrito, 1998). Yet all students do encounter these challenges on their way to becoming socialized into the college community.

Socialization

According to Golde (1998), there are four tasks in integration or socialization of a doctoral student into the department and academic field. First is intellectual mastery. Here the student questions whether he or she can do the course work and successfully accomplish the new academic challenges. The student then moves on to understanding the daily life of a doctoral student and some may question if the life of a doctoral student is worth the struggle. The student questions if he or she wants to be a doctoral student (Golde). If the student persists then the third task is to learn about the profession the student will eventually enter. This is the time where the student learns about the field and wonders whether he or she wants to do this kind of work (Golde). Tasks two and three work together to help students determine if doctoral study is working for them and if the outcome will fit into their life goals. Attrition can occur in this case if the student does not feel academic life is a good fit or if he or she believes the only career option is in academe (Applegate, 2002). Trying to integrate into the

department is the fourth task for the student. In this task, the student questions departmental fit. The student may have decided that doctoral study and the profession are a good fit, but now questions if he or she is in the right place (Golde).

After working through these four tasks, a student is more likely to be committed to the scholar role and attrition is less likely. Although not explicitly investigated, a student's socialization to the scholar role appears to be facilitated through an academic community. Doctoral students indicate that when faculty members are accessible, active in scholarly activities, and have clear expectations as well as encouragement for students, the environment is more conducive to producing a scholar role orientation (Weidman & Stein, 2003). Further investigation is needed to discover if formal academic support systems for the student as a scholar improve the overall doctoral student experience while reducing the desire to leave doctoral study before completion

Departmental Practices, Culture, and Influences

Students may leave doctoral study for a variety of reasons that are beyond the department's control. Academic goals may change, a student may experience personal feelings of isolation, or have family responsibilities (Burnett, 1999). However, doctoral program structures and policies are highly influential and therefore departments should identify which departmental practices are connected with student persistence and then work to improve those customs (Golde, 2005; 1998).

Collegiality

Collegiality is encouraged in model programs through a variety of practices. Communal offices are common in successful programs as a way of encouraging collegiality among the students. In these communal offices where up to 10 students in the incoming class can be assigned, students have a place to work, socialize, and share meals. This shared space increases collegiality among students by helping them build connections among one another. Other support practices appear to begin in the first year and continue throughout the program in successful departments. The best practices go further than simply introducing the first year students to each other but also integrate the classes by connecting new students with upper doctoral level class members and having the upper level student serve as a peer mentor to the first year student (Boyle & Boice, 1998).

Advising

Mentoring is a key factor supporting persistence in the best programs, a finding supported by numerous studies. Students with positive mentoring relationships tend to produce more scholarly work than those who do not have these strong relationships (Boyle & Boice, 1998). Instrumental support of a student produces more publications while psychosocial mentoring increases satisfaction (Tenenbaum, Crosby, & Gliner, 2001). On the other hand, poor advising relationships are a common factor in leaving doctoral study. Students who leave doctoral study indicate having no relationship or a poor relationship with a mentor or advisor (Golde, 2005; Boyle & Boice). Examples of various

problems include the advisor being uninterested or having a difficult working relationship with the advisor (Golde, 2000). In fact, except for financial difficulties, advising is the most frequently reported reason for attrition (Boyle & Boice; Ehrenberg & Mavros, 1995).

Because the advisor/student relationship is such an important one, advisor choice by the student appears to be linked with satisfaction with the program (Golde & Dore, 2001). In the best departments mentoring is not a relationship that occurs late in the program but is a process that builds throughout the program beginning in the first year. In the exemplary models of doctoral programs, research indicates doctoral students may be matched with temporary academic advisors upon arrival (Boyle & Boice, 1998). These advisors are in place to help the student choose courses and answer course-related questions. Therefore faculty contacts who can provide answers to curriculum-related questions are the most appropriate for these students. Coursework as the emphasis in most first year curricula is replaced with a research focus as the student progresses. After approximately a year, students have had exposure to the faculty as well as an individual faculty member's leadership and working style. This allows the student to make an informed decision about who to choose as a research advisor. Some departments have an interview process in which students can interview approximately three faculty members to decide who seems to be the best fit. This approach allows mentor selection to be more purposeful rather than by chance. In large departments, faculty have open house events where advanced doctoral students and the faculty can meet to discuss

future assignments (Boyle & Boice). In selecting an advisor, the more informed the student is about the advisor, the more satisfied the student is more likely to be with the advisor he or she selects (Golde & Dore).

Orientations

Chaotic program structure with unclear expectations is not part of exemplary programs. In the model doctoral programs studied by Boyle and Boice (1998), students know what is expected of them and in clear terms. Inaccurate expectations of the doctoral program can be alleviated through a proper transition process that introduces the doctoral student to the program. Orientations help new students know what to expect by clarifying issues before the beginning of the program (Golde, 2005).

Orientations can vary from program to program, with schedules ranging from only a few hours to several days. Successful orientation programs are designed to meet the needs of particular student populations so identifying the student demographic is important for a successful orientation program (Polson, 2003). Gardner and Van De Veer (1998) propose that doctoral students would not be helped by the typical undergraduate orientation activities yet would benefit from organizations and orientation activities that match unique doctoral goals.

Model programs not only have their students attend a campus wide orientation but also are likely to host smaller departmental orientation programs especially among the first year incoming class (Boyle & Boice, 1998). Student service providers may also be involved in the department's orientation programs. Further, advanced doctoral students can be included in the planning and

implementing of the orientation which helps not only in continuing to socialize the advanced students but also introduces the new students to others in the doctoral program. Involving veteran students provides for opportunities such as panel discussions where transition issues can be discussed. Such orientation programs have been shown to be an effective method that can reduce isolation and increase chances of student persistence (Polson, 2003). While thorough orientation programs are included in the best program practices, programs that promote study completion continue with support efforts after orientation.

Doctoral Cohorts

Doctoral education has historically been characterized as isolating, autonomous scholarly work. Such characteristics are so associated with pursuing the doctorate that they are not often analyzed as potential problems but instead simply accepted as the way doctoral studies are structured (Johnson, Lee, & Green, 2000). However, doctoral student isolation from departmental communities could contribute to attrition rates (Golde, 2005). Students enrolled in cohorts report not experiencing as much isolation because of regular meetings and frequent communication with other students compared to those students in the traditional apprentice master role (Burnett, 1999). As discussed in the learning community literature, the cohort is a place for supportive interactions which may reduce feelings of isolation and thus attrition. Typically cohort members "eat together, have socials together, learn together, assist the community together, and even take trips together" (Bentley, Fangxia, Reames, & Reed, 2004, p.43).

Cohorts have been in existence in advanced education for many years, generally restricted to areas such as law and medical programs as well as the military or other professional schools, and are appealing to advanced students, faculty, and administration (Maher, 2005; 2004). For students, the cohort format offers an organized sequence of classes with clear beginning and finishing marks. Faculty members benefit from the predictability of what classes will be taught by being able to prepare far in advance. Administration finds the budget is more stable with the reliable enrollment numbers associated with cohort models (Maher, 2005).

The cohort model, in addition to addressing isolation, can also reduce the anxiety that can be a problem among doctoral students (Miller & Irby, 1999). Approximately 46% of doctoral students surveyed reported feeling overwhelmed either frequently or all of the time and 40% reported exhaustion (Hyun, Quinn, Madon, & Lustig, 2006). Anxiety often reported by doctoral students is related to not having enough time to adequately address educational, work, and family commitments. The cohort format can provide positive support and empathy benefits that reduce this anxiety (Miller & Irby).

The hallmark of an effective cohort is a real absence of competition and a strengthening presence of support from people who understand one another's academic stressors. There is a special strength of support that comes from this type of understanding among cohort members because no one else outside the cohort can have that depth of understanding without going through the same challenges (Miller & Irby, 1999). A collective cohort personality often forms with

cohort members acquiring different roles to aid in the group (Dorn & Papalewis,1997; Miller & Irby). The ones who fill the caring and encouraging roles aid in program persistence. These cohort relationships not only aid in the progression through graduate school but also carry over into lifetime professional networking for the students long after graduation (Dorn & Papalewis). The individual student members who compose the cohort are not just classmates but form a strong bond to become a team or family (Bentley et al., 2004; Maher, 2005; Miller & Irby).

Developing groups in which a student feels committed to the group's goals increases the chance that each student in the group will meet the goals. One such goal would be completing the program to earn the doctorate. Further, students who are committed to the group appear to be more satisfied with the doctoral experience and more often persist to complete the doctoral degree (Dorn & Papalewis, 1995).

The cohort format usually consists of classes that all students are enrolled in over a period of at least two to three semesters. Cohort students complete dissertations at higher rates and higher quality because of faculty and student support (Burnett, 1999). This persistence is attributed to the support gained from helping fellow group members advance through program objectives (Maher, 2005). Cohort formats work both for less advanced doctoral students and in common core classes (Golde, 2005). Not only do somewhat objective research studies support the use of cohorts in reducing attrition, but students themselves who belong to a doctoral cohort viewed this program component as an important

contribution to their persistence in the program (Dorn & Papalewis, 1997).

Whereas this format is designed to encourage group activities that facilitate the

team or family environment (Bentley et al., 2004), the format may be difficult for

some students to participate in as, like orientation programs and learning

communities, it requires a student to commit to an inflexible schedule (Maher,

2004).

Cohorts require commitment from not only students but also faculty

members. Demands are placed on the instructor in cohort planning that usually

goes well beyond a non-cohort educational design. Often cohorts can be time

consuming because of activities that typically take place outside the traditional

classroom to build the learning community. The activities range from class-

related assignments to social events, all designed to enhance group dynamics.

Also, if topics are taught across many courses, faculty collaboration is needed

which is usually not as likely to be required in traditional programs (Maher, 2004).

However, even with the commitment that has to be made by the faculty and

students, cohorts typically do not add more to a faculty member's workload.

Instead, faculty members report experiencing relief in their workload because of

resulting collaboration (Burnett, 1999). Besides collaboration reducing the

workload, the same positive strategies for success that the faculty teaches such

as mentoring, collegiality, social gatherings, deadlines, structuring time, and

program structure can carry over into the faculty member's life. Faculty members

involved in cohort models reported these skills and departmental culture made

completing projects easier and they reported feeling more content and successful

(Boyle & Boice, 1998). If the cohort format is not feasible for all doctoral students or programs, similar benefits of support may be gained from other systems of support.

Support

The "4 S's", situation, self, support, and strategies (Schlossberg, Waters, & Goodman, 1995) have been identified as the most influential factors in coping with transition. Of these, the factor receiving the least research attention as it relates to doctoral students is support.

Whereas formal academic support systems are doctoral cohorts, mentors, or an organized group of doctoral students overseen by a faculty advisor or doctoral student leader, less formal types of support may be advantageous to retention among doctoral students and may include, for example, a network of friends and communities within the academic setting. If students engage in healthy support systems, these may help the student navigate the transitions of doctoral study life.

Graduate student life is often very isolating. Long hours in isolated research, behind computers, and working in laboratories can stain social relationships and exacerbate mental health problems. Campus-wide and department-specific peer advisor or mentoring programs may be effective means to mitigate social and professional isolation. Universities may also want to allot specific funding for graduate student social gatherings. Universities and graduate programs should also re-examine accountability for providing adequate funding opportunities for their graduate students

enrolled in academic programs and should recognize the importance of administrative links that connect graduate students to various campus resources (Hyun et al., 2006, p 263).

Supportive practices of the most successful doctoral programs were identified in the 1998 study by Boyle and Boice. Exemplary programs were identified by the 1995 National Research Council (NRC) effectiveness ratings which rates the efficiency of doctoral programs using a 0 (not effective) to 5 (extremely effective) scale. Effective doctoral programs implement support through a variety of practices. Support efforts in these programs appear to be related to increased completion rates, especially in the dissertation stage of study (Burnett, 1999).

Burnett's (1999) work suggested three common practices employed in excellent doctoral programs that were not present in other departments. All three practices included support in the transition to the first year of doctoral study. "They foster collegiality among the first-year students; they support both mentoring and collegial, professional relationships between the first-year students and faculty; and they provide the first-year students with a clear sense of the program structure and faculty expectations" (Boyle & Boice, 1998, p.87). This model of collegiality, relationships, and clear expectations is similar to that found in the practices of successful undergraduate programs.

Schlossberg et al. (1989) also stressed the need of students to simply believe they are important or that they matter. Psychosocial support and mentoring is a type of mentoring that incorporates the principle of mattering and

increases doctoral student satisfaction especially with the younger doctoral students in the program (Tennebaum, Crosby, & Gliner, 2001). If the student feels important, the likelihood of being involved in academic programs and activities are increased (Evans et al., 1998). And, according to Alexander Astin's (1984) theory of student involvement, when students are actively involved and committed in the environment, student learning and growth occurs while potentially increasing persistence.

Regardless of whether support systems are found in formal or informal structures, one shared characteristic found in all these approaches is that there is *social* support provided to the doctoral student. According to Wang's (2003) study, one area in need of improvement in doctoral education is the social life of a doctoral student. In this study, students reported "feelings of isolation, loneliness, and lack of communications" (Wang, p. 16). Practices that help alleviate isolation include social traditions designed by both faculty members and students (Golde, 2005). Students want to know the faculty members and other students outside the classroom. They wish to meet people from other areas of the school as well from other schools and desire more social interactions in graduate school (Wang). Another type of social support includes counseling support groups that have been used to increase persistence. The group counseling method has been used to aid doctoral students in completing their dissertation, using members' support and experiences (Johnson & Conyers, 2001).

Others have also proposed social situations are important in doctoral

studies. In fact, social interaction, peer mentoring, and group cohesiveness are all identified persistence motivators (Dorn & Papalewis, 1995; Golde, 2000). Failing to integrate into a social system of other doctoral students can leave a student feeling discouraged and isolated which reduces the chances of persistence (Golde).

Model graduate programs with low attrition rates are frequently those that regularly host social events where faculty and students interact. Authors reporting on one such program noted that the more social the program, the more successful the program. Some programs had a weekly scheduled social hour sometimes called "happy hours" (Boyle & Boice, 1998, p. 91) where many of the faculty would be present to mingle with all the students to advance academic relationships (Boyle & Boice). Easy-to-plan activities such as "potlucks, holiday parties, game-day get-togethers and so on, serve as effective ceremonies that bring the individuals together as a team of associates, colleagues, and friends" (Bentley et al., 2004, p. 42).

Summary

The attrition rates of up to 50% or more among doctoral students nationwide (Dorn & Papalewis, 1997; Kerlin, 1995; UGA Graduate School, 2004) are not just based on students who have finished course work and leave before completing the dissertation; doctoral attrition numbers include all students with first year students also at a high risk for leaving study (Wright, 2003). However, few quantitative studies have focused on the effect support systems have on doctoral student persistence. Through several qualitative studies, it appears that

providing additional support beyond the advisor may be crucial to retention.

Further, the literature makes it clear that the phase of study is associated with particular needs, with first year doctoral students having different support needs than those of more advanced students. Although doctoral students have been studied previously, much research concentrates on socialization of the student, with an indirect focus on the positive benefits a variety of formal academic support systems may offer. This study examines the relationship between formal support systems and doctoral student intended persistence to add to the scholarly discussion of the changes that lie ahead for the United States doctoral education system reform (Nyquist, 2002; Stimpson, 2004).

CHAPTER III

METHODOLOGY

This chapter is designed to explain the methods used in the study. Included in this explanation is a description of the study's participants, the procedure followed, the instrument used, and data analyses conducted.

Participants

Doctoral education is departmentally based rather than centrally based as in undergraduate education (Bowen & Rudenstine, 1992). Therefore doctoral education at a single university can differ vastly from department to department. Given this structure of doctoral education, the researcher invited participants from the doctoral departments in humanities, social sciences, and sciences - all being historically large doctoral programs. Further, this study involved a special recruiting effort to include education doctoral programs because past literature on doctoral education has a deficient representation of the field of education compared to other disciplines. The researcher controlled for the influence of differences from various state governing boards by delimiting the study to one Southeastern state. Doctoral students from four public universities with a Carnegie Rating of RU/H (high research activity) (Carnegie Foundation, 2006) were invited to participate in the study. Only students currently enrolled either full time or part time in a doctoral program or terminal degree program were invited to participate.

For the purposes of this study the stages of transition were adapted to this study to organize the doctoral students into three groups (Schlossberg et al.

1989). The first year doctoral student (moving in phase) was identified as a student who has completed fewer than 33 credit hours in the current doctoral program. The moving through phase was defined as students who have completed the first year yet have not finished all coursework for degree. The moving on phase was identified as students in the last phase of doctoral study who are currently preparing to take comprehensive exams, writing the dissertation or thesis, and/or actively participating in the job search or searching for further education programs (e.g. post doctoral fellowships). A convenience sample of participants was recruited through the assistance of deans, department chairs, doctoral program directors, faculty members, and fellow doctoral students.

Participants were asked by way of an online questionnaire to identify what type or types of formal academic support they perceived themselves as having in the doctoral program. To identify the role of academic support, the researcher isolated formal academic support by not including other types of support such as family members, peers outside academia, and community organizations or activities.

The types of support identified were cohort (pre-determined by admission into a cohort-based program), mentor (formal or informal mentor/student relationship), formal support (e.g. a graduate organization), or none of the above (no identified formal academic support system). The objective was to identify if any formal academic support system was associated with intent to persist, satisfaction, and knowledge of resources and if differences existed between the

types of support and phase of doctoral study (e.g. moving in, moving through, and moving on). To further clarify, cohorts typically have a first year course sequence that all first year doctoral students follow with little variation. This first year cohort design may influence social support during the first year that continues throughout doctoral study. A mentor can be the student's advisor but as research has shown mentors are not always formally named advisors. For this study, a mentor is whomever the student identifies as a mentor, which may be a formal or informal relationship. An active doctoral student organization may also be a form of support if the student perceives the organization as a form of support. If the student recognizes none of these options as being forms of support he or she has regularly in academic life, then the no formal academic support choice is selected.

Procedure

The researcher received permission to proceed with the study from the Institutional Review Board (see Appendix A). The researcher then obtained contact information of eligible doctoral students through other contacts (e.g. faculty members and fellow doctoral students). From the list of contacts, the researcher sent an invitation letter via electronic mail to the contacts requesting their participation (see Appendix B). If the contact agreed to participate, the link to the online questionnaire was sent to the contact. The contact then either directly e-mailed doctoral students the link or distributed the link to faculty members who circulated the online questionnaire to their doctoral students. The researcher also personally invited students to participate through other doctoral

students and a research symposium. The online questionnaire the participants completed included a description of the study with an Institutional Review Board approval statement, an invitation to participate, and instructions on how to participate in the online survey where they were able to anonymously complete the questionnaire (see Appendix C).

<div align="center">Instrument</div>

The Survey on Doctoral Education was the questionnaire used in this study (see Appendix D) (Golde & Dore, 2001). The researcher received permission to edit and use the questionnaire from the author (see Appendix E). The survey was offered in an electronic format that was available online. Online survey data collection was used for this study not only for the convenience and appeal of online materials to the selected population but also for the reduction in postal costs allowing the study to be more feasible. The questionnaire took approximately 20 minutes to complete and participant data were submitted anonymously. The questionnaire was administered late in the Spring and Summer 2007 semesters.

The Survey on Doctoral Education modified for this study was, in 1999, completed by 4,114 students who were enrolled in their 3rd year or more of doctoral study in 11 arts and sciences disciplines from 27 institutions and 1 cross-institutional program (the Compact for Faculty Diversity) with a response rate was 42.3%. The survey was conducted in order to gather information or knowledge on current doctoral education in 1999 from the doctoral student's perspective. The 1999 study was sponsored by The Pew Charitable Trusts

(Golde & Dore, 2001).

As part of this dissertation study, the researcher assessed the psychometrics of this previously used instrument. The validity of this questionnaire is supported by the credibility of the panel of experts who sponsored the creation, administering, and publication of the original questionnaire as well as the ones who created, administered, and analyzed the instrument and data. Any additional information assessing validity was not gained beyond the originally established validity. To assess reliability of the questionnaire, a pilot study was conducted.

For the purposes of this study, the researcher modified the demographics section of the original instrument to obtain certain student characteristics such as type of formal academic support system and number of online classes taken while in the doctoral program. In addition to the editing of certain demographic items, the questionnaire was condensed as advised by the instrument designer. After editing, the questionnaire consists of Likert scale items, yes or no questions, and a demographics section for a total of 186 possible questionnaire items. The participants were not required to answer all questions especially those items not applicable to their experiences in doctoral study. For example, participants who did not have advisors did not answer the questions related to the advising relationship.

Data Analysis

This study examined the relationship of formal academic support systems and phase of doctoral study on the doctoral student experience. Data were first

reduced and organized by conducting a principal components exploratory factor analysis which revealed the relevant factors for analysis. The principal components exploratory factor analysis was followed by reliability analysis to assess the Cronbach's alpha for each factor.

The data were then analyzed using a two-way multivariate analysis of variance (MANOVA). The two-way MANOVA was chosen to test for group differences because it allowed for several dependent variables to be analyzed and the dependent variables were believed to be moderately related. Further, the researcher was concerned about the risk of inflating alpha which is reduced by using the two-way MANOVA .

CHAPTER IV

ANALYSIS OF DATA

Descriptive information about both the sample and the responses to the questionnaire are provided in this chapter. Further, the statistical testing of the three hypotheses and ancillary findings are presented.

Participants

To understand the effects of formal support system membership and phase of study on intent to persist, satisfaction, and knowledge of expectations, resources, and customary practices, a survey was completed by 141 doctoral students from four public universities. Participants in this study were students in the disciplines of Education (79 participants), Psychology (23 participants), English (2 participants), Chemistry (1 participant), and Philosophy (1 participant). Thirty-five participants selected "other" as their discipline of study. Fifty-one participants designated part-time status in a doctoral or terminal degree program, while 88 participants indicated full-time status. In this study 59.6 % of the participants had not taken any online classes in their doctoral program, 15.6% had 1 to 2 online classes, 15.6% had 3 to 4 online classes, 2.8% had 5 to 6 online classes, 5% had 7 or more online classes, and .7% attended a completely online doctoral program. Of the participants, 43 were male and 77 were female whereas 21 participants did not designate their gender. The participants consisted of 112 United States citizens, 6 non-U.S. citizens, 3 permanent residents, and 20 participants did not indicate citizenship status. In this study, 84 participants were Caucasian, 20 were African-American, 2 were Hispanic, 1 was

Asian American/Pacific Islander, and 34 participants did not answer the item.

The two independent variables examined in this study were phase of study and formal support system membership. Twenty-seven percent (N= 38) of the participants were in the moving in phase, 33.3% (N= 47) were in the moving through phase, and 39.3% (N=55) were in the moving on phase. Regarding this latter group, 32% had completed the doctoral comprehensive examinations, 66.2% had not completed the exams, and 1.4% were students in programs that did not require the comprehensive examinations. When asked about their place in the dissertation process, 48.9% had not started the dissertation, 41.7% were currently working on their dissertation, and 9.4% were preparing for the final defense.

When asked about formal support system membership, 49 participants responded they were members of a cohort. This study consisted of 75 participants indicating they had a mentor or advisor as a system of support. Twelve participants in this study reported being a member of a graduate organization as a form of academic support. In this study, 47 participants indicated they did not have a formal academic support system. Beyond the formal academic support systems, participants answered items regarding the student community. The following table represents the participants' perspectives on the student community of their doctoral programs.

Table 1

Student Community

Of students in my program, I would say . . .	Percentage			
	Strongly Disagree	Disagree	Agree	Strongly Agree
Sense of solidarity among students who begin together.	5.0	13.5	48.2	19.9
Experienced students mentor newer students.	9.9	19.1	40.4	18.4
Students have an active role in program decisions that affect them.	19.1	31.2	31.2	5.0
Students freely share information with each other about opportunities and how to get through the program.	2.1	8.5	42.6	34.8
I am part of a supportive student community in my program.	13.5	19.1	38.3	15.6
I am part of a supportive student community outside of my program.	14.2	38.3	26.2	6.4

At the time of the survey, 92.2% of the participants currently had and advisor, 6.4% did not. Over half of the participants did have an advisor at the beginning of the program (69.5%) while 14.2% said they did not have an advisor. The majority of the participants did currently have the advisor he or she wanted (72.4%) while 12.1% did not have the advisor he or she wanted. When asked if they were satisfied with the selection of the advisor, 63.8% responded yes while 20.6% were not satisfied with the selection process. Almost half of the participants (44%) were assigned their advisors, 13.5% came to their doctoral program planning to do work with their advisor, 15.6% selected advisor after starting the program, 9.9% made an unexpected switch of advisors, and .7% made an expected switch of advisors. Approximately 30% of the respondents indicated they had a mentor. When the participants were asked if they intended to graduate from the current doctoral program, 94.3% said yes while 4.3% said they did not plan on graduating from the current program.

The following table shows what resources were available to the participants and out of the available resources which ones were used and which ones the faculty and staff encouraged students to use.

Table 2

Doctoral education resources: availability, actual use of resources,

and encouragement to use resources

	Percentage		
	Available	Used	Encouraged to Use
Resource			
Program Orientation	50.4	39.7	41.8
University Orientation	42.6	27.7	29.2
Department Graduate Student Handbook	51.8	50.4	41.9
University Graduate Student Handbook	64.5	51.8	44.0
Graduate Student Center	22.0	11.3	16.3
Research Misconduct Written Policy	40.4	31.9	31.2
Teaching Development Center	16.3	7.1	12.1
Teaching Assistant Course	17.7	12.8	18.4
Professional Development Mentor (Not Advisor)	24.1	22.7	20.6
Preparing Future Faculty Course/Seminar	21.3	14.2	19.9
Academic Career Planning Workshop	15.6	8.5	16.3

Results

Due to the volume of data collected, several descriptive analyses were

conducted before addressing the hypotheses.

Satisfaction with Advisor

A Pearson correlation coefficient, shown in table 3, was determined for the

relationships among responses to the statements "currently having the advisor

the student wants" and "advisor helping secure funding for the student"; "advisor

teaching good research practices"; "advisor teaching survival skills"; "student

satisfaction with amount and quality of advisor time"; "advisor giving regular and

constructive research feedback"; "advisor providing emotional support when

needed"; "student feeling the advisor cared about the student as a whole person

and not just as a scholar"; "student feeling the advisor would support the student

in any career path"; and "satisfaction with selection process of current advisor."

The weakest significant linear positive correlation existed between

responses to the statement "student currently having the advisor student wants"

and "advisor helping secure funding for the student" (r(106) = .237, p < .005).

The strongest significant linear positive correlation existed between "currently

having the advisor the student wants" and "satisfied with selection process of

current advisor" (r(117) = .708, p < .001).The other significant linear positive

correlations were moderate correlations. They were the relationship between

"currently having the advisor the student wants" and "advisor teaching good

research practices" (r(110) = .441, p < .001); "student being satisfied with amount

and quality of advisor time" (r(116) = .662, p < .001); "advisor giving regular and constructive research feedback" (r(110) = .560, p < .001); "advisor provides emotional support when needed" (r(110) = .576, p < .001); "student feeling the advisor cared about the student as a whole person and not just as a scholar" (r(108) = .557, p < .001); and "feeling the advisor would support the student in any career path" (r(110) = .507, p < .001).

Table 3

Pearson correlation coefficients for satisfaction with advisor

Currently having the advisor the student wants and...	N	Pearson Correlation	Sig.
Satisfaction with selection process	117	.708	.001
Satisfaction with amount and quality of advisor time	116	.662	.001
Emotional support	110	.576	.001
Regular and constructive research feedback	110	.570	.001
Care about student	108	.557	.001
Support student in any career path	110	.507	.001
Teaches good research practices	110	.441	.001
Helps secure funding	106	.237	.005

The significant linear relationships indicate that doctoral students who currently have the advisor they want tend to be satisfied in the advisor selection process and have advisors that secure funding for them. Also, these students who currently have the advisors of their choice tend to have advisors who teach them good research practices and survival skills. These students are satisfied with the time they spend with their advisors and feel their advisors provide them emotional support if needed. The advisors for these students tend to give them regular and constructive research feedback. Lastly, these students indicated they believe their advisors care about them as people outside of the scholar role and would support them in any chosen career path.

Hypothesis One

As indicated in Chapter 1, the study examined which, if any, program structures promote doctoral student satisfaction and intent to persist. Hypothesis one stated students who report being members of formal academic support systems will feel more satisfied with their doctoral program than students who report not being connected to a support group. This hypothesis was not tested because participants did not divide into the distinct groups needed to test this hypothesis. Further, the exploratory factor analysis did not clearly indicate a satisfaction factor.

Hypothesis Two

Hypothesis two stated students who report being members of formal academic support systems will self-report plans for completing doctoral study more often than those not associated with a formal support system. This

hypothesis was not testable because 94.3% of participants indicated intent to persist, creating a disproportionate number of participants planning to persist versus those not intending to complete doctoral study.

Hypothesis Three

This study also examined program structure's relationship to a student's knowledge of resources, expectations, customs, and requirements. Hypothesis three stated students who are members of formal academic support systems will have more knowledge about academic field, university, and departmental resources, requirements, expectations and customs than those not associated with a formal academic support system. This hypothesis was rejected and data analysis is outlined in the following text and table.

A principal components exploratory factor analysis was completed on 48 of the 186 possible items because not all participants were required to answer all 186 items if the question was not applicable to their doctoral program experiences. One item was an open-ended question that allowed participants the opportunity to further elaborate on a previous item or discuss an issue that was not addressed on the questionnaire. KMO and Bartlett's tests indicated that the items were appropriate for factor analysis. Whether the factors were correlated or uncorrelated was undetermined after the researcher's initial review; therefore, a varimax rotation was performed. Originally, twelve factors with eigenvalues greater than one were established. However, further investigation reduced the twelve factors to a three-factor solution (shown in Table 4) because of items double loading on some factors, factors with only one item loading, factors with

weak loadings, and factors that did not have any items load. The three factors appeared to measure the following constructs: faculty support of students, knowledge of customary field practices, and students' comprehension of clear program of study expectations. Eleven items loaded on faculty support and had a Cronbach's Alpha of .623. Eight items loaded on knowledge of customary practices and had a Cronbach's Alpha of .881. Five items loaded on clear expectations with a Cronbach's Alpha of .813.

The two factors of knowledge of customary field practices and students comprehension of clear program-of-study expectations were most relevant for testing hypothesis three. A two-way multivariate analysis of variance was performed to examine the effects of formal academic support system membership and phase in study on knowledge of customary practices in the field and student understanding program expectations. The model was not significant (Lambda(8,218) = .960, p > .05), nor were either of the two outcome measures considered separately. Student expectations and knowledge of customary practices were not significantly influenced by phase of study ($F(2,110) = .21, p$ >.05), ($F(2, 110) = .31, p$ >.05). Additionally, formal academic support systems did not significantly influence student expectations and customary practices knowledge ($F(3,110) = 1.83, p$ >.05), ($F(3,110) = 1.95, p$ >.05).

Table 4

Factor Loadings

	Loading
Factor 1: Faculty Support of Students	
Q19_14	.809
Q19_11	-.774
Q19_20	-.752
Q19_18	.737
Q19_3	.734
Q19_15	.729
Q19_4	.680
Q19_8	.657
Q19_21	.617
Q19_16	.609
Q19_1	.594
Factor 2: Customary Practices	
Q20_9	.803
Q20_11	.800
Q20_10	.746
Q20_7	.746
Q20_16	.683
Q20_15	.540
Q20_6	.525
Q20_8	.521
Factor 3: Clear Expectations	
Q20_5	.791
Q20_13	.710
Q20_1	.705
Q20_3	.687
Q20_2	.551

Open-ended Responses

Support and Isolation

Both positive and negative experiences with support, isolation, and relationships were expressed by participants. Positive expressions included "peer support was invaluable" and "my cohort and mentor were the most important things that got me through." Students identified key people who were positive forms of support such as an advisor, a faculty member, or the department secretary. One student identified a campus department as effective in providing positive support by stating, "The Office of Disability Accommodations was useful to me as a blind student and the faculty encouraged me to use it."

Expressions indicating dissatisfaction with support in the program were more frequent in those participants electing to offer additional information. Out of 20 responses regarding support 13 were negative. Negative and comments expressing dissatisfaction included specific statements about the advisor/advisee relationship. One student wrote, "My advisor can be a bit verbally abusive but is the only one who researches in my area." Another student mentioned "...no advisor for several departmental programs."

Participants commented on the isolating or competitive environment of the program. One stated, "There is an us vs. them vibe from faculty. In general, they don't want to get to know us as people." Another participant commented, "Upheavals in my university's administration caused a chilling climate rather than a warm academic cooperative climate."

Some students commented on what they felt was a deficiency of guidance such as one statement, "Personally, I needed more direction and deadlines. I am not good at going it alone to finish the process." Another student stated, "It is difficult to receive answers to questions and concerns through e-mail. Appointments are broken or rarely available."

Social support among students also was mentioned. For example, one student wrote, "It was difficult to go through the whole thing alone. I started out with two friends who dropped out of the program after two semesters." Lastly, financial support was mention by one participant as a concern, "Inadequate funding for students who have family and can't work while in the program."

Intent to Persist

Three comments specifically addressed intent to persist. Two statements addressed working full time while pursuing the doctorate. One participant wrote, "Working during the time of my dissertation hindered me from completion." Another participant stated, "I've learned it is very difficult to work fulltime and be a doctoral student at the same time." The third comment focused on the student's reaction to the dissertation committee's decisions, "The committee changed my topic twice, but I persevered."

Knowledge of resources, expectations, and culture

Four responses specifically addressed knowledge of expectations. These responses all expressed experiences of not knowing what was expected of them as doctoral students. Participants' comments included statements such as, "Very unclear on course sequence and expectations. Courses were not offered at

differing times. Professors were unwilling to expand size of classes to accommodate students that need to take classes to graduate in a certain time. No specific hard line rules of what progress is expected..." Another participant said unstated expectations composed the "hidden curriculum." This participant continued by further stating, "I believe if all these steps were outlined and standard amongst all students, no one would drop out due to being frustrated."

Ancillary Findings

The remaining comments offered by the participants focused on program structure and accountability. Statements regarding program structure included faculty turnover. One participant wrote, "There was a great deal of turn-over in the faculty. Not one person that taught my courses served on my comprehensive exam committee." Another student wrote about alternative program structures stating, "Distance education opportunities and week-end intensive make my doctoral program possible."

Two students commented on the program's response to student needs. For example, one participant wrote, "Although many graduate programs at the university that I attend have unsatisfied students, the department that I am involved in has changed a lot of their procedures and policies that have encouraged more students to enter the program."

The last ancillary finding focused on accountability, one participant wrote, "...evaluation of departments and programs should be completed and the results generated, interpreted, and published. Each department should be required to answer who, what, and why of all doctoral students in the department."

CHAPTER V

SUMMARY

To summarize and comprehend the implications of the study, this concluding chapter reviews the hypotheses and the methods employed. The chapter is designed to review the study's results, the implications for the field, and future research directions.

Doctoral education in the United States is viewed by many as an international success, with approximately 40,000 doctoral degrees being awarded annually between the years of 2000 and 2006 (Golde & Walker, 2006). However, the number of doctoral degrees conferred is not representative of the actual number of students who are enrolled in doctoral programs. Attrition rates sometimes exceed 50% of students leaving doctoral study (Dorn & Papalewis, 1997; Golde & Walker; Kerlin, 1995; UGA Graduate School, 2004). Attrition can be costly both for the institution and student. Previous literature suggests the two areas in doctoral education that may be contributing to the attrition rates are type of program structure and issues specific to or confronted in each phase of study (Golde, 2005; Johnson, Lee, & Green, 2000; Wright, 2003).

The present study aimed to determine if formal academic support systems and phase of study were related to self-reported intent to persist, satisfaction, and knowledge of resources, expectations, and customs. The particular variables are included in this study because of the previous findings of Chickering (2000); Dorn and Papalewis (1997); Golde (2005); and Tennebaum, Crosby, and Gliner (2001).

One limitation was observed during the early phases of analysis and indeed constrained the extent of analysis allowed. Specifically, the majority of participants in this study indicated they were in formal academic support systems. Given the unequal distribution of those who were members of a formal support system versus those who were not, ascertaining if any differences exist between doctoral students with formal support systems and those without as originally intended is not possible within this sample. Some participants provided contradictory information by simultaneously selecting responses that indicated being both members of a support system and not a member. This dual membership made identifying group differences difficult because clearly defined groups within this sample did not exist.

Discussion of the Results

No statistically significant differences were found between different formal academic support systems (e.g. cohort, mentor/advisor, student groups) and those not belonging to an academic support system in satisfaction, self-reported intended persistence, and knowledge about academic field, university, and departmental resources, requirements, expectations, and customs. Further, there were no statistically significant differences based on different phases of study. While these data resulted in no statistically significant differences regarding students' satisfaction with their program based on participation in formal academic support systems, this may be due in large part to the very small number of respondents who indicated they were not part of a formal support system. Similarly, when further evaluating intent to persist, there were no

statically significant differences between participants in the three different phases of study. Although this lack of "no formal support system" respondents limited the ability to directly address the first two research hypotheses, there were, nonetheless, important findings in the study. This particular sample reported an exceptionally high degree of support as well as a similarly high intent to persist. This could be due to having response bias resulting simply from those with high support and high intent to persist being more likely to respond to the questionnaire. Alternatively, this sample may indeed be representative of a larger population of doctoral students who are joining support systems in larger numbers. One would expect that the reported intent to persist would be higher than had the researcher measured actual persistence to degree. Despite the lack of significant differences in satisfaction and intent to persist due to support and phase of study, there were, however, positive significant correlations found in several advisor practices and student satisfaction with the current advisor.

The first hypothesis stated students who are members of formal academic support systems will feel more satisfied with their doctoral program than students who report not being connected to a support group. This hypothesis was not measurable within this sample and therefore not tested. The limitation of clearly defined groups not existing within the sample and the exploratory factor analysis not signaling a clear satisfaction factor made testing the first hypothesis through statistical analysis not viable.

The second hypothesis stated students who are members of formal academic support systems will self-report plans for completing doctoral study

more often than those who report that they are not associated with a formal

support system. Again the hypothesis was not statistically assessed because of

the problem dividing participants into distinct groups. However, it is important to

note that this sample had a majority of students stating they were in a support

system and this sample also had a high rate (94.3%) of participants self-reporting

plans to complete doctoral study.

The third hypothesis stated students who are members of formal

academic support systems will have more knowledge about academic field,

university, and departmental resources, requirements, expectations and customs

than those who report that they are not members of a formal academic support

system.. The factor loading did allow hypothesis three to be tested. However,

neither knowledge of customary practices in the field nor students' understanding

of program expectations appeared to be significantly influenced by frequency of

support system membership or phase in doctoral study therefore the hypothesis

was not supported.

Even though the first and second hypotheses were not tested and the third

hypothesis was rejected there were ancillary findings that may have merit. These

findings included significant positive correlations that identify practices that result

in satisfactory advisor/advisee relationships. These practices include the advisor

helping the student secure funding; the advisor teaching good research

practices; the advisor teaching field survival skills; the student feeling satisfied

with the amount and quality of advisor time; the advisor giving regular feedback

on research; the advisor advocating for the student when necessary; the student

feeling satisfied with the advisor selection process; the student feeling as if the advisor cares about the student beyond the scholar role; and the student feeling supported by the advisor in any career path the student may choose.

The strongest correlations appear to indicate the practices that are most correlated with the advisor relationship satisfaction are the amount and quality of time spent with an advisor, the advisor advocating for the student when necessary, and the student being satisfied with the selection process for choosing the advisor.

<div align="center">Relationship to Previous Research</div>

Advising and Mentoring

As previously mentioned, in this study 94.3% of the participants stated they intended to persist in doctoral study. Also in this study 72.4% of the participants indicated currently having the advisor they wanted. The satisfaction with the current advisor among these participants may be a contributing factor to the high intent to persist rate, however, because of the limitations within this sample a direct link cannot be established between advising and reported persistence. According to previous literature, students leaving doctoral study often cite not having a relationship with a mentor or advisor or the mentor or advisor relationship they do have is poor (Boyle & Boice, 1998; Golde, 2005). The advisor was considered as a support system in this study as the relationship has been linked in previous literature with satisfaction, success, and persistence (Boyle & Boice; Golde, 2005; Golde, 2000; Tenenbaum, Crosby, & Gliner, 2001).

Doctoral Student Reform

Doctoral students have experienced positive changes because of reform efforts focused on practices and the scholarly environment. Some of the reform efforts include training future faculty how to teach; socializing the doctoral student to the field; offering career development; increasing diversity; and providing people or departments that address student grievance issues (Stimpson, 2004). Whether or not reform efforts help students succeed could not be determined from this sample, however, students who participated in this study indicated these suggested reform efforts were available to them in their programs. Specific examples of programs or resources being reported as available to the doctoral students of this present study include orientation; department and university handbooks; a graduate student center; research misconduct written policy; teaching development center; teacher assistant training course; professional development mentor separate from the advisor; preparing future faculty seminar; and academic career planning workshop. One student commented about the department's special efforts to bring positive changes for their students, "Although many graduate programs at the university that I attend have unsatisfied students, the department that I am involved in has changed a lot of their procedures and policies that have encouraged more students to enter the program. The department has changed items based on student requests and/or complaints, so I believe that the department I am participating in is way ahead of many programs at the university."

Preparing doctoral students not only for careers in academe but also for

those outside academe is another practice that is becoming more common in doctoral programs because of reform efforts. By educating doctoral students on a variety of career options, the doctoral students have more options upon graduation (Nyquist, 2002). Although not statistically related to program satisfaction or persistence in this study, approximately three fourths of the participants in this study did report they felt their advisors would support them in whatever career path they may choose. A few students indicated having professional development mentors separate from their academic advisors and that they had career development resources such as seminars or workshops available to them. However, these students were in the minority of the sample with most students reporting not having access to these resources.

Support

Literature on undergraduate success promotes the creation of a community of learners. These learning communities are also appearing more often in doctoral programs as a means to increased student learning and involvement. Increased levels of student involvement in turn often lead to increased rates of program completion in the undergraduate curriculum (Astin, 1984). Over half of the participants in this study reported they were members of a student community within their program. Students identified key people who were positive forms of support such as an advisor, a faculty member, fellow students, or the department staff. This percentage of students feeling they belonged to a student community may be one of the contributing factors for the high rate of self-reported intent to persist among the study's sample. However, the student

community being associated with success was not tested in this study.

To further illustrate the importance of support, some participants chose to comment on their support systems when asked if they would like to mention other aspects of their doctoral program. One student wrote, "peer support was invaluable." Another wrote "my cohort and mentor were the most important things that got me through." One spoke of the isolation experienced when the only two classmates she had with her decided to leave the program. These comments made by the participants echo previous research findings. As example, Bentley et al. (2004) found that cohort members suffer far less from the negative effects of isolation than the doctoral students who are not cohort members.

These students also indicated that department social traditions were present in their programs. Among the participants, nearly half reported that faculty regularly socialized with the doctoral students. As Golde (2005) suggests, simple casual faculty and student social gatherings that are shared department traditions are important in creating the community environment which may lead to increased levels of connectedness while lowering the chance of leaving.

Reasons for Leaving

Historically, doctoral student attrition has been linked with financial expenses related to completing doctoral study (Storr, 1973). However, this finding appears to be only somewhat important to the participants of this study, but does not seem to be strongly linked with advisor satisfaction. Although in this study there was no focus on possible financial causes for leaving doctoral study,

a weak significant correlation was found in the relationship of a student currently being satisfied with the advisor and the advisor helping him or her secure funding. This is an interesting finding suggesting the student may not view the advisor as a direct source to obtain funding rather the student may view funding being a university or department function.

This study focused on other reasons for leaving doctoral study beyond financial obstacles. Previous literature suggests inadequate student and faculty relations, unclear program expectations, unorganized program structure, low satisfaction with the doctoral program, and feeling isolated are all commonly cited reasons associated with doctoral student attrition (Boyle & Boice, 1998; Burnett, 1999; Ehrenberg & Mavros, 1995; Golde, 2005). Because of the inability to test hypotheses and the lack of significant findings, the findings from this study neither support or reject the findings of previous literature that encourage the inclusion of the practices of mentoring, advising, cohort membership, orientations, and social traditions or events. However, it is important to note that while a positive or negative student success outcome from these practices cannot be ascertained from this sample, these practices were available to many of the participants in this study.

<div align="center">Implications for Practice</div>

While the impact from offering a myriad of support systems on student success cannot be assessed in this sample, the sample did include a majority of participants citing one or more forms of support within their doctoral program. Creating a myriad of support systems to promote doctoral student success may

be beneficial to the students of the program but further analysis should be conducted. Logically, it would seem that not just one support system should be implemented, given that different students have different needs and one sole support system such as the advisor relationship will not suffice. Also, not all students may take advantage of just one type of resource. To be most effective, the department may consider offer several methods of support to increase doctoral student satisfaction and knowledge of resources while ultimately increasing retention. As in this study, many practices such as satisfactory advisor relationships with students, university and department orientations, and clearly communicated expectations through venues such as handbooks, seminars, and student communities are in place.

As Stimpson (2004) discussed, administrators are creating an environment of faculty concern for their students in doctoral education. This attitude is becoming more prevalent because of reform efforts. Administrators are appearing more concerned about their doctoral students' well being as well as their education. As reflected by one participant who noted how her department tried to provide improvements for a better environment for the students, it is important for program administrators to realize sincere department effort is important to and recognized by doctoral students. For example, a faculty advisor simply showing concern for the students can help a student feel satisfied with the advisor.

In this study several aspects of the advisor relationship was studied in relation to a student feeling satisfied with the advisor relationship. While a direct

connection between advisor satisfaction and overall success in the doctoral program was not assessed in this study, previous research indicate that advising is related to success and attrition (Boyle & Boice, 1998; Golde, 2005). Increasing understanding among faculty members of the importance of the advisor or mentor relationship with the students may be the key to developing good advisor or mentoring practices. Not all faculty members will be knowledgeable of good advisor practices thus department administrators may have to educate faculty members as to effective practices. Administrators might also encourage faculty members to adopt these practices by informing them of the benefits of good advisor practices not only to students but to themselves. An example of a faculty benefit that might occur from a positive advisor relationship may be a dedicated student who will effectively assist in the faculty member's research projects. Further in regard to the advisor relationship, the department allowing the students to choose their advisors whenever possible is a good program practice that is linked to satisfaction and persistence. In these good advising practices, administrators may offer incentives and acknowledgement to faculty members for high quality advising to reward and motivate exemplary advisors to continue to be student centered.

Recommendations for Future Research

The researcher made no attempt to assess actual persistence. Suggested future research would be to assess actual persistence and the relationship between persistence and formal academic support systems through a longitudinal study. The researcher believes that students could have been

optimistic in predicting they would persist. Admitting to not finishing could be viewed as failing to some students making self reporting the intent not to persist difficult. In other words, intent and actual persistence are quite different, creating an opportunity to more fully explore the impact support systems, doctoral education culture, and program structure has on actual persistence. Future studies in actual persistence of doctoral students may create more understanding of the high attrition rates previous literature has reported.

Very few of the participants (30%) had more than a few if any online classes in this study. A recommendation for further investigation for future studies is how online education impacts retention, satisfaction, and knowledge of resources in doctoral programs. Future research could examine how online education promotes support among students or isolates students. Given the simultaneous high self-reported intent to persist and low frequency of online education among this sample, researching students who have more online classes compared to those who have little to none in their curriculum would be beneficial and important information with the increasing use of online education. The researcher speculates that distance education could compromise the support systems found and shown to be critical in traditional doctoral education and thus having a potential impact on persistence. Future research could specifically examine if the online education is a factor in student persistence as it relates to support or isolation.

In this study, there was not an adequate sample of students indicating that they did not have a support system. This could be that the participants all were

students in doctoral programs that had support systems in place. Also, the convenience sample employed in this study could have limited the ability to find students who were not in support systems. Simply by having a faculty member distribute the study web link to the student could have indicated a support system in place either through departmental listserv, graduate organization, or faculty advisor or mentor. Another less plausible but possible reason behind these students indicating being a member of a support system is that these support systems studied may be universally in place for many doctoral programs. A suggestion for future research would be to investigate the effectiveness of these formal support systems in increasing persistence, satisfaction, and knowledge of resources. Future research could examine if these support systems exist in name only or are they effective practices. Further, which ones are the most effective support systems for creating a community and persistence could be examined.

The researcher's goal in this study was to contribute to the knowledge base of best practices in doctoral education. The researcher believes that this study did make a contribution to the literature of doctoral education, however, more research is needed to create a comprehensive view of what is occurring in doctoral education that promotes an overall fulfilling doctoral education experience that benefits the student, the doctoral department, the institution, and society.

APPENDIX A

INSTITUTIONAL REVIEW BOARD APPROVAL

	The University of Southern Mississippi	118 College Drive #5147
		Hattiesburg, MS 39406-0001
		Tel: 601.266.6820
	Institutional Review Board	Fax: 601.266.5509
		www.usm.edu/irb

HUMAN SUBJECTS PROTECTION REVIEW COMMITTEE
NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: **27010401**
PROJECT TITLE: **Where Has Everyone Gone? A Study of Isolation, Support Systems, and Persistence in Doctoral Education**
PROPOSED PROJECT DATES: **10/24/06 to 05/01/07**
PROJECT TYPE: **Dissertation or Thesis**
PRINCIPAL INVESTIGATORS: **Casey Nicole Cockrell**
COLLEGE/DIVISION: **College of Education & Psychology**
DEPARTMENT: **Educational Leadership & Research**
FUNDING AGENCY: **N/A**
HSPRC COMMITTEE ACTION: **Expedited Review Approval**
PERIOD OF APPROVAL: **01/04/07 to 01/03/08**

_____   _____
Lawrence A. Hosman, Ph.D.   *1-05-07*
HSPRC Chair   Date

APPENDIX B

INVITATION LETTER REQUESTING PARTICIPATION

I am a doctoral student in the Department of Educational Leadership and Research studying Higher Education Administration at The University of Southern Mississippi. Currently I am collecting data for my dissertation study, which is examining the relationship between academic support systems and doctoral students' experiences.

I was given your name by XXXXX who indicated you might be willing to help me identify a sample of graduate students at your institution.

If you are willing, I would like to send you a link to which students in your doctoral programs could go to complete the online survey. Please let me know if this is agreeable to you.

If you have any questions or concerns please contact me at caseyncockrell@yahoo.com. Thank you for your help.

Sincerely,

Casey N. Cockrell
The University of Southern Mississippi
Graduate Student

APPENDIX C

ONLINE SURVEY

SURVEY ON DOCTORAL EDUCATION
1. INTRODUCTION

Dear Student:

I am a doctoral student in the Department of Educational Leadership and Research studying Higher Education Administration at The University of Southern Mississippi. Currently I am collecting information for my dissertation study, which is examining the relationship between academic support systems and students' experience in their doctoral program.

This study will focus on selected universities in Mississippi. I am inviting you to share your graduate school experiences by anonymously completing the electronic questionnaire. Your voluntary participation in this study will be valuable in gathering information on graduate education and will be greatly appreciated.

There are no known risks associated with the study and all data gathered from the survey will be kept confidential and participants will remain anonymous. The questionnaire will take approximately 20 minutes to complete and you have the ability to not complete portions of the questionnaire as well as withdraw at any time during the questionnaire. Summary information gained from this study may be submitted for presentation or publication but students and universities will remain anonymous.

If you have any questions or concerns please contact me at caseyncockrell@yahoo.com. Thank you in advance for your help and participation.

Sincerely,
Casey N. Cockrell
The University of Southern Mississippi
Graduate Student

This project and this consent form have been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-6820.

INSTRUCTIONS:
*Answer the questions candidly and to the best of your ability.
*When answering the questions, please use the defintions in the glossary below.

GLOSSARY
*Doctoral program means your current program at your current university. In some cases a program is the same as a department, sometimes a program crosses several departments, and sometimes a department includes several programs. Some programs start students with a master's degree program that rolls into a doctoral program, in this case refer to your experiences in both programs together. Some programs are terminal degree programs, in this case refer to your experiences in your terminal degree program.

*Advisor means the one faculty member you have as your academic advisor, dissertation chair, or research supervisor whom you consider your primary formal advisor. If you have co-advisors, answer questions in reference to the one person with whom you work most closely.

*Dissertation topic refers to the project(s) or subject of your dissertation.

*Term means an academic semester or quarter.

*Formal support system refers to only school related support, either academic or social, excluding other types of support such as family, peers outside academe, and community or religious organizations.

*Cohort means a group of students who begin graduate study together, share program goals and classes, and complete the program at approximately the same time.

2. EXPERIENCES AS A GRADUATE STUDENT (Section 2 of 6)

To start with, I would like to learn about where you are in your doctoral program and about your dissertation research and advisor.

1. What is your field of study? Select the one field that is closest to yours.

2. When did you begin your current doctoral program? (If you are in a program where you first did a master's and then continued in the Ph.D. program at the same institution list the start of the master's years.)

Start date: MM DD YYYY

3. Which statement most applies to where you are in your doctoral coursework?

I have completed 33 hours or less of graduate study
I have completed more than 33 hours of graduate study
I have completed all coursework

4. Have you completed your doctoral comprehensive examinations?

Yes
No
My doctoral program does not have comprehensive examinations

5. Which statement best reflects where you are in the dissertation process?

I have not started my dissertation
I am currently working on my dissertation
I am preparing for the final defense of my dissertation

6. What has your pattern of enrollment been? During academic years I have primarily enrolled (select one):

Part-time
Full-time

7. Type of support system or systems you most identify yourself as having in school (select all that apply).

Cohort
Mentor/Advisor
Graduate Organization
No formal support system

8. At this point in your graduate program, do you see yourself graduating from your current program?

Yes
No

9. Are you considering switching academic disciplines?

Yes
No

10. Are you considering transferring to another university?

Yes
No

11. Research is conducted in many ways and in many settings. Tell me how you conduct your dissertation research. My dissertation research is done primarily (select one):

As part of a large research group (12 or more people: including advisor, faculty, students, or post docs).

As part of a small research group (fewer than 12 people: including advisor, faculty, students, or post docs).

Not in a group, but in close collaboration with a faculty member.
Individually, with some input from faculty.

12. How many online classes have you taken in your doctoral program?

0
1 to 2
3 to 4
5 to 6
7 or more
My program is completely online

3. ADVISOR (Section 3 of 6)

These next questions are about your advisor. Advisor means the one faculty member you have as your academic advisor, dissertation chair, or research supervisor whom you consider your primary formal advisor. If you have coadvisors, answer questions in reference to the one person with whom you work most closely.

13. Do you currently have an advisor?

Yes
No

4. ADIVSOR (Section 4 of 6)

These next questions are about your advisor. Advisor means the one faculty member you have as your academic advisor, dissertation chair, or research supervisor whom you consider your primary formal advisor. If you have coadvisors, answer questions in reference to the one person with whom you work most closely.

14. Did you have an advisor immediately upon beginning the doctoral program? If your program started with a master's degree, consider that the beginning of your doctoral program.

Yes
No

15. Tell me about your relationship with your advisor. Rate the extent to which each statement describes your relationship.
Of my advisor, I would say:

	Strongly Disagree	Disagree	Agree	Strongly Agree
I currently have the advisor I want.				
I am satisfied with the process by which I came to have my current advisor.				
The manner in which I came to work with my advisor is typical in this department.				
I am satisfied with the amount and quality of time spent with my advisor.				

16. Advisors engage in many different behaviors. For each of these statements, indicate the extent that it DESCRIBES THE BEHAVIOR of your advisor.

Many students consider other faculty members to be their mentors. For each of these statements, also indicate the extent that it DESCRIBES THE BEHAVIOR of your faculty mentor(s) who is not your advisor. If there is no other faculty member whom you consider a mentor leave the mentor column blank.

	Advisor	Mentor
Are available to me when I need help with my research.		
Are available to me when I need to talk about my program and my progress in the program.		
Treat my ideas with respect.		
Give me regular and constructive feedback on my research.		
Teach me the details of good research practice.		
Provide me with information about ongoing research relevant to my work.		
Teach me survival skills for this field.		
Help me secure funding for my graduate studies.		
Help me develop professional relationships with others in the field.		
Assist me in writing presentations or publications.		
Teach me to write grant and contract proposals.		
Advocate for me with others when necessary.		
Provide emotional support when I need it.		
Are sensitive to my needs.		
Take an interest in my personal life.		
Have my best interests at heart.		
Care about me as a whole person - not just as a scholar.		
Provide direct assessments of my progress.		
Would support me in any career path I might choose.		
See me as a source of labor to advance his/her research.		
Expect me to work so many hours that it is difficult for me to have a life outside of school.		
Give me regular and constructive feedback on my progress toward degree completion.		
Provide information about career paths open to me		

Solicit my input on matters of teaching and research.		

17. Students and advisors match up in a variety of ways. Bearing in mind that the exact process you used may not be listed, select the one statement that best describes the way you matched up with your advisor.

I came to this program planning to work with my advisor.

I selected my advisor after I started the program.

I switched to my advisor after I started the program, although I was initially with another advisor with whom I expected to complete my degree.

I switched to my advisor after I started the program; most students are expected to make such a switch.

I was assigned to my advisor.

5. ADVISOR (Section 3 of 6)

These next questions are about your advisor. Advisor means the one faculty member you have as your academic advisor, dissertation chair, or research supervisor whom you consider your primary formal advisor. If you have coadvisors, answer questions in reference to the one person with whom you work most closely.

18. Students choose to work with a particular faculty member as their advisor for a variety of reasons. Rate the extent to which each statement describes why you chose your advisor.

I selected my advisor because she or he:

	Not at all a reason	Minor reason	Major reason
Is doing interesting research.			
Has a reputation for getting students through the process in a timely manner.			
Had money to support me.			
Has intellectual interests that match mine.			
Will make sure I do a rigorous dissertation.			
Was recommended to me by other people.			

Has a reputation for being a good researcher.			
Has a reputation for being a good teacher.			
Has a reputation for being a good advisor.			
Is knowledgeable in the techniques and methods I will employ.			
Was willing to take me on.			
Fosters a working environment I like in his/her research group.			
Can write a good recommendation letter that will carry my career a long way.			

6. DESCRIPTION OF YOUR DOCTORAL PROGRAM AND DEPARTMENT (Section 4 of 6)

In this section I am interested in learning about the details of your doctoral program and your perceptions of your experiences. Doctoral program means your current program and department at your current university.

19. One aspect of a doctoral program is the ways the students in the program act. For each of these statements, indicate the extent to which it describes students in your program.

Of students in my program, I would say:

	Strongly Disagree	Disagree	Agree	Strongly Agree
There is a sense of solidarity among the students who enter the program at the same time.				
Many students complain of feeling exploited by the faculty.				
Students have an active role in program decisions that affect them.				
Students freely share information with each other about opportunities and how to get through the program.				

Students have little contact with each other.				
Students must compete with each other for faculty time and attention				
Experienced students mentor newer students.				
I am part of a supportive student community in my program.				
I am part of a supportive student community in my program.				

20. Another aspect of a doctoral program is the ways the faculty members in the program act. For each of these statements, indicate the extent to which it describes faculty in your program.

Of faculty in my program, I would say:

	Strongly Disagree	Disagree	Agree	Strongly Agree
Faculty in the program have the best interests of students at heart.				
Faculty value individual research over collaborative research.				
Faculty make sure that students feel like members of the program.				
Faculty care about students in the program.				
Some faculty here make sexist, racist, or homophobic remarks.				
Faculty appear to give most of the attention and resources to a select group of students.				
Faculty collaborate with students on publications.				
Faculty treat students with respect.				
Faculty are willing to bend the rules for some students, but not others.				

Faculty carefully guard results and new ideas from others in the field.				
Faculty seem more concerned with furthering their own careers than with the well-being of the program as a whole.				
Faculty really care about their teaching.				
Faculty really care about their research.				
Faculty really care about advising students.				
Faculty are explicit in their expectations of students.				
Faculty carefully supervise teaching assistants.				
Faculty regularly socialize with students.				
Faculty are generous with their time, and help students to grow as scholars, researchers and writers.				
Faculty have high ethical standards.				
There are tensions among program faculty.				
Faculty are accessible to students.				
Faculty seem to believe that students are here to help faculty fulfill their research and teaching obligations.				

21. Following is a list of issues and concerns that often face doctoral students.

Since you started your program, have you developed clear understandings regarding these items?

	Not at all clear	Somewhat clear	Very clear
Commitments regarding the funding of your graduate studies.			
Length of time you would be a student.			
Criteria for determining that you were ready to graduate.			
Amount of time to be spent with your advisor.			
Fulfilling teaching assistant obligations: number of courses, number of hours spent, etc.			
Customary practices regarding publication: when and how to submit, etc.			
Customary practices about determining authorship of research papers: order of authors, who is included, etc.			
Customary practices for the appropriate use of research funds.			
Customary practices for generating, handling, and using research data responsibly.			
Customary practices for reviewing and refereeing academic papers fairly.			
Customary practices involving biosafety, human subjects, animal care, etc.			
Customary practices regarding appropriate sexual and romantic relationships with undergraduates.			
Commitments regarding the funding of your dissertation research project.			
Customary practices for using copyrighted material or material written by others.			
Customary practices for grading student work.			
Customary practices for avoiding conflict of interest: industry funding, consulting, etc.			

Customary practices regarding patent policies.			

22. Following is a list of resources and programs that some campuses have for doctoral students.

For each resource or program listed below, tell me if it is available to doctoral students like you.

IF IT IS AVAILABLE, have you used that resource or participated in that program?

IF IT IS AVAILABLE, do faculty in your program encourage students to use the resource or participate in the program?

	Available	I used	Encouraged
An orientation for new graduate students in the program.			
A university-wide orientation for graduate students.			
A graduate student handbook for the program.			
A graduate student handbook for the University.			
A graduate student center (i.e., center with resources, hang out space).			
A written policy on research misconduct.			
A person or office to help students explore options for action when they perceive abuse or misconduct in their program.			
A teaching development center.			
A teaching assistant training course, lasting at least one term.			
A mentor for your professional development who is not your advisor.			
A seminar or course designed to develop you as a prospective faculty member.			

A career planning workshop on the academic job search.			

23. If you could go back in time and start your doctoral program over, knowing what you know now, which decisions would you change?

If I did it over, I would:

	No	Maybe	Yes
Select a different field or sub-field			
Select a different advisor			
Select a different university			
Select a different dissertation topic			
Change my decision about taking time off before entering my doctoral program			
Change my decision about taking time off during my doctoral program			
Not go to graduate school			

24. Please feel free to describe anything else you would like to tell me about your doctoral program. For example, characteristics of the program that either hindered or encouraged your persistence.

7. BACKGROUND INFORMATION (Section 5 of 6)

Finally, help us to know a little more about you. For each question, check the selection that best applies to you.

Male   Female

US Citizen   Permanent Resident   Non-US Citizen

27. If US Citizen, what is your ethnic background? Select one.

28. What year were you born?

29. Year received bachelor's degree:

30. Have you been enrolled in a doctoral program prior to this one?
Yes   No
31. If yes, what was different? Check all that apply.

Different discipline
Different institution
Different advisor

32. What is the highest level of education reached by your family members?

Circle the number that corresponds with the highest level reached by any family member in each category. If you do not have such a family member, leave blank.

	No College	Some College	Bachelor's Degree	Master's or Professional Degree	Doctorate
Any parent or guardian					
Any sibling					
Spouse/Partner					

33. Which school do you attend?

Jackson State University
Mississippi State University
The University of Mississippi
The University of Southern Mississippi

8. THANK YOU FOR COMPLETING THE QUESTIONNAIRE!

Thank you for participating in the survey. I plan on interviewing a subset of survey respondents in greater depth. If you would be willing to be interviewed please e-mail your contact information to caseyncockrell@yahoo.com. Please know not all volunteers will be selected to participate in the interviews and your contact information will not be connected to the questionnaire you just completed.

APPENDIX D

ORIGINAL SURVEY ON DOCTORAL EDUCATION (GOLDE & DORE, 2001)

Survey on Doctoral Education

The survey takes about **30 minutes** to complete.

All answers are strictly confidential. Your name and address will NOT BE CONNECTED to your answers.

All data will be only identified by the code number above.

If you have any questions, please contact us by email at **phd-survey@wcer.wisc.edu** or call 608/265-5647.

INSTRUCTIONS:

• Answer the questions candidly and to the best of your ability.

• To answer questions circle the numbers in pen or pencil.

• We invite you to elaborate on any answers by writing comments in the margins or on the space at the end of the survey.

• When answering the questions, please use the definitions in the glossary below.

• When you are finished, please mail the survey back in the postage paid envelope provided.

ELECTRONIC SURVEY VERSION:

If you prefer to take this survey electronically, a web-based version can be found at:

www.phd-survey.org

You will need a code number to enter the web-based survey – use the number that appears on the label at the top of this page.

GLOSSARY

• **Doctoral program** means your current program at your current university. In some cases a program is the same as a department, sometimes a program crosses several departments, and sometimes a department includes several

programs. Some programs start students with a master's degree program that rolls into a doctoral program: in this case refer to your experiences in <u>both</u> programs together.

• **Advisor** means the one faculty member you have as your academic advisor, dissertation chair, or research supervisor whom you consider your <u>primary</u> formal advisor. If you have co-advisors, answer questions in reference to the one person with whom you work most closely.

• **Research** means the research and scholarship related to <u>your own</u> dissertation.

• **Dissertation topic** refers to the project(s) or subject of your dissertation.

• **Term** means an academic semester or quarter.

SECTION A: EXPERIENCES AS A GRADUATE STUDENT
To start with, we would like to learn about where you are in your doctoral program and about your dissertation research and advisor.

A1. What is your field of study? Select the one field that is closest to yours.

_____ Art History	_____ Philosophy
_____ Sociology	_____ Psychology
_____ Ecology	_____ Molecular/Cellular Biology
_____ Chemistry	_____ Geology
_____ History	_____ English
_____ Mathematics	_____ Other:

A2. When did you begin your <u>current</u> doctoral program? (If you are in a program where you first did a master's and then continued in the Ph.D. program <u>at the same institution</u> list the start of the master's years.)

Month_____ 19_____

A3. What has your pattern of enrollment been?

a. During academic years I have primarily enrolled *(select one)*:

_____ Part-time

_____ Full-time

b. During summers I have primarily spent my time *(select one)*:

_____ Enrolled

_____ Not enrolled, primarily doing work <u>related</u> to my doctoral program

_____ Not enrolled, primarily doing work <u>not related </u>to my doctoral program

c. I have taken at least one term off (excluding summer) during <u>this</u> doctoral program *(select one)*:

_____ Yes

_____ No

A4. Tell us the name of your program and department:_____

A5. A doctoral program has many requirements that students must fulfill. Typical requirements are listed here. Indicate if it is <u>not a requirement </u>of your program, if this requirement <u>remains to be completed</u>, or if you have <u>completed </u>this requirement. *Circle the number that best applies. If you completed it, but it is <u>not a requirement</u>, circle 1.*

	Not a requirement in my program	Remains to be completed	I have completed
a. Classes and coursework	1	2	3
b. Master's degree	1	2	3
c. Comprehensive exam, preliminary exam, qualifying exam, written or oral proficiency exams, cumulative exams	1	2	3
d. Written proposal of planned dissertation work	1	2	3
e. Oral defense of planned dissertation work	1	2	3
f. Required teaching or teaching assistant position	1	2	3
g. Requirement to complete a course known as thesis or dissertation credits	1	2	3
h. Oral defense of completed dissertation	1	2	3

A6. Research is conducted in many ways and in many settings. Tell us how you conduct your <u>dissertation research</u>.

a. My dissertation research is done primarily *(select one)*:

_____ As part of a <u>large research group</u> (12 or more people, including advisor, faculty, students, post docs)

_____ As part of a <u>small research group</u> (fewer than 12 people, including advisor, faculty, students, post docs)

_____ Not in a group, but in <u>close collaboration</u> with a faculty member.

_____ <u>Individually</u>, with some input from faculty.

b. My dissertation research consists of several discrete projects, that will be collected together in the dissertation.

_____ Yes

_____ No

c. My dissertation research setting is <u>primarily</u> *(select one)*:

_____ Lab based

_____ Library based

_____ Field based

_____ Other. Specify:_____

A7. Students select their dissertation topics in many different ways. Rate the extent to which each statement describes your dissertation topic. *Circle the number that best applies.*

Of my dissertation topic, I would say:

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. My dissertation topic was so ... of my ... topic.	1	2	3	4
b. My dissertation topic is related to work being done by my advisor or my advisor's research group.	1	2	3	4
c. My advisor has special expertise in my topic.	1	2	3	4

	Strongly Disagree	Disagree	Agree	Strongly Agree
d. I am satisfied with the manner in which I came to my dissertation topic.	1	2	3	4
e. My dissertation topic interests me a great deal.	1	2	3	4

These next questions are about your advisor. Advisor means the one faculty member you have as your academic advisor, dissertation chair, or research supervisor whom you consider your primary formal advisor. If you have coadvisors, answer questions in reference to the one person with whom you work most closely.

A8. Do you currently have an advisor?

_____   Yes

_____   No **IF NO, SKIP TO QUESTION B1.**

A9. Did you have an advisor immediately upon beginning the doctoral program? *If your program started with a master's degree, consider that the beginning of your doctoral program.*

_____   Yes

_____   No

A10. Tell us about your relationship with your advisor. Rate the extent to which each statement describes your relationship. *Circle the number that best applies.*

Of my advisor, I would say:

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. I currently have the advisor I want.	1	2	3	4
b. I am satisfied with the process by which I came to have my current advisor.	1	2	3	4
c. I am satisfied with the manner in which I came to work with my advisor. Is this advisor a choice in this department.	1	2	3	4
d. I am satisfied with the amount and quality of time spent with my advisor.	1	2	3	4

A11. Students and advisors match up in a variety of ways. Bearing in mind that the exact process you used may not be listed, *select the one statement* that best

describes the way you matched up with your advisor.

_____ I came to this program planning to work wi th my advisor.

_____ I selected my advisor after I started the program.

_____ I switched to my advisor after I started the program, although I was initially with another advisor with whom I expected to complete my degree.

_____ I switched to my advisor after I started the program; most students are expected to make such a switch.

_____ I was assigned to my advisor.
IF ASSIGNED, SKIP TO QUESTION A13.

A12. Students choose to work with a particular faculty member as their advisor for a variety of reasons. Rate the extent to which each statement describes why you chose your advisor. *Circle the number that best applies.*

I selected my advisor because she or he:

	Not at all a reason	Minor reason	Major reason
a. Is doing interesting research	1	2	3
b. Has a reputation for getting students through the process in a timely manner.	1	2	3
c. Had money to support me	1	2	3
d. Has intellectual interests that match mine.	1	2	3
e. Will make sure I do a rigorous dissertation	1	2	3
f. Was recommended to me by other people.	1	2	3
g. Has a reputation for being a good researcher	1	2	3
h. Has a reputation for being a good teacher.	1	2	3
i. Has a reputation for being a good advisor	1	2	3
j. Is knowledgeable in the techniques and methods I will employ.	1	2	3
k. Was willing to take me on	1	2	3
l. Fosters a working environment I like in his/her research group.	1	2	3
m. Can write a good recommendation letter that will carry my career one way	1	2	3
n. Other. Specify:	1	2	3

A13. Advisors engage in many different behaviors. For each of these statements, indicate the extent that it **DESCRIBES THE BEHAVIOR** of your advisor. *Circle the number in the first column that best applies.*

A14. Many students consider other faculty members to be their mentors. For each of these statements, indicate the extent that it **DESCRIBES THE BEHAVIOR** of your faculty mentor(s) who are not your advisor. *Circle the number in the second column that best applies. If there is no other faculty member whom you consider a mentor leave A14 blank.*

My advisor and other mentor(s):

	A13 ADVISOR				A14 MENTOR(S)			
	Strongly Disagree	Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Agree	Strongly Agree
a. Are available to me when I need to discuss with my research	1	2	3	4	1	2	3	4
b. Are available to me when I need to talk about my program and my progress in the program.	1	2	3	4	1	2	3	4
c. Treat my ideas with respect	1	2	3	4	1	2	3	4

	1	2	3	4		1	2	3	4
d. Give me regular and constructive feedback on my research.	1	2	3	4		1	2	3	4
e. Teach me the details of good research practice.		2	3	4			2	3	4
f. Provide me with information about ongoing research relevant to my work.	1	2	3	4		1	2	3	4
g. Teach me survival skills for this field.		2	3	4		1	2	3	4
h. Help me secure funding for my graduate studies.	1	2	3	4		1	2	3	4
i. Help me develop professional relationships with others in the field.		2	3	4		1	2	3	4
j. Assist me in writing presentations or publications.	1	2	3	4		1	2	3	4
k. Teach me to write grant and contract proposals.		2	3	4		1	2	3	4
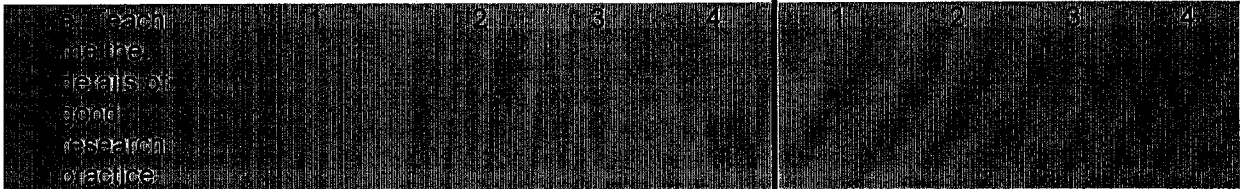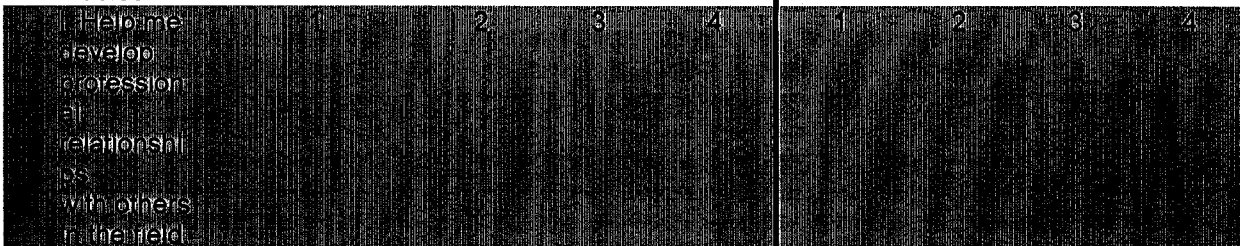
l. Advocate for me with others when necessary.	1	2	3	4	1	2	3	4
m. Provide emotional support when I need it.	1	2	3	4	1	2	3	4
n. Are sensitive to my needs.	1	2	3	4	1	2	3	4
o. Take an interest in my personal life.	1	2	3	4	1	2	3	4
p. Have my best interests at heart.	1	2	3	4	1	2	3	4
q. Care about me as a whole person—not just as a scholar.	1	2	3	4	1	2	3	4
r. Provide direct assessments of my progress.	1	2	3	4	1	2	3	4
s. Would support me in any career path I might choose.	1	2	3	4	1	2	3	4
t. See me as a source of labor to advance his/her research.	1	2	3	4	1	2	3	4

u. Expect me to work so many hours that it is difficult for me to have a life outside of school.	1	2	3	4	1	2	3	4
v. Give me regular and constructive feedback on my progress toward degree completion	1	2	3	4	1	2	3	4
w. Provide information about career paths available to me.	1	2	3	4	1	2	3	4
x. Solicit my input on matters of teaching and research.	1	2	3	4	1	2	3	4

SECTION B. DESCRIPTION OF YOUR DOCTORAL PROGRAM AND DEPARTMENT

In this section we are interested in learning about the details of your doctoral program and your perceptions of your experiences. Doctoral program means your current program and department at your current university.

B1. One aspect of a doctoral program is the structure of the program. Indicate the extent to which each statement describes the structure of your program. *Circle the number that best applies.*

Of my doctoral program, I would say:

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. [illegible]	1	2	3	4
b. I understand the requirements in my program	1	2	3	4
c. [illegible]	1	2	3	4
d. My coursework has given me a broad foundation of knowledge, including related fields and subspecialities.	1	2	3	4
e. [illegible]	1	2	3	4
f. I am annually reviewed to assess my progress.	1	2	3	4

B2. Another aspect of a doctoral program is the ways the <u>students in the program act</u>. For each of these statements, indicate the extent to which it describes students in your program. *Circle the number that best applies.*

Of students in my program, I would say:

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. [illegible]	1	2	3	4
b. Many students complain of feeling exploited by the faculty.	1	2	3	4
c. [illegible]	1	2	3	4
d. Students freely share information with each other about opportunities and how to get through the program.	1	2	3	4
e. Students have little contact with each other.	1	2	3	4
f. Students must compete with each other for faculty time and attention.	1	2	3	4

	Strongly Disagree	Disagree	Agree	Strongly Agree
h. I am part of a supportive student community in my program.	1	2	3	4

B3. Another aspect of a doctoral program is the ways the faculty members in the program act. For each of these statements, indicate the extent to which it describes faculty in your program. *Circle the number that best applies.*

Of faculty in my program, I would say:

	Strongly Disagree	Disagree	Agree	Strongly Agree
b. Faculty value individual research over collaborative research.	1	2	3	4
d. Faculty care about students in the program.	1	2	3	4
f. Faculty appear to give most of the attention and resources to a select group of students.	1	2	3	4
h. Faculty treat students with respect.	1	2	3	4
j. Faculty carefully guard results and new ideas from others in the field.	1	2	3	4
l. Faculty really care about their teaching.	1	2	3	4

n. Faculty really care about advising students.	1	2	3	4
o. Faculty are excited about their aspirations of students.	1	2	3	4
p. Faculty carefully supervise teaching assistants.	1	2	3	4
q. Faculty carefully supervise research assistants.	1	2	3	4
r. Faculty regularly socialize with students.	1	2	3	4
s. Faculty are generous with their time to help students to lower-cost vendors, publications, etc. writers.	1	2	3	4
t. Faculty have high ethical standards.	1	2	3	4
u. There are tensions in the program faculty.	1	2	3	4
v. Faculty are accessible to students.	1	2	3	4
w. Faculty seem to believe that students adhere to their teaching and their research and teaching responsibilities.	1	2	3	4

Following is a list of <u>issues and concerns</u> that often face doctoral students.

B4. Since you started your program, have you developed <u>clear understandings</u> regarding these items? *In the first column, circle the number that best applies. If not applicable to you, leave blank.*

B5. What was your <u>primary source of information</u> regarding these items? *In the second column, circle the number that best matches the source of your information. Only select one. If this was never made clear to you, leave B5 blank.*

Issue or concern:	B4 I HAVE A CLEAR UNDERSTANDING			B5 PRIMARY INFORMATION SOURCE				
	Not at all clear	Some-what Clear	Very Clear					
a. Commitments regarding the funding of your graduate studies.	1	2	3	1	2	3	4	5
b. Length of time you would be a student.	1	2	3	1	2	3	4	5

[row illegible]	1	2	3	1	2	3	4	5
d. Amount of time to be spent with your advisor.	1	2	3	1	2	3	4	5
[row illegible]	1	2	3	1	2	3	4	5
f. Customary practices regarding publication: when and how to submit, etc.	1	2	3	1	2	3	4	5
[row illegible]	1	2	3	1	2	3	4	5
h. Customary practices for the appropriate use of research funds.	1	2	3	1	2	3	4	5
[row illegible]	1	2	3	1	2	3	4	5
j. Customary practices for reviewing and refereeing academic papers fairly.	1	2	3	1	2	3	4	5
[row illegible]	1	2	3	1	2	3	4	5
l. Customary practices regarding appropriate sexual and romantic relationships with undergraduates.	1	2	3	1	2	3	4	5
[row illegible]	1	2	3	1	2	3	4	5
n. Customary practices for using copyrighted material or material written by others.	1	2	3	1	2	3	4	5
[row illegible]	1	2	3	1	2	3	4	5
p. Customary practices for avoiding conflict of interest: industry funding, consulting, etc.	1	2	3	1	2	3	4	5
[row illegible]	1	2	3	1	2	3	4	5

Following is a list of resources and programs that some campuses have for doctoral students.

B6. For each resource or program listed below, tell us if it is <u>available</u> to doctoral

students like you. *Circle the number in the first column that best applies.*

B7. <u>IF IT IS AVAILABLE,</u> have you used that resource or <u>participated</u> in that program? *Circle the number in the second column that best applies. If it is <u>not available or don't know, leave B7 blank.</u>*

B8. <u>IF IT IS AVAILABLE,</u> do faculty in your program <u>encourage students</u> to use the resource or participate in the program? *Circle the number in the third column that best applies. If it is <u>not available or you don't know, leave B8 blank.</u>*

Resource or program:

	B6 AVAILABLE			B7 I USED		B8 ENCOURAGED			
	No	Don't Know	Yes	No	Yes				
a. An orientation for new graduate students in the program.	1	2	3	1	2	1	2	3	4
b. A university-wide orientation for graduate students.	1	2	3	1	2	1	2	3	4
c. A graduate student handbook for the program.	1	2	3	1	2	1	2	3	4
d. A graduate student handbook for the University.	1	2	3	1	2	1	2	3	4
e. A graduate student center (a center with resources, hang out space).	1	2	3	1	2	1	2	3	4
f. A written policy on research misconduct.	1	2	3	1	2	1	2	3	4
g. A person or office to help students explore options for action when they perceive abuse or misconduct in their program.	1	2	3	1	2	1	2	3	4
h. A teaching development center.	1	2	3	1	2	1	2	3	4
i. A teaching assistant training course, lasting at least one term.	1	2	3	1	2	1	2	3	4

	No	Don't Know	Yes	No	Yes				
A mentor for your professional development who is not your advisor.	1	2	3	1	2	1	2	3	4
k. A seminar or course designed to develop you as a prospective faculty member.	1	2	3	1	2	1	2	3	4
l. A career planning workshop on the academic job search.	1	2	3	1	2	1	2	3	4

Following is a list of opportunities that some campuses have for doctoral students.

B9. For each opportunity listed below, tell us if it is available to doctoral students like you. *Circle the number in the first column that best applies.*

B10. IF IT IS AVAILABLE, have you participated in that opportunity? *Circle the number in the second column that best applies. If it is not available or you don't know, leave B10 blank.*

B11. IF IT IS AVAILABLE, do faculty in your program encourage students to participate in that opportunity? *Circle the number in the third column that best applies. If it is not available or don't know, leave B11 blank.*

Opportunity:	B9 AVAILABLE			B10 I USED		B11 ENCOURAGED			
	No	Don't Know	Yes	No	Yes				
a. Workshop/seminar on teaching in your discipline.	1	2	3	1	2	1	2	3	4
b. An organized trip to another campus to learn about being a faculty member in another setting.	1	2	3	1	2	1	2	3	4
c. A workshop on career opportunities outside of academia.	1	2	3	1	2	1	2	3	4

d. Progressively more responsible roles in teaching.	1	2	3	1	2	1	2	3	4
e. Progressively more responsible roles in research.	1	2	3	1	2	1	2	3	4
f. Opportunity to participate in campus or department governance (e.g., serve on committees).	1	2	3	1	2	1	2	3	4
g. Internship (e.g., in industry).	1	2	3	1	2	1	2	3	4
h. Opportunity to work on another campus (e.g., teaching a course).	1	2	3	1	2	1	2	3	4
i. Opportunity to make a presentation at a regional or national meeting.	1	2	3	1	2	1	2	3	4
j. Workshop/seminar on faculty roles and responsibilities.	1	2	3	1	2	1	2	3	4
k. Workshop/seminar on research ethics.	1	2	3	1	2	1	2	3	4
l. Workshop/seminar on history, mission and purpose of higher education.	1	2	3	1	2	1	2	3	4
m. Workshop/seminar on organization and administration of colleges and universities.	1	2	3	1	2	1	2	3	4

B12. Have you ever participated in a Preparing Future Faculty program?

_____ Yes

_____ No

B13. If you could go back in time and start your doctoral program over, knowing what you know now, which decisions would you <u>change</u>? *Circle the number that best applies.*

If I did it over, I would:

	No	Maybe	Yes
a. Select a different field or sub-field	1	2	3
b. Select a different advisor	1	2	3
c. Select a different university	1	2	3
d. Select a different dissertation topic	1	2	3
e. Have more conversations with my advisor about my career plans	1	2	3

d. Progressively more responsible roles in teaching.	1	2	3	1	2	1	2	3	4
e. Progressively more responsible roles in research.	1	2	3	1	2	1	2	3	4
f. Opportunity to participate in campus or department governance (e.g., serve on committees).	1	2	3	1	2	1	2	3	4
g. Internship (e.g., in industry).	1	2	3	1	2	1	2	3	4
h. Opportunity to work on another campus (e.g., teaching a course).	1	2	3	1	2	1	2	3	4
i. Opportunity to make a presentation at a regional or national meeting.	1	2	3	1	2	1	2	3	4
j. Workshop/seminar on faculty roles and responsibilities.	1	2	3	1	2	1	2	3	4
k. Workshop/seminar on research ethics.	1	2	3	1	2	1	2	3	4
l. Workshop/seminar on history, mission and purpose of higher education.	1	2	3	1	2	1	2	3	4
m. Workshop/seminar on organization and administration of colleges and universities.	1	2	3	1	2	1	2	3	4

B12. Have you ever participated in a Preparing Future Faculty program?

_____ Yes

_____ No

B13. If you could go back in time and start your doctoral program over, knowing what you know now, which decisions would you <u>change</u>? *Circle the number that best applies.*

If I did it over, I would:

	No	Maybe	Yes
a. Select a different field or sub-field	1	2	3
b. Select a different advisor	1	2	3
c. Select a different university	1	2	3
d. Select a different dissertation topic	1	2	3
e. Have more conversations with my advisor about my career plans	1	2	3

f. Change my decision about taking time off *during* my doctoral program	1	2	3
g. Not go to graduate school	1	2	3
h. Take more courses outside of department.	1	2	3

Which courses?_____

B14. Knowing everything that you know now, what advice would you give others entering or in the early years of graduate school? *If you need it, there is more space at the end of the survey.*

SECTION C: CAREER PLANS

Now we would like to learn about your plans and dreams for the future. Doctoral students consider a wide range of career options. Furthermore, their plans change over time.

First, consider what you <u>currently</u> hope and plan to pursue as a career after you complete your doctorate and any postdoctoral training you anticipate.

C1. <u>Currently</u>, how <u>strong is your interest</u> in or desire for each of these career options? *Circle the choice that best applies to you now in the first column.*

C2. <u>Since you began your program</u>, has your interest in this option decreased, stayed the same, or increased? *Circle your choice in the second column.*

	C1			C2		
	MY CURRENT INTEREST & DESIRE			**CHANGE IN INTEREST SINCE I BEGAN PROGRAM**		

Career option:

	Not at all	Possibly	Definitely	Decreased	Stayed the Same	Increased
a. To become a professor in a college or university	1	2	3	1	2	3
b. To teach, but not in a college or university setting	1	2	3	1	2	3
c. To conduct research in a college or university (non-faculty job)	1	2	3	1	2	3
d. To become an administrator in a college or university	1	2	3	1	2	3
e. To conduct research in business, industry, or the private sector	1	2	3	1	2	3
f. To become an administrator/manager in business, industry, or the private sector	1	2	3	1	2	3
g. To conduct research in a nonprofit organization or government agency	1	2	3	1	2	3

Career option	Not at all	Possibly	Definitely		Decrease	Stayed the Same	Increased
h. To become an administrator/manager in a nonprofit, public service, or government agency	1	2	3		1	2	3
i. To work independently (e.g., consultant, writer)	1	2	3		1	2	3
j. To start my own business	1	2	3		1	2	3
k. Not to be employed for pay	1	2	3		1	2	3

Regardless of your current interest and desire, we now want you to consider how **realistic** it would be for you to pursue each career option.

C3. Currently, how realistic would it be for you to pursue each of these career possibilities? *Circle the number that best applies to you now in the first column.*

C4. Since you began your program, has your perception of how realistic it is to pursue each option decreased, stayed the same, or increased? *Circle your choice in the second column.*

	C3 MY CURRENT PERCEPTION AS REALISTIC				C4 CHANGE IN PERCEPTION SINCE I BEGAN PROGRAM		
Career option:	Not at all	Possibly	Definitely		Decrease	Stayed the Same	Increased
a. To become a professor in a college or university	1	2	3		1	2	3
b. To teach, but not in a college or university setting	1	2	3		1	2	3
c. To conduct research in a college or university (non-faculty job)	1	2	3		1	2	3
d. To become an administrator in a college or university	1	2	3		1	2	3

a. To conduct research in business, industry, or the private sector	1	2	3	1	2	3
f. To become an administrator/manager in business, industry, or the private sector	1	2	3	1	2	3
g. To conduct research in a nonprofit organization or government agency	1	2	3	1	2	3
h. To become an administrator/manager in a nonprofit, public service, or government agency	1	2	3	1	2	3
i. To work independently as a consultant/writer	1	2	3	1	2	3
j. To start my own business	1	2	3	1	2	3
k. Not to be employed for pay	1	2	3	1	2	3

C5. Help us to understand the influences on your career goals and plans. Please elaborate on whether, how and why your career goals and plans have changed during your time in your doctoral program. What experiences have affected your goals and plans? Be as specific as you like.

SECTION D: EXPECTATIONS OF THE FACULTY JOB

In this section we want to learn about your interest in various aspects of a faculty job and the preparation you believe you are receiving for that job.

D1. Are you considering a faculty job at any point in the future?

_____ Yes

_____ Perhaps

_____ No **IF NO, SKIP TO SECTION E.**

D2. At what kind of institution would you <u>prefer</u> to be employed? *Circle the number that best applies in the first column.*

D3. At what kind of institution do you think it is <u>likely</u> that you will be employed? *Circle the number that best applies in the second column.*

Kind of institution:

	D2 PREFERENCE			D3 LIKELIHOOD		
	Not at all	Some what	Very strong	Not likely	Some what	Very likely
a. Two year community college	1	2	3	1	2	3
b. Four year liberal arts college, with predominantly undergraduates (Oberlin, College of Wooster)	1	2	3	1	2	3
c. Four year comprehensive university, with undergraduates and master's students (SW Missouri State, Loyola University)	1	2	3	1	2	3
d. Large university, with undergraduates, master's, and doctoral students (Michigan, Stanford)	1	2	3	1	2	3
e. Other. Specify:	1	2	3	1	2	3

D4. Some faculty members are involved with campus life in ways that other faculty members are not. For each of these activities, indicate how interested you are in doing this at some point in your career. *Circle the number that best applies.*

Campus activity:

	Very Uninterested	Uninterested	Interested	Very Interested
a. [illegible]	1	2	3	4
b. Serve on the academic senate or university governing body.	1	2	3	4
c. [illegible]	1	2	3	4

As a doctoral student, you have probably learned a lot about faculty life. In the first column below is a list of factors that influence people's interest in being a faculty member. Some people view these factors positively and others view the same factors negatively.

D5. What is your opinion about each of these factors? *Circle your rating of the item on the scale in the second column.*

D6. How have each of these factors affected your interest in a career as a faculty member? Has it made you less interested, had no effect, or made you more interested? *Circle the number in the third column that best applies.*

If you think that Salary Levels in academia are high, circle the number 4 or 5 in the Opinion scale (D5). If that has made you <u>more</u> interested in a faculty career, <u>circle the number 3</u> in the Interest scale (D6).

Factor:

	D5 – OPINION OF ITEM	D6 – INTEREST IN FACULTY CAREER
		Less interested / No effect / More interested
a. Salary levels in academia	They are low 1 2 3 4 5 They are high	1 2 3
b. Obtaining research funding	Impossible for me to get 1 2 3 4 5 I could get easily	1 2 3
c. Enjoyment of teaching	I dislike intensely 1 2 3 4 5 I enjoy enormously	1 2 3
d. Enjoyment of service	I dislike intensely 1 2 3 4 5 I enjoy enormously	1 2 3
e. Enjoyment of research	I dislike intensely 1 2 3 4 5 I enjoy enormously	1 2 3
f. Working on a college campus	I dislike intensely 1 2 3 4 5 I enjoy enormously	1 2 3

	Very few jobs available				Many jobs available			
g. Academic job market in my field	1	2	3	4	5	1	2	3
h. Lifestyle of faculty members	I dislike intensely 1	2	3	4	5 I enjoy enormously	1	2	3
i. Work (job) expectations	Very low				Very high			
j. Behavior of the faculty in my program	Awful 1	2	3	4	5 Exemplary	1	2	3
k. Tenure and promotion process	Problematic				Unproblematic			
l. Postdoctoral position	Not required & unusual 1	2	3	4	5 Required & normal	1	2	3

Similarly, there are other factors that may have influenced you towards or away from being a faculty member.

D7. What is your opinion about each of these factors? Circle your rating of the item on the scale in the second column.

D8. How have each of these factors affected your interest in a career as a faculty member? Has it made you less interested, had no effect, or made you more interested? Circle the number in the third column that best applies.

Factor:

Factor:	D7 OPINION OF ITEM					D8 INTEREST IN FACULTY CAREER		
	Unappealing				Very appealing	Less interested	No effect	More interested
a. Appeal of other careers	1	2	3	4	5	1	2	3
b. Encouragement I received from faculty	Strongly discouraged 1	2	3	4	5 Strongly encouraged	1	2	3
c. Exposure to other careers	Know very little				Know a lot about them	1	2	3
d. My spouse's/partner's career	Conflicts with mine 1	2	3	4	5 Poses no conflict	1	2	3

	I am very constrained					I am free to move
e. Geographic restrictions	1	2	3			3
f. Ability to raise family & lead a balanced life	Impossible to do 1	2	3	4	5	Very possible to do

Faculty members do many different tasks. As you look forward to these tasks, to what extent would you say:

D9. I am _comfortable and confident_ in my ability to do this task. *Circle your answer in the first column.*

D10. I am _interested in and looking forward_ to doing this task. *Circle your answer in the second column.*

D11. I have been _prepared by my program_ to do this task. *Circle your answer in the third column.*

Task of faculty job:

	D9 CONFIDENT			D10 INTERESTED			D11 PREPARED		
	Not at all	Some what	Very Much	Not at all	Some what	Very Much	Not at all	Some what	Very Much
a. Teach lecture courses.	1	2	3	1	2	3	1	2	3
b. Teach discussion sections and courses.	1	2	3	1	2	3	1	2	3
c. Teach laboratory courses.	1	2	3	1	2	3	1	2	3
d. Teach specialized graduate courses.	1	2	3	1	2	3	1	2	3
e. Incorporate information technology in the classroom.	1	2	3	1	2	3	1	2	3
f. Develop and articulate a teaching philosophy.	1	2	3	1	2	3	1	2	3
g. Create a classroom climate inclusive of a diverse population of students and diverse learning styles.	1	2	3	1	2	3	1	2	3

	1	2	3	1	2	3	1	2	3
h. Advise undergraduates.	1	2	3	1	2	3	1	2	3
i. Advise graduate students.	1	2	3	1	2	3	1	2	3
j. Serve on departmental and institution-wide committees, help craft policy, and engage in university governance.	1	2	3	1	2	3	1	2	3
k. Apply my expertise in service to the community, beyond campus.	1	2	3	1	2	3	1	2	3
l. Review papers, serve on disciplinary society committees, and engage in other forms of service to my profession.	1	2	3	1	2	3	1	2	3
m. Conduct research.	1	2	3	1	2	3	1	2	3
n. Publish research findings.	1	2	3	1	2	3	1	2	3
o. Collaborate with others in interdisciplinary research.	1	2	3	1	2	3	1	2	3

SECTION E: BACKGROUND INFORMATION

Finally, help us to know a little more about you. For each question, check the selection that best applies to you.

E1. _____ Male _____ Female

E2. _____ Single _____ Married or partnered

E3. _____ No children _____ Have dependent children living with me

E4. _____ US Citizen _____ Permanent Resident _____ Non-US Citizen

E5. If US Citizen, what is your ethnic background? *Select one.*

_____ African American _____ Native American – Alaska Native

_____ Asian American – Pacific Islander _____ Caucasian

_____ Chicano/a – Hispanic – Latino/a _____ Other. Specify:

E6. When were you born?

a. Birth year: 19 _____

b. Birth Month: _____

E7. Year received bachelor's degree: 19 _____

E8. Have you been enrolled in a doctoral program prior to this one?

_____ Yes _____ No

If yes, what was different? *Check all that apply.*

_____ Different discipline

_____ Different institution

_____ Different advisor

E9. What is the highest level of education reached by your family members?
Circle the number that corresponds with the highest level reached by any family member in each category. *If you do not have such a family member, leave blank.*

Highest degree reached by:

	No College	Some College	Bachelor's Degree	Master's or Professional Degree	Doctorate
a. Any parent or guardian	1	2	3	4	5
b. Any sibling	1	2	3	4	5
c. Spouse/Partner	1	2	3	4	5

Here is the chance to share some final thoughts.

E10. This summer we plan to interview a subset of survey respondents in greater depth. Would you be willing to be interviewed?

_____ Yes. You may contact me to discuss an interview.

_____ Maybe. I need more information, you may contact me to talk further.

If Yes or Maybe, please tell us how to reach you.

You can reach me at this email address:_____

or this phone number:_____

_____ No. I am not interested in an interview.

E11. Please use this space to elaborate on your answer to any question, or to tell us anything else you would like us to know about your doctoral education experience.

Thank you again for your help and thoughtful participation in this survey.
We expect to begin to publish our results
in the spring of 2000.

APPENDIX E

LETTER FROM QUESTIONNAIRE AUTHOR

E-mail Date: Thursday, August 31, 2006
From: Chris Golde, Golde@carnegiefoundation.org
To: Casey Cockrell, caseyncockrell@yahoo.com
Subject: Permission to use Survey on Doctoral Education

Hello,

In general, you are welcome to use and modify the survey to meet your purposes. I would definitely advise that you shorten it, and that you consider how you will analyze the data. We asked some questions without a clear plan for analysis, and are still struggling with that. I would appreciate if you acknowledge the source of the questions clearly, and describe how you modified it, of course. But there is no cost associated. I would be happy to help in any way that I can, and would be delighted to see drafts of what you are doing.

Chris

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