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James Boulder

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A STUDY OF DOCTORAL STUDENTS' PERCEPTIONS OF THE DOCTORAL
SUPPORT AND SERVICES OFFERED BY THEIR ACADEMIC INSTITUTION

By

James Boulder

A Dissertation
Submitted to the Faculty of
Mississippi State University
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy
in Instructional Systems and Workforce Development
in the Department of Instructional Systems and Workforce Development

Mississippi State, Mississippi

August 2010

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By

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SUPPORT AND SERVICES OFFERED BY THEIR ACADEMIC INSTITUTION

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Pages in Study: 141

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The study examined doctoral students' perceptions of the doctoral support and services offered by Mississippi State University (MSU). The research design used was descriptive, non-experimental design. Validity of the online survey instrument was established by a panel of experts. Internal consistency and reliability was determined using factor analysis, Cronbach's alpha, and test/retest reliability which revealed that the instrument was consistent and reliable.

Participants included 172 doctoral students in the seven colleges which offer doctoral programs and 172 doctoral alumni who had graduated within the last 5 years. Data was collected in fall 2009. Responding participants equaled 142 (41% return rate).

The results of this study revealed that both current and alumni doctoral students had a moderately positive perception of the doctoral support and services offered by Mississippi State University. The doctoral program of study was considered to be effective and suitable; support and services were considered sufficient and appropriate; doctoral supervision was considered to be sufficient and appropriate by participants.

The study showed that doctoral student's utilization of external sources of support and services was low, but was perceived as beneficial. The financial support provided was adequate to complete their degrees. Doctoral students funded their degrees primarily through employment. Participants considered that the perceived benefits of obtaining a doctoral degree outweighed the financial cost of its completion.

Multiple regression analyses revealed that predictor variables of academic status, race, and college had significant effects on doctoral student's perceptions. Alumni had a significantly higher perception of the doctoral support and services than current doctoral students. Speculation as to possible causes of the difference included the psychological phenomenon of memory bias. In addition, Black/African American doctoral students provided a significantly less positive endorsement of doctoral supervision than their white counterparts. Furthermore, doctoral students from the College of Education provided a significantly less positive endorsement of doctoral support and services. This sentiment was supported by the narrative responses. Avenues of future research and recommendation for the university are discussed and presented.

DEDICATION

I dedicate my dissertation to my family who have supported, encouraged and endured throughout the dissertation process. I thank my mother, Mrs. Veronica Boulder, and father, Mr. Edward Boulder for their continued support and encouragement, a special thank you to my mother-in-law, Dr. Mabel Okojie for serving as a pseudo advisor, mentor, and babysitter.

I also dedicate this work to my loving wife, Tinukwa Okojie-Boulder, for her unwavering support, encouragement, and patience while helping me navigate the doctoral process. Without her support I would not have completed this research. Thanks to my wonderful children, Dylan James Ike Boulder and Curtis Edward Udo Boulder for their understanding and patience.

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CHAPTER I

INTRODUCTION

The dissertation is seen by many as being the rite of passage from student to scholar; it is the final piece of the academic puzzle, after which an individual is recognized as an expert in a given field of study. An individual's perception of the dissertation is dependent on his or her relationship with it. Specifically, a student enrolled in a doctoral program may observe a dissertation as a series of impassable hurdles each requiring herculean abilities to successfully complete, while a doctoral graduate may consider the dissertation with pride and a sense of accomplishment. A professor serving on a doctoral committee may consider the dissertation as a Darwinian means to weed out the weak that are undeserving of a doctorate, or as means to instill their experience and knowledge on the next generation of scholars. Holligan (2005) proposed that due to cultural shifts towards commercialization, student assessment of the doctoral process is increasingly seen through the eyes of a consumer with rights and no longer as apprentices with duties and obligations to their mentor. Regardless of one's perception of the dissertation process, universities that offer doctoral programs have a responsibility to support and assist all students through the process of completing a dissertation. The data from the 2007 Survey of Earned Doctorates (SED) established the growth of doctoral students within American universities, who awarded 48,079 research doctorate degrees. The total in 2007 was a 5.4 % increase from 2006, and this is the highest number of

doctorates awarded in the history of the SED research and continues the 5 year growth trend (Falkenheim & Fiegenger, 2008)

However, the increase in students enrolling in doctoral programs does not necessary result in high completion rates. Maher, Ford, and Thompson (2004) cited an attrition rate of roughly 50% in many doctoral programs, while an estimated one third of doctoral students who completed their course requirements fail to complete the dissertation. In support, Di Pierro (2007) asserted that the 50% attrition rate of doctoral students had not declined and described the current state of doctoral education as defective and in crisis. Students often have to labor with dissertation work on their own with little or no understanding of how to conduct research. The dissertation component of the doctorate is arguably the most challenging piece of work a student might ever produce and as such students need effective guidance to complete their doctoral degrees successfully. McAloon (2004) asserted that the enormity and importance of writing a dissertation requires a certain amount of adeptness that may cause students to question their ability and confidence to accomplish such a feat. Thus, the failure to provide adequate, organized and effective doctoral support and services has fundamental implications for doctoral education for both current and future doctoral students. Current doctoral students who receive poor doctoral support and services will eventually become professors and pass on the same ineffective supervision strategies. Thus, the problem becomes cyclical, creating a flawed doctoral education system (Di Pierro).

In many academic disciplines the role of doctoral advising faculty members can be considered a cornerstone in the assembly of the academic workforce, whereby students complete a doctorate with the sole intention of seeking an academic position at an institution of higher education. Universities and colleges which offer doctoral

programs have a responsibility to ensure that such programs evolve to provide instruction and guidance that is in keeping with the changing needs of society and provide students with a satisfactory educational experience.

Students pursuing the doctoral degree have a plethora of concerns, each with a measure of consequence on doctoral completion and attrition rates. Wright and Cochrane (2000) stated “the qualities of the student, personal and individual issues other than study problems, research problems, supervision and teaching all interconnect and contribute” (p. 183) to high attrition rates. Thus, social and psychological factors including the quality of doctoral supervision all play a role in whether doctoral students complete their program. Hoffer et al. (2006) postulated that doctorate completion time was determined by issues including individual preferences, economic constraints, labor markets for new doctorate recipients, cultures of the academic disciplines, and institution-specific program characteristics.

Regardless of social constraints that include but are not limited to location or financial situation, a doctoral student should expect to receive competent support and services from their educational institution. Determining what equated to competent support and services was a difficult task to accomplish. This raised the question: what are doctoral support and services, and how are they perceived?

This study examined doctoral students’ perceptions of doctoral support and services. For the purpose of this study, the doctoral support and services, at times referred to as doctoral education included all the assistance and guidance offered to students from the onset of their doctoral study until completion. Specifically it included four interrelated concepts; (a) program of study, (b) doctoral supervision, (c) doctoral support

services and (d) the external doctoral support sought outside the college or university. These four concepts are the main focus of this study and are introduced below.

Program of study

The initial process of doctoral study in United States entails the completion of course work or a program of study. A program of study equips students with the competencies needed to complete a doctoral dissertation (Winston & Fields, 2003). Wright and Cochrane (2000) also stated that course work was designed to provide students with a foundation on research techniques. One purpose of a program of study is to provide students with pertinent knowledge and skills to develop and write a proposal and dissertation, conduct research, collect and analyze statistical data and use statistical packages. However, Winston and Fields (2003) also asserted that universities provided limited information within their programs of study to “teach students the competencies needed to plan, conduct, and complete a research study” (p. 168).

Doctoral Supervision

Johnson, Lee, and Green (2000) described doctoral supervision as a pedagogical activity which enables the student to become “a licensed scholar, a ‘doctor’, who appropriately credentialed was deemed safe to pursue research unsupervised, autonomously” (p. 136). The process entails the supervisor/major advisor and doctoral committee members overseeing and assessing the student’s needs and progress in order for the student to achieve the end goal -independence to manage his/her own future research and pedagogical endeavors. Doctoral support and services are pedagogical processes in which the supervisor provides and applies effective teaching and learning strategies to enable the student to progress from learner to academician. The doctoral

support and services should be student-centered, to allow students more say in how and when they are taught and supervised (Gurr, 2001). Evidently, the support and services provided to a doctoral student may vary between institutions, colleges, and departments, but many fundamental provisions such as availability and timely feedback are universal. In summary, a doctoral advisory committee guides, assists and assesses the student's ideas, work and progress.

Doctoral Support Services and External Support Services

In addition to the program of study and doctoral supervision, there are other provisions such as doctoral workshops, courses or technological assistance offered through university libraries, student technology and statistics support offices. These services may vary between colleges and departments but others should be generic throughout most higher education institutions. Adequate provisions are made to provide accessibility to current information, relevant technology tools and statistical packages. Furthermore, external support services are those beyond the scope or control of the institution. They include but are not limited to independent peer support groups, books, online personal coaches, even dissertation boot camps sometimes called 'scholar retreats' (Owler, 1999).

Di Pierro (2007) suggested that educational institutions need to be proactive in their doctoral education provision by investing finance and time into evaluating the worth of their doctoral programs, length of dissertation completion, sociological factors affecting attrition, including completion and dropout rates. Failure to evaluate these issues would result in high attrition rates for doctoral students. Burnett (1999) acknowledged that:

many doctoral students do not complete their degrees for a variety of reasons including personality factors, motivational factors, feeling of isolation, family demands, and financial circumstances. Although some of these factors are out of the control of university educators, the provision of support, particularly during the dissertation phase of a doctoral program, may be one to increase completion. (p. 46)

Burnett stressed the vital roles doctoral support and services played in enabling graduates to complete their dissertation. Styles and Radloff (2001) also stated that the value of doctoral support had a vital impact on doctoral study and research. Gurr (2001) agreed that doctoral support and supervision could be depicted as “the most important channel of intelligent inheritance between one generation and the next.” (p. 81). Styles and Radloff (2001) purported that both supervisor and students regarded the quality of supervisory interaction as fundamental to the doctoral experience. Doctoral supervision entails developing, supporting and guiding and managing doctoral students towards successfully completing their dissertation. It also involves strong commitment and frequent interaction between student and advisor and committee members. Thus, both parties (student and advisors) have a vested interest in the research (Owler, 1999). If the supervisory relationship between student and advisor is unproductive, then the research process may be unproductive. Gurr's (2001) review of research in this area of study found that at least 25% of doctoral students were dissatisfied with the doctoral support they received. Therefore, if doctoral students are expected to become autonomous experts and academics, then doctoral support needs to be organized and methodical (Brause, 2001). However, the reality according to Brause is that students have little or no knowledge of

the processes involved in dissertation writing or how to conduct research. Thus, the aim of this study was to ascertain the perceived strengths and weaknesses of dissertation support and services offered at Mississippi State University (MSU) by examining doctoral students.

Gaps in research

There is an apparent shortage of studies that examine the dissertation process within American universities. Previous studies focused on the role of advisor and explored advisory methods commonly used. “Published materials on the graduate experience are quite limited; a fact that is probably both an exacerbating factor and a symptom of the difficulties doctoral students and their mentors face” (Di Pierro, 2007).

Spillett and Moisiewicz (2004) analyzed the relationship between advisor and student and commented on the growing body of work in European and Australasian literature and the relatively minor focus by literature in the United States. There is a need for educators to conduct research and participate in discussions about factors that impact the success and failure of doctoral students with the aim of establishing best practices (Di Pierro, 2007). Hadjioannou, Shelton, Fu, and Dhanarattigannon (2007) asserted that literature in this field of study, focused primarily “on graduate student experience as mentally and emotionally challenging” (p. 160), but did not examine doctoral students’ perceptions of the doctoral support and services. Thus, additional research is needed to enhance opportunities for doctoral completion. Johnson et al. (2000) asserted that the inner practices of doctoral supervision had become a hidden phenomenon that remains mostly unexamined. In addition, much of the data that examined dropout rates did not examine the dissertation writing experience from the doctoral students’ viewpoint

(Seagram, Gould, & Pyke, 1998). The lack of research in this area of study provides justification for this study and provides an opportunity to expand this area of study.

Statement of the Problem

The purpose of this study is to assess the doctoral students' perceptions of the support and services offered by MSU. The researcher also determined whether support and/or services were sought outside of the university and in what form. This study further addressed the differences in current doctoral students' and doctoral alumni's perceptions of dissertation support; including differences in students' perceptions between the different colleges in MSU. In order to examine relationships among the participants based on their perceptions of the dissertation support they received, demographic data (age, gender, race, college, and academic status) was also collected for comparison.

Research Questions

The following research questions guided the study:

1. How do doctoral students perceive the doctoral support and services provided by MSU?
2. What forms of assistance, external to those offered by MSU, do doctoral students obtain to facilitate the doctoral process?
3. How do doctoral students perceive the financial assistance they received?
4. Is there a difference in student's perceptions of doctoral support between current doctoral students and doctoral alumni?
5. Is there a relationship among participants in their perception of doctoral support based on age, gender, race, college, and academic status?

Justification for the Study

A large portion of existing research in the field of study consisted of research based outside of the United States and primarily focused on attrition rates, the length of time spent completing a doctorate degree, and the role of gender as an indicator of doctoral completion success or failure, (Johnson et al., 2000; Seagram, et al.,1998; Wright & Cochrane, 2000). This study endeavors to address the gaps in research by examining doctoral students' perceptions of their support with the aim of ascertaining what factors impact the dissertation process. This study was justified because it adds to the body of knowledge that is limited in the United States. The researcher provides data that will enable educators to develop doctoral support strategies that will benefit and expedite doctoral students' completion of their dissertation. Di Pierro (2007) stated that while there are several studies that examined factors that contributed to attrition rates, few studies focused on how to solve the problem and develop effectual strategies.

Limitations

This study is based on survey research which has a number of possible limitations. Firstly, the study is limited in terms of the honesty and thoroughness of the respondents completing the questionnaire. There might be differences in what the respondents reported and what they did. Moreover, survey research does not allow the researcher to probe deep enough because of the inclusion of closed-ended questions which can be restrictive (Nardi, 2006). However, sections for comments are included in the questionnaire to allow the research participant to elaborate on their responses to the question items. Another limitation is that return rates can be low with surveys. Survey respondents are rarely given the opportunity to ask questions when they are unsure and this could lead to incomplete questionnaires.

Delimitations

This study was delimited by the population of study which consisted of the seven colleges within Mississippi State University who offered doctoral programs. Specifically, the population consisted of the ten departments in the College of Agriculture and Life Sciences, eight departments in the College of Arts and Sciences, four departments in the College of Business and Industry, four departments in the College of Education, eight departments in the College of Engineering, three departments in the College of Forest Resources, and three departments in the College of Veterinary Medicine. The data to be generated will be limited to the responses on the questionnaire. Generalization of the data to other institutions would be with caution, due to the variance between institutions and programs. Data was collected between the months of September 2009 through to October 2009.

CHAPTER II

REVIEW OF LITERATURE

Introduction

The aim of this study was to examine doctoral students' perceptions of the dissertation support and services offered by MSU. Research studies that examined students' perception of the dissertation support and services offered to them were scarce in the United States. Thus, the research studies discussed in this chapter drew on previous studies conducted in other countries such as Britain, Australia as well as America. Moreover, a review of literature revealed that many studies focused on the processes of doctoral education from the advisor's or department's viewpoint, without due consideration to the doctoral student. This literature review was guided by the research questions which addressed the following topics: the doctoral education process, doctoral student attrition, doctoral supervision, doctoral student support and services, external doctoral support and services, and financial support.

The Doctoral Education Process

Historically, the American doctoral education process included a varied but small number of disciplines that graduated 40, 000 students yearly (Golde & Dore, 2001). Generally, a doctoral degree program is considered to be a research degree, whose main objective involves adequately preparing students to become junior faculty members who can conduct "sound, rigorous research" (Golde & Dore, p. 9). The doctoral process is perceived as a mentorship or apprenticeship whereby students were diligently advised by

their major advisors about research to help them become “independent scholars” (Golde & Dore, p. 9). Evidently, the doctoral education process varies across disciplines; in some cases students embarked on their research at the onset of their program and received regular supervision from their doctoral committee while in other institutions; students complete their research on their own with little or no supervision. Notably the doctoral education often differs within the same program (Golde & Dore).

Despite the slight variations that occur between disciplines and institutions the majority of doctoral programs within the American education system follow the same basic pattern, whereby newly enrolled students meet with their major advisor and develop a program of study which include courses that address the students area of specialization along with courses that the advisor determines to be advantageous for the student. These courses are deemed to prepare students for the rigors of the dissertation research and habitually focus on research design and statistical analysis (Gardner, 2009b; Golde & Dore, 2001).

Doctoral comprehensive exams follow the completion of all coursework; these exams test the comprehension and ability of students to apply their knowledge. Few doctoral students manage the development of a dissertation proposal prior to taking the comprehensive exams; the majority develop and present a proposal to their dissertation committee sometime after the exams. Upon acceptance by the committee the student proceed to complete their research and present their findings in the form of a dissertation to their committee, commonly referred to as a dissertation defense; the student must gain the signatures of their committee to be eligible to graduate (Gardner, 2009b; Golde & Dore, 2001). Winston and Fields (2003) stated that the doctoral dissertation was the

capstone of doctoral studies. It served as the final stage of evaluation where the doctoral candidate presents his/her abilities to design and carry out an original research project.

Just as the basic pattern of doctoral education varies between discipline and institution, so does the time permitted to complete the program, once enrolled in a program, a doctoral student is allotted a number of years to complete their coursework and successfully defend their dissertation. A review of the policies of various American universities indicated that a doctoral student commonly had between six to ten years to complete their degree depending on the discipline being studied (Gardner, 2009b; Golde & Dore, 2001).

The first doctoral degree was awarded in the United States in 1861 (Rosenberg, 1961). Examining 2008 Survey of Earned Doctorates (SED) data established the growth of doctoral students within American universities, while the six year trend for growth had diminished slightly in 2008, increasing only 1.4% over the 2007 total, an impressive 48,802 research doctorate degrees were awarded (Fiegner, 2009). Gardner (2009a) predicted that the graduate population will grow to 2.6 million students in 2017 as doctoral students represent approximately 18% of the graduate population. The prediction also revealed that roughly 500,000 doctoral students will be enrolled in doctoral degree across America in 2017.

Characteristics of Doctoral Students

Despite the changing demographics of all students in higher education, the traditional demographic variances commonly found in the vast majority of undergraduate students, are not commonly found in doctoral students. Doctoral student characteristics such as age, marital status, enrollment status (full-time/part-time) diverge more than

undergraduate students' characteristics (Gardner 2009a). The apparent lack of homogeneous groups within doctoral students was explored by Gardner (2009a) who described the variance in age and background of doctoral students many of whom were returning to education later in life, with families and other responsibilities not commonly found with undergraduate students. These wide variances create challenges for researchers who attempt to generalize their findings to a larger population, especially in light of the problems that affect doctoral education.

Growing Concerns with the Doctoral Education Process

Walker's (2008) examination of doctoral education in America depicted its reflective nature when considered alongside societal wants and needs, with the variance in demand for the various disciplines closely matching the nation's needs. During a decade when the need for reform of doctoral education has found increasing support from stakeholders, advocates pointed out the limited number of official national standards that govern doctoral programs. The lack of adequate standards guiding the doctoral education process was problematic given the sacrifices made by doctoral students and the financial burden of undertaking the degree. A doctoral student's decision to engage in doctoral education "cannot be taken lightly. In addition to the academic responsibilities, pursuing doctoral study often means a lengthy delay in entering or a temporary stop out from, the workforce. Moreover, doctoral study can be stressful and may lead to role conflicts with other obligations, such as family and job responsibilities" (Kim & Otts, 2010, p. 2).

Moreover, pursuing a doctoral degree is very costly to students (Smallwood, 2004) and failure to complete a doctoral degree can devastate lives (Lovitts, 2001).

Therefore, given these factors it has become even more essential for doctoral students to

receive a quality doctoral education. Golde and Dore's (2001) study provided an in-depth examination of the doctoral education process and helped to identify categories that could be used to map the process. They reviewed literature that examined the efficacy of doctoral education and found that there was a decreasing job market for PhD holders and that doctoral education did not provide students with the requisite skills and knowledge to succeed in jobs in academia and in business and industry.

This study was significant because it was one of the few studies that examined doctoral education from the student's perspective and also provided insight into graduate students' understandings of their doctoral education. Golde and Dore (2001) administered surveys to 4,114 doctoral students enrolled in art and sciences from 28 higher education institutions. The research participants asked students their reason(s) for embarking on the doctoral program, their perceptions of the program and whether their program effectively prepared them to become faculty members. In addition, students' comprehension of the doctoral program and the prospects of the program were also examined. The purpose of this study was to determine which aspects of the established doctoral education processes that were efficient and helpful and those that were deficient. The findings confirmed the results found in existing literature that doctoral education did not meet students' expectations or requirements and did not equip them with the pertinent skills needed for their chosen careers. Golde and Dore's (2001) results also showed that most students did not comprehend what was involved in the doctoral process and how to better prepare and navigate the process. The study revealed that despite the problems inherent in the doctoral education process being documented and discussed, the problem was both persistent and endemic. The study showed that 63% of the students surveyed were interested in a career as a faculty member; however, the research participants included

students who were enrolled in programs with links to business and industry and they were less interested in faculty positions.

Most students reported the belief that they were guaranteed a position as a faculty member upon enrolling in their program, however, the research showed that students' expectations of getting a career as faculty was unrealistic because they seemed unaware that "the number of Ph.D.s granted far exceeds the available tenure track positions and there are other career options" (Golde & Dore, 2001, p. 6). The rationale for this was that higher education institutions were more helpful in providing information on how to attain jobs in academia than in industry with counseling/psychology departments tending to provide more information about jobs both in and outside of academia. Moreover, students who were advised of the lack of faculty positions were not given any advice about what they could do to attain jobs outside of academia.

Furthermore, there were some gender and ethnicity differences with regards to doctoral students' interests in faculty positions. Men were more likely to seek faculty positions than women and whites more so than students of color. Thus, the obvious solution would be to attract women and minority doctoral graduates to the profession and improve the doctoral education process. However, the researchers pointed that this finding had important implications for higher education institutions:

On the one hand the number of students-of all ethnicities, national origin, and genders-desiring faculty positions is far greater than the available academic positions. The obvious solution to this problem is both to reduce the number of doctoral recipients and to encourage them to consider careers outside of academia. These strategies, of course, are contradictory. (Golde & Dore, 2001, p. 15)

The Council of Graduate Schools (CGS) is a national organization renowned for its objective to enhance graduate education through research maintained that “improving completion rates for all doctoral students, and particularly for those from underrepresented groups, is vital to meeting our nation's present and future workforce needs.”(CGS, 2010, para.1). The conclusions drawn by the authors revealed that academia continues to be plagued with problems that could not easily be solved. However, what was evident was that these problems were not discussed with doctoral students to allow them to make informed choices about pursuing doctoral degrees in their area of interests. Furthermore, Golde and Dore’s (2001) findings showed that doctoral students’ “idealized lifestyle of faculty” was the primary impetus for pursuing a doctoral degree. Students reported having a “love of teaching, enjoyment of research, and interest in doing service – the three traditional components of faculty work” (p. 13). The research findings showed that doctoral programs focused mainly on proficiency in research and less on teaching and advising. However, research preparation was not always effective, because getting publications was an important part of research but only 42.9% of students indicated that they received training in their program that helped them get published.

Additional findings from Golde and Dore's (2001) study showed that most students were satisfied with their decision to study for a doctoral degree; however, there were some reports of discontent. Less than half (49.1%) indicated that they would opt to complete their doctoral degree at a different university and 36.8% indicated that they would choose a different dissertation advisor and/or topic. The findings also revealed that the majority of doctoral students were uninformed about what the doctoral education process entailed. Furthermore, the information that universities provided about dissertation competencies was remarkably limited. In part, the lack of research directed at

the formalization of dissertation competencies could reflect a limited number of student's requests for formal guidelines (Winston & Fields, 2003).

Golde and Dore's (2001) study confirmed this contention, showing that students rarely asked relevant questions about the doctoral process such as finding out about career prospects or major advisor's and committee members' competencies and area of interest. They also found that students were unaware about where they could obtain such information. "Most students have little information about the job market for Ph.D.s. "naïve optimism" characterizes a lot of entering students; many of the students in our survey expressed bitterness at not having known beforehand about the realities of the academic job market" (Golde & Dore, p. 36).

Another area of confusion was related to financial support where students were unaware of how to secure funding and about the reality of the costs of completing a doctoral degree. Other information doctoral students wished they had sought was ascertaining faculty's areas of research interest, their research and advising capabilities, and length of time it took to complete the degree, and attrition rates. The research participants indicated that they would advise future students to carefully consider the reasons for embarking on a doctoral degree and to speak with students already in the program to enable them to make informed decisions. In addition, future students were advised to find out about financial assistance prior to enrolling in the program and strive to secure funding. The conclusion drawn from the study revealed that students were not being provided with the information they required and that also universities were responsible for informing their students which they failed to do.

Navigating the Doctoral Process

Similarly, Jazvac-Martek's (2009) longitudinal qualitative study examined the changing role identities that doctoral students perceived during their studies and supported Golde and Dore's (2001) conclusions. The author explained that despite a growing body of research on doctoral education, knowledge relating to the everyday events and experiences of doctoral students was limited. The research examined the experiences of nine doctoral students enrolled in an education doctoral program at a research one institution in Canada. Data were collected through the use of experience logs which the participants kept, along with a pre-interview questionnaire and a semi-structured 50 minute interview.

The participant's recounted instances where they perceived their role moved from student to academic during peer-like discussions with faculty; speaking from a position of an expert; collaborating in ideas; engaging in research projects; and having publications and presentations accepted. Despite the author's acknowledgement that the study was small-scale in nature, the conclusions included recommendations to enhance and support the doctoral experience. "The creation of better support for students through informal venues to share and verbalize their work in deep and meaningful ways is needed ... there is a need to create workshops or small seminars explicitly speaking to students about the transitional nature of the doctorate and helping them to examine their agency in comparison to perceptions of expectations, both internal and external" (Jazvac-Martek, 2009, p. 10). The consensus was that doctoral students should be offered assistance to enable them to understand the inner workings of the doctoral process. They should have knowledge of the official program requirements and an idea of the unofficial expectations of their programs and advisors (Golde & Dore, 2001). Nevertheless, Golde and Dore

found that students were unaware of what they were required to do and what they should learn from their doctoral programs. This problem occurred frequently, despite, students reporting that their universities offered one or more of the following: program orientation, program handbook, graduate student handbook, or graduate student orientation. Based on the findings, the authors suggested that university administrators should provide information to their students on a regular basis.

Golde and Dore (2001) concluded that the perplexities that arose during the doctoral process was due to universities not providing relevant information to students and students not seeking further elucidation when they were unclear about facets of the doctoral process. The findings showed that there was a need for open communication between students and advisors and higher education institutions should take responsibility for providing excellence in graduate education. They found that one of the main implications was that there was a mismatch between the students' expectation of the doctoral education and the aim of the doctoral program.

The doctoral education process presented a myriad of challenges to students. Recently enrolled students must engage with their peers and develop working relationships with instructors and advisors, establishing their competence by successfully completing coursework, comprehensive examinations, and dissertation. The review of literature on the doctoral education provided theories and research that addressed the many facets of the doctoral process, yet the frequency and extent of existing research pales in comparison with the multitude of studies which examined undergraduate education (Gardner, 2009a; Jazvac-Martek, 2009; Robinson, 2004). However, the review of literature showed that as a result of the problems that plagued doctoral education and

deficiencies in standards governing the process, this has led to a fundamental problem of high doctoral student attrition which is discussed in detail in the subsequent section.

Doctoral Student Attrition

A review of literature showed that the attrition rate of doctoral students fluctuated each year, with a consistent estimation of 40% to 70% of doctoral students failing to complete their degrees (Gardner, 2004; Golde, 2005; Lovitts, 2001). Similarly, Maher, et al., (2004) cited an attrition rate of roughly 50% in many doctoral programs, while an estimated one third of doctoral students who completed their course requirements failed to complete their dissertation. The literature showed that attrition rates within doctoral programs in the United States of America remain high. Flowers and Lazaros (2009) stated that a possible reason is the nature of doctoral work which is academically demanding, physically draining, emotionally trying, expensive, and includes pitfalls that not only discourage students, but lead many to withdraw before they finish a doctoral degree.

Despite continued interest in graduate student attrition rates, research studies were often limited to the exploration and analysis of single factors which were considered the principal influential causes of attrition. The factors identified included, admission criteria, funding, advisement, demographics, and discipline (Gardner, 2009b). However, Gardner (2009b) found that a few studies that examined doctoral student attritions to be wanting because the studies involved examining students who had dropped out of their programs and did not include current students. The author maintained that examining current students was important because they (students) could provide an understanding for doctoral student attrition.

Consistently high attrition rates within doctoral education have led to a number of theories and research studies that endeavored to address this trend. Lovitts (1996) conducted what was considered a fundamental study to determine the “short and long term effects of completing or not completing the PhD” (Lovitts, 1996). The study involved interviewing 816 graduate students via telephone (305 failed to complete their doctoral program and 511 had graduated) between 1982 to 1984 across nine disciplines in two renown higher education institutions (one rural and one urban). The nine disciplines included a variety of majors: sciences (biology, chemistry, and mathematics); social sciences (sociology, psychology, economics) and humanities (music, English, and history). The departments chosen for the study were highly ranked as being the best in their areas of specializations. Significantly, the researchers found that attrition was higher at the urban university (68%) than at the rural one (33%).

The author also found that doctoral attrition is not specific to individual disciplines. However, they found that lack of ability did not affect attrition as suggested by faculty and existing literature. “Thirty-five years worth of studies using objective data find that lack of academic ability and academic failure account for only small percent of attrition” (Lovitts, 1996, p. 2). Lovitts demonstrated that there were no differences between doctoral completers and doctoral non completer in terms of grade point average. The interviewees made comparisons between their experiences as undergraduates and as doctoral students stated that as undergraduates the relationship with faculty was better, friendlier, helpful and more informative (Lovitts). These were the determining factors that encouraged them to embark on a graduate degree and having enrolled in the degree, those factors were nonexistent. The author suggested that universities do not do enough to address doctoral student attrition and place blame on the student rather than the

institution. Lovitts maintained that if higher education institutions were to make the necessary structural changes required then fewer doctoral students would withdraw from the program. “Attrition has less to do with what students’ bring to the university than with what happens to them after they have been admitted” Lovitts, 1996, p.1).

Similarly, Gardner (2009b) conducted qualitative research to examine “cultural context and structures that facilitate or hinder doctoral students completion” (p. 97). The author interviewed 60 doctoral students and 34 faculty members across six disciplines in two renowned higher education institutions. The six disciplines, which included communication, English, psychology, oceanography, mathematics, and electrical and computer engineering, were chosen because the disciplines represented high and low doctoral dropout rates and to ensure diversity in the students who took part in the study. Gardner’s (2009b) study was unique because it examined “the influence of both disciplinary and institutional cultures upon doctoral student attrition and how these cultures work together to form a collective understanding of attrition” (Gardner, 2009b, p. 98).

This study also included faculty to provide a broader picture of why doctoral attrition occurred. The students who participated in the interviews were asked about their experiences completing their programs, progress with their degrees, and when they were admitted into the program. The faculty who were chosen for the study had experience directing dissertations and teaching doctoral level courses. They were asked about their perceptions of the factors that determined whether a doctoral student would complete their program. A constant comparative method was used for the analysis of data and the findings revealed that students and faculty agreed on one reason for doctoral student

attrition which was personal problems. Personal problems mainly included mental health issues, emotional problems and life changes such as, marriage, pregnancies and family.

However, the findings showed differences between faculty and students reasons for attrition. Faculty reported the following; (a) students were deficient in the requisite skills, impetus and commitment to complete the degree, and (b) students should not have embarked on the degree, which referred to students who pursued a graduate education for want of better options and thus lacked the drive to complete the degree. In contrast, students cited other reasons: (a) department issues which included poor advisement, “lack of financial support, faculty attrition and departmental politics” (Gardner, 2009b, p. 106); (b) wrong fit (e.g., the realization that graduate school was the wrong choice for them or they decided on a different career that did not require obtaining a PhD). Notably, the reasons reported by students differed from faculty because few students indicated that their abilities prevented them from completing the degree.

The researchers concluded that faculty very rarely attributed blame for doctoral student attrition to the department or the program but simply placed blame on the student and their abilities. It appeared that faculty were not knowledgeable about why the doctoral student attrition occurred and this had an adverse effect on reducing doctoral attrition when the problems were not acknowledged by higher education institutions. Furthermore, Golde’s (2005) qualitative study examined the role that the department and discipline play in doctoral student attrition. The author asserted that existing research on the topic of doctoral attrition failed to provide solutions or recommendations improve the doctoral education process and decrease attrition levels. Moreover, existing studies did not specify whether problems were specific to particular departments and disciplines.

Golde's (2005) study was located at a Midwestern university and targeted doctoral students from geology, biology, history, and English departments. The author observed and interviewed students and faculty in each department, attending departmental activities such as dissertation defenses, and reviewing departmental literature such as admission policies and doctoral handbooks, to better understand doctoral life in each department. Data was collected in the fall 1995, whereby student's records were reviewed and those who withdrew from a doctoral program between 1984 and 1989 were requested to participate in the study. Of the 111 doctoral students who had withdrawn, 58 were interviewed. Interview participants were asked about the rationale for their choices in discipline and department, including their perceptions of their program, advisement, financial support, dissertation topic, and as to determining factors that contributed to their decision to withdraw from their degrees.

The results of the study indicated, that not surprisingly, students left for a combination of reasons. The majority causes of attrition were accredited to a mismatch between the student and the department or discipline, a student's determination that a different career path was more advantageous, and a student's perceived isolation from the department. The author reported the themes that were common across at least three of the four departments. Notably absent from these themes are references to financial explanations of attrition; while participants cited financial hardships none indicated a lack of financial support as a cause for withdrawal. Likewise, few participants cited intellectual shortcomings as a rationale for attrition levels which was factor reported in Gardner's (2009b) study. The cost of attrition was reported to be expensive to both doctoral student and the higher education institutions (Gardner, 2009b).

Research in doctoral education failed to show that doctoral attrition was specific to one discipline. A study conducted by Washburn-Moses (2008), revealed gaps existed between the small number of special education doctoral graduates and the growing number of vacant positions in academia. Specifically, high student attrition was in part responsible for the shortage of graduates in that field. The author asserted “that very little is known about the attrition and satisfaction of doctoral students in special education.” While limited to a single discipline, the author’s used a nationwide satisfaction survey of 619 students from 78 doctoral programs to provide valid indicators of the areas of concerns expressed by special education doctoral students.

The study collected data from 78 universities identified as offering doctoral programs in special education in 2005, and the researcher achieved a 38.2% response rate. The average age of respondents was 34.7 years, with a range of 21-59. The survey instrument used in this study examined key sections of doctoral education; section one determined student’s perceived satisfaction with the overall doctoral program, coursework, advisement, research and teaching experiences. Section two requested the participants to provide areas of perceived improvement. Sections three and four requested program and demographic information.

Doctoral student’s methods of financial support were assessed in the survey and the results indicated that personal savings were the most common method of funding (53%), followed by fellowships (51%), followed by spouse’s earnings (40%), followed by loans (39%), and earnings (39%). The results indicated that many doctoral students were dependent on their spouse’s financial support or have attained paid employment to meet the financial burden of doctoral education. Washburn-Moses’ study concluded that the participants appear generally satisfied with their programs. However, some of the

participants (31%) indicated that they would change institutions if they given the opportunity to reconsider their choice in university and dissertation director. Washburn-Moses' (2008) findings showed that financial support was a major attributor to doctoral attrition in the special education discipline rather than poor doctoral supervision which was a primary cause in other disciplines.

However, scholars in the field differentiate between negative and positive attrition; when students decide that they made the wrong choice by enrolling in the doctoral degree and withdraw early in the program, then this attrition was considered to be positive (CGS, 2004; Golde, 2005; Lovitts, 2001). Furthermore, when students decided to withdraw later in their doctoral program then this was considered to be negative attrition because of the costs to the students and the institution (CGS, 2004; Gardner, 2009b; Golde, 2005; Lovitts, 2001). The research examined in this review of literature showed that doctoral students withdrew from their degrees for many reasons that differed when viewed from the student's or faculty member's perspective. Faculty members cited personal issues, and that students lacked the necessary skills and commitment to complete the doctoral degree. In contrast, doctoral students reported many reasons for withdrawing from their programs but the primary reasons were lack of information, poor doctoral supervision, lack of financial support, change in career choice, personal problems, and poor doctoral support and services.

Moreover, researchers agree that because faculty failed to acknowledge the impact their role has on the student's doctoral experience meant that little would be done to improve the doctoral education process. Notably remiss in existing research was a practical solution to the problem of attrition and an agreement amongst faculty on the cause of doctoral student attrition. Nevertheless, scholars in the field agreed unanimously

that the effectiveness of doctoral supervision and poor doctoral support and services were attributing factors to the successful completion of the doctorate degree. The subsequent sections of the literature review discuss doctoral support services and doctoral supervision.

Doctoral Support and Services

The studies on attrition revealed that students withdrew from the doctoral program for a myriad of reasons, least of which was dependent on student ability but associated more with universities' services provided to students or lack of services (Gardner, 2009b; Lovitts, 1996). Problems were bound to arise when using any approach that fostered the notion that doctoral students should work in isolation (Calvert & Casey, 2004). They asserted that it was evident that both students and staff felt better and appeared to perform more effectively within a clear structure. "The provision of 'signposts and guides', in the form of accessible step-by-step documentation and/or face-to-face activities in structured dissertation support sessions, is vital" (Calvert & Casey, p. 54). In agreement, Lovitts (1996) and Gardner (2009b) stated that higher education institutions should also provide services that facilitate the doctoral process. Doctoral students expected that their dissertation director's and committee's expertise guaranteed that they would complete their dissertation. Few doctoral students were aware of the services provided by universities that could also facilitate the doctoral process. However, there was little literature that assessed the efficacy of the doctoral support services provided at colleges and universities.

External Doctoral Services and Support

In addition to the lack of structured supervision and doctoral services hindering doctoral students, an equally compelling factor was external doctoral support. Doctoral students engagement with external support services are determined as those beyond the scope or control of the institution, they include but are not limited to independent peer support groups, books, online personal coaches, even dissertation boot camps sometimes referred to as scholar retreats. Assessing the frequency of use and perceived effectiveness of external sources was addressed in this study.

Leatherman (2000) investigated the obstacles faced by ‘all but dissertation’ doctoral students completing their dissertation. Specifically, the author examined students’ use of external sources and methods to help them complete their dissertation. These sources included self-help books, dissertation boot camps, online support groups, newsletters, and dissertation software. The author interviewed doctoral students from an array of disciplines, and examined their personal journeys throughout the dissertation process. The interview responses showed that students found using external sources to be beneficial to them. The author advocated that doctoral students should consider using the external sources mentioned above to help them. In opposition, Holligan (2005) postulated that external sources such as literary works about dissertation writing offered unrealistic advice about dissertation supervision and completion. The author argued that supervisors, especially novice supervisors should be aware of their students’ needs on an individual and contextual level which was not evident in published documents. These literary works “are fictionalized guides, constructed by experienced academics who offer post hoc rationalizations of their supervisory crafts (Holligan, 2005, p. 270).

In contrast, Strachan, Murray, and Grierson, (2004) agreed with Leatherman who supported the use of external methods to assist the dissertation process. Strachan et al (2004) explored a prototype web-based tool designed to assist dissertation writing. The researcher introduced the tool as a voluntary measure for students entering the doctoral program. The web-based project management tool was developed to assist doctoral students through each stage of the dissertation. The web-based tool was designed to address the concerns raised by advisors which included:

- “Not structuring or planning work
- Being unclear as to what is expected
- Being unsure about the writing process
- Not having enough time
- Not having, or not adhering to a timetable” (Strachan et al., 2004, p. 370)

The researcher collected feedback from the participants who indicated that using the tool helped them significantly but that the tool does need to be revised to be more effective. Furthermore, the researcher also concluded that the statistical analysis of the data revealed a reduction in the number of students who failed to complete by their deadlines.

It was apparent that few studies examined doctoral students’ utilization of external support and services, with the exception of a number of references to ‘peer support groups’. Despite the deficiency of literary works on the subject a brief document analysis of the different methods of external support and services available to doctoral students provided support for Leatherman (2000) and Strachan et al. (2004) who claimed

that doctoral students could use additional means to assist with the dissertation process. These external services included; independent peer support groups, doctoral / dissertation self help books, online doctoral/dissertation coaches, dissertation service, and dissertation writing boot camps/retreats. Each of the services were described in detail below.

Independent peer support groups

Support from peers was identified as a major source of support for doctoral students (Swanson, 2006). A peer support group for doctoral students provided a forum for doctoral students to share information, experiences, problems, and successes. Informal support groups of this nature served as an informal environment where students could develop best practice for managing and conducting dissertation research (Jazvac-Martek, 2009). Furthermore, the problems identified from analyzing the cause of doctoral student attrition revealed a need for student peer groups to help students with the exploration of doctoral experiences and perspectives that were addressed during the student-advisor dialogue (Shambaugh, 2000).

Doctoral / Dissertation Books

A content analysis showed that there were a myriad of books that purported to assist students through the doctoral process which included a list of approximately 76 books referred to as “doctoral guides” offering guidance to doctoral students on different aspects of dissertation writing. Some of the book titles were specific to different disciplines, and others were specific to certain areas of the doctoral process such as proposal or dissertation writing. Many of the books identified claimed to provide comprehensive advice that met the needs of doctoral students.

As no formal study or assessment of doctoral books was available, the researcher conducted a review of customers' feedback of doctoral guidebooks provided on amazon.com, alongside book recommendations made by doctoral associations such as the Association for Support of Graduate Students (ASGS). Results revealed that of the books recommended by the ASGS, many had received mixed reviews. Specifically, some reviewers indicated that the guidebooks were unsuitable and not supportive of their discipline, this was especially prevalent to the engineering and science disciplines. A number of reviewers indicated that they were advised to purchase the book by either their advisor or their peers; these indications were often accompanied with glowing appraisals of the book.

Online Doctoral/Dissertation Coaches

An internet search of using the phrase “doctoral coach” or “dissertation coach” returned a plethora of related websites. A dissertation coach was described as an individual who was paid to provide students with assistance on some aspect of their doctoral degree. The services offered range from technical skills such as writing, formatting, and editing dissertations, to more personal services such as psychological coaching to motivate the student. Coaching websites commonly outlined the services they offered and coach's credentials. On average doctoral students could expect to pay approximately \$60 to \$120 an hour for a dissertation coach's services.

The delivery method of the coaching was usually via the telephone or via email correspondence and the duration of coaching programs typically four week programs which included three 50 minute calls per week to discuss and develop the students work. What was equally helpful to doctoral students was that associations such as the ASGS

provided lists of coaches grouped by discipline that were screened based on a set of unpublished criteria. Moreover, group coaching was another method of delivery whereby students were grouped with other students based on their stages of dissertation research and needs and this allowed for an element of peer support within the program. This analysis revealed that a number of specialized group coaching programs addressed specific types of students such as programs for mothers who had reached *All But Dissertation* (ABD) status and another exclusively for sufferers of attention deficit disorder (ADD).

Doctoral Services

The research reviewed on doctoral services did not include dissertation services which may indicate that its use was relatively new and uncommon in academia. Dissertation service providers/companies offer to write a part of or an entire original dissertation for a fee. While inherently unethical, this practice is presently legal, and such companies advertise their services to students in academia and clients in industry who were willing to pay. The pricing of the service is dependent on the number of pages required and the deadline for its completion. For doctoral dissertation material, a doctoral student could expect to pay anywhere from \$60 to \$100 a page. It was estimated that a customer could pay over \$12,000 for an original dissertation.

Dissertation Writing Boot Camps/Retreats

A dissertation boot camp/retreat was generally commercial in nature and provided a residential support program to doctoral students for fixed period of time. A brief review of presently advertised retreats indicated that the majority were marketed as structured, distraction-free environments, which provided customers with comprehensive doctoral

support and guidance. Ranging from four to fourteen days in length, the retreat involved attending scheduled workshops and participating in one-on-one coaching/mentoring, peer group meetings, writing sessions with access to retreat staff experienced in writing, statistics, and research methodologies. While the cost of attending a commercial dissertation retreat varied, an approximation of \$500 per day was based on a review of a sample of retreats being held across America in 2010 and this price precluded any travel expenses.

Alongside the commercial retreat services, some universities offered residential dissertation/thesis boot camps. In contrast to the commercial retreats, university camps required a longer residence commonly two weeks which was offered during the summer semester. University camps provided similar features to the commercial retreats and included a structured schedule of workshops and daily writing sessions. In recent years boot camps have been offered by a small sample of institutions, which included the University of Kentucky, University of Pennsylvania, Yale University, University of California, Los Angeles, and the University of New Mexico. The cost of the boot camps offered by universities also varied, with an approximation of \$40-\$80 per day based on a review of a sample of retreats being held across America in 2010; this excluded travel expenses. The analysis of external services were available to two types of students, those who wanted to diligently create, manage and conduct dissertation research and those who wanted someone else (dissertation service providers) to write their research for them. The lack of research in this area made it difficult to assess the effectiveness of these services. The next section of the literature reviewed examined the impact of supervision in doctoral education, an area that has received much attention in education.

Doctoral Supervision

An analysis of doctoral supervision is necessary because it was an integral part of this study and thus it would be negligent not to examine it. In addition, research on doctoral attrition revealed that doctoral supervision played a vital role in whether students complete or failed to complete their program. Swanson (2006) reported that over three decades ago, concerns were raised about the quality of higher education in America by the Carnegie Commission on Higher Education, and one of the problematic factors identified was academic advising. A review of literature showed that the dissertation supervision process involved cultivating, nurturing, organizing and directing original and unique scholastic thought. Doctoral supervision cannot be viewed in isolation because it requires rigorous collaboration and frequent interaction between supervisor (dissertation director) and supervisee (doctoral student). Owler (1999) observed that the supervision process involved more than a simple transference of knowledge between supervisor and student but that each participant had a complex investment in the relationship.

Furthermore, Swanson (2006) indicated that faculty did not understand their role in the supervision process and how they could make the process more effective. The author suggested that faculty should participate in “engaging with academic advising” (p. 373) which depicted the relationship between advisor and advisee as a mentorship or apprenticeship relationship (Swanson, 2006; Yarbrough, 2002). This relationship involved faculty providing clear and structured advise that assists students to navigate their degree process successfully. This approach would facilitate “a stronger educational community among students, faculty and staff” (Mastrodicasa, 2001, p. 6).

Cryer (2000) asserted that effective supervision required doctoral advisors to “wean many students gradually into independence; so they may provide a well-defined

task as something on which both supervisor and student can build” (p. 274). Thus, the task of supervising doctoral students according to Cryer (2000), involved deconstructing students’ tendency to be reliant on the “teacher” in order to enable the transition from novice to master. In the American Academy of Health Behavior (AAHB) Workgroup whitepaper, a different approach to dissertation supervision was advocated which emphasized the need for doctoral programs to foster an environment that provided specific learning experiences for students to build their research skills. Faculty mentoring should instruct, guide, counsel and strengthen student’s skills in both research and academic integrity. Programs that tilted the balance towards quantity over quality of publications compromised research integrity. The model environment could be established during doctoral coursework through direct instruction about research integrity that is reinforced by faculty mentors who model those research integrity principles in their academic practices.

Swanson (2006) conducted research to determine the different types of advisement models applied in higher education, while the examination of faculty advising in higher education was based primarily on undergraduate education, its premise was applicable to graduate education. Swanson revealed that colleges and universities based their academic advisement on varied models. The models discussed included:

- *The faculty-only model* typically involved the student being assigned to one faculty member to advise him/her for the entire duration of his/her program.
- *The Satellite model/multiversity model* meant that advising was not centralized, thus, it was divided into individual offices located within various academic units.

- *The self-contained model* was the opposite of the previous model, academic advising is localized in one location by “professional academic advisors and overseen by a dean or administrative director” (Swanson, 2006, p. 4).
- *Shared –supplementary model* required faculty to advise students but with assistance from professional advisors in an external office. The external office also offers training and additional support to faculty
- *Shared-split model* was similar to peer advising, which involved placing students in groups based on their stages of degree. So students support each other, however once students select their area of specialization, they would be assigned to faculty.
- *Shared-dual model* entailed students being assigned two advisors, a faculty advisor who advises on the degree program and academic staff advises on registration and financial issues.
- *Total intake model* involved using an advice center to support students during their first year of study. Upon completing their first year, they would be assigned to faculty.

The model depicted showed that faculty members are fundamental to advisement process both in undergraduate and graduate education. While undergraduate education involved using one or two of the advisement models. In graduate education, specifically, doctoral education included all aspects of the models described. Doctoral education typically included a major advisor who initially advised students on their program of study and dissertation topic and additional faculty members that serve on the doctoral committee offer advice and support to the student (Gardner, 2009b; Golde & Dore, 2001;

Grevholm, Persson, & Wall, 2005). Departmental and external academic staff assisted the student with general academic inquiries such as questions about registration, financial aid, and other related issues. In doctoral education, the individual stages of advising offered by faculty, department staff and external offices were interrelated with faculty advising recognized as the focal point of doctoral support services.

In support, Spillett and Moisiwicz (2004) also recognized that the dissertation advisor was central to the entire dissertation process and examined the many roles the dissertation advisor assumed in order to enable their students to complete their study. The authors postulated that the function of dissertation director incorporated four foremost roles which were cheerleader, coach, counselor, and critic. These roles were described below:

- The cheerleader offered time and access, built on trust, and encouraged students' efforts.
- The coach helped students to meet short term goals and connected long term goals to research skills.
- The counselor guided and supported students through impending challenges and struggles.
- The critic provided constructive evaluation, developed the student's thinking, and developed the student's sense of ownership and voice (Spillett & Moisiwicz, 2004).

Grevholm, Persson and Wall's (2005) study assessed student's perception of the dissertation supervision process and the findings supported Spillett and Moisiwicz's (2004) theory that the dissertation director/major advisor was expected to perform different functions.

Grevholm et al surveyed 9000 doctorate students enrolled in a prominent Swedish university to gauge the perceived quality of supervision and received a 72% response rate. The researcher asked a range of questions, one of which was to ascertain participants' perceptions of what a dissertation supervisor's responsibilities entailed in terms of dissertation advisement. The findings revealed that students believed that dissertation supervisor should (a) "help me with the dissertation work, (b) have the competence to choose an appropriate research topic, (c) guide me through the process and help where appropriate, (d) support me in my efforts and (e) alert me when I am on the wrong track and offer guidance" (p. 188).

Grevholm et al.'s (2004) study also revealed a number of concerns related to the doctoral education process that the requirements for undertaking doctoral theses were not clearly outlined and explained. Moreover, the researchers found that an effectual "supervisor-student relationship" (p. 176) was essential in accounting for "the success or not of the program" (p. 176). Specifically, the researchers' findings also showed that students believed that supervision was ineffective for the following reasons:

- "frequency (meetings are not regular)
- focus (the supervisor is too busy with other things; organization and accessibility pairs or groups of supervisors are suggested as alternatives)
- quality (compulsory education as qualification for supervisors is suggested)
- competence (a supervisor who is not an active researcher himself/herself may not be able to help the student)

- Developing an autonomous researcher (the research question and process are too dependent on the input from the supervisor)” (Grevholm, et al., 2005, p. 176).

Thus, the student’s perception of the dissertation process revealed a dire situation in which the student felt isolated. Similarly, Johnson, et al.'s (2000) study examined graduate supervision by reviewing archived interviews of historic key figures in Australia’s graduate education system, along with interviews with current doctoral supervisors. While doctoral education within Australia differed in format to that in America, the authors review of the productivity of current doctoral supervision practices were relevant. They found that “the supervision relationship is often fraught and unsatisfactory – as much marked by neglect, abandonment and indifference as it is by careful instruction or the positive and proactive exercise of pastoral power” (Johnson, et al., 2000, p. 136). As a consequence, these inconsistencies showed doctoral students often felt isolated and this experience was endemic in many doctoral programs. Johnson et al. (2000) asserted that “the experience of isolation and abjection often appears so widespread as to be structural and endemic, a seemingly necessary feature of the doctoral program for many, rather than a accidental and ameliorable problem” (p. 136).

Vilkinas’ (2008) study examined the supervision of doctoral students’ dissertation from the faculty’s perspective by interviewing 20 senior faculty members from seven institutions across Australia. The participants were selected to ensure a broad range of disciplines. The results of the study demonstrated that the majority of supervisors took a “hands-on” approach and felt they remained closely involved with structuring, directing, and informing their students. This was significant because faculty also acknowledged some the mistakes they made with doctoral supervision when typically blame was usually

attributed to students and their inabilities. The findings also revealed that faculty (a) felt that they took too much control over the dissertation, and should not have done so, (b) recognized that they need to contact their students more frequently, (c) did not enjoy the supervision process when students were not progressing and, (d) did not enjoy some of the activities associated with intellectual support such as reading drafts (Vilkinas, 2008).

In examining the importance of supervision in doctoral education and related deficiencies, it was notable to acknowledge that quality faculty advising was also adversely affected by professional development commitments which encroached on faculty's time such as (a) teaching assignments (b) the need to write more publications and grant writing, (c) service to the university, (d) structural changes in higher education institutions which has transformed the student into consumers and finally (e) to increase minority student enrollment, (Swanson, 2006).

The tremendous pressures placed on faculty to meet all the requirements of their job, often meant that student supervision received less attention and resulted in less time being spent collaborating with students (Swanson, 2006). The problem had significant implications, especially, when increased interaction between student and faculty was reported to result in effective student advising and supervision (Swanson). To further illustrate this point, the literature showed that increased interaction between faculty and students resulted in students' exhibiting a stronger commitment to completing their degrees (Mastrodicasa, 2001; Swanson). The problem of increasing workload and its impact on faculty supervision would only be exacerbated by rising student enrollment and budget cuts (Swanson). Another inhibiting factor described was the lack of incentives for supervising students. Colleges and university fail to connect student supervising to

faculty promotion and tenure, professional; development and other concrete rewards (McGillin, 2003; Swanson; Vowell, 1995).

Moreover, faculty rarely received training to help them become effective supervisors and it was equally uncommon for student advisement and supervision to be mentioned during faculty interviews (Swanson, 2006). The training and preparation of dissertation advisement required for faculty, received relatively little focus when compared to the effort to promote effective teaching skills within faculty (Spillett & Moisiejewicz, 2004). Furthermore, “the development of academic supervisors has been constrained due to the lack of robust conceptual understanding of what supervision involves” (Pearson & Kayrooz, 2004, p. 100).

Amundsen and McAlpine’s (2009) qualitative study examined the experiences of new graduate supervisors; it explored the transition from doctoral student to a doctoral supervisor, and described their understanding of supervision and academic work. The study was part of a broader study that investigated the experiences of doctoral students and the academic staff who supported them. Initiated in Canada, the authors posed a broad question that guided the study “What are the range of experiences and perceptions described by new professors directly and indirectly related to their roles as doctoral supervisor?” (Amundsen & McAlpine, p. 332). Eight participants from two universities completed pre-interview questionnaires and participated in interviews. All were pre-tenured faculty and were currently supervising a number of doctoral students. When asked what and how is the role of supervisor learned? Participants asserted that they were “learning from and through experience and that more formal sources of learning, though desirable, were not available” (Amundsen & McAlpine, p. 334). Additionally, the

authors highlighted that faculty were not expected to receive formal training or preparation for dissertation advisement from their various institutions.

While acknowledging that “supervision is central to the work of most academics and is an inherently social activity” (Amundsen & McAlpine, p. 331), the authors also pointed out the parallels between doctoral students and new doctoral supervisors whereby both groups faced with challenges and tensions integrating into academia and both received “minimal systematic developmental preparation or support” (Amundsen & McAlpine, p. 339). The problem becomes cyclical with new doctoral supervisors offering the same ineffective advisement and supervision they received to their own doctoral students.

Another point of concern found in the literature reviewed was that faculty members who received training on student advisement were often apprehensive about consulting with students because it could lead to a discussion of personal problems which faculty members were reluctant to do (Goldenberg & Permuth, 2003). This echoed Spillett & Moisiejewicz's (2004) theory that the doctoral advisor was also perceived as a counselor as well as an academic supervisor. It was apparent in the literature and research studies reviewed that systematic and structured supervision was essential to the student's successful completion of their degree program.

However, doctoral supervision was considered less important when compared to promotion and tenure activities (Swanson, 2006). Another avenue that also hindered faculty members' ability to provide efficient student advisement and supervision were legal issues - a topic that was seldom discussed in the literature. Interactions with students required faculty to possess an in-depth knowledge of legal regulations Family Educational Rights and Privacy Act, (FERPA) and the Health Insurance Portability and

Accountability Act (HIPAA) that protected the rights of both the student and the faculty (Swanson). Another mentioned was that faculty did not take advantage of technology to facilitate student supervision.

Scholars in this field agreed unanimously that supervision was one of the attributing factors that could inhibit the completion of a doctorate degree. However, Shambaugh (2000) was one of the few researchers that recommended a model of supervision that could lead to a reduction in doctoral student attrition and enhance the doctoral supervision process. The author proposed the use of a program of human inquiry to provide doctoral students and faculty with a structured process to support and sustain a cooperative and fruitful relationship during the doctoral process. The program of human inquiry was described as “a structure to support scholarly inquiry by graduate students and faculty advisors” (Shambaugh, p. 295). The aim of the program of human inquiry was to enhance communication among students, doctoral committee chair and members and to encourage the assessment of one’s skills as a student. The author proposed that the program of human inquiry should take the form of a portfolio in which pertinent academic information was recorded (Shambaugh, 2000).

Specifically, the program of human inquiry included four interrelated parts; the first involved an acknowledgement of prior experiences “to lay the foundation for people to learn from each other” (Shambaugh, 2000, p. 229). The second element was a plan of study, which included formal program requirements, recorded efforts to secure financial aid, time allotted for exam preparation, research activities, employment and personal obligations, in an effort to enhance decision-making of students and advisors when managing their time. The third was to document meticulous records that are flexible and included a variety of academic experiences related to students’ interest. These records

could be used to assist with teaching and research. The fourth was to match the values with experiences to assess which programs students thought were worthy, essentially to provide feedback to the educational institution.

D'Andrea's (2002) study examined the doctoral process from the perspective of the professor to determine the extent to which professors of education would rate a given obstacle faced by doctoral students. A total of 535 participants across 42 states were requested to complete a questionnaire, 215 respondents indicated that they had supervisory experience and were included in the analysis. The questionnaire was divided into four sections that were suggested by researchers as being relevant to the doctoral process; academic competencies, personal characteristics, life situations, and chairperson requirements. Respondents indicated that a number of barriers were apparent in the doctoral education process which impeded many students from completing their degrees.

Participant's responses to questions relating to academic competencies revealed that many doctoral students struggled with the completion of their dissertation and this was due to "the student's inability to effectively think, plan, or write" (D'Andrea, 2002, p. 10). The author acknowledged that student's academic inability to conduct doctoral research was problematic in the supervision process. D'Andrea (2002) reported that respondents did not discuss the possible implication that doctoral students received inadequate preparation and instruction to allow for effective doctoral-level scholarship. The findings showed that participant's responses to personal characteristics question items indicated that doctoral students suffered due to "procrastination, dependency, and unrealistic thinking" (D'Andrea, p.52). Responses to life situations questions indicated that stressors relating to employment and familial commitments, particularly financial

problems were all barriers that impact whether students completed their doctoral program.

However, complex personal relationships and the need for students to maintain external employment were also rated high on the list of barriers. Moreover, the findings revealed that faculty participants believed in importance of regular meetings with students, yet assigned little importance to note taking during meetings. The author emphasized the need to maintain records of ideas and suggestions discussed during dissertation meetings to enable students to reference them during the development of their research (D'Andrea, 2002).

In addition to understanding faculty's perception of doctoral advisement, the author made some recommendations that could improve the doctoral supervision process and also decrease attrition rates. One method suggested was providing structure to doctoral students to address problematic personal characteristics identified by faculty, such as creating a timetable with students outlining the requirements of each stage. D'Andrea's (2002) results emphasized the need for advisors to help students structure the doctoral process and specifically to "stay close to them" (p. 55). "Stay close to them" signified that both faculty and doctoral students need to work collaboratively on a regular basis and that long lapses between contact with students should be avoided. Secondly the author indicated that once students were enrolled in a program, the coursework should prepare them in the area of specialization and for the dissertation process.

The author suggested that providing structured doctoral supervision could increase motivation and allow students to better anticipate deadlines. Furthermore, to address the problem of students' inability to write, higher education institutions should require students to complete courses in research, critical thinking, dissertation

development, and writing as part of their program prior to undertaking dissertation research. Moreover, to overcome the problem of financial support, universities need to show more commitment to securing funding for their doctoral students such as through community outreach programs, faculty with grants or grants available to graduate students (D'Andrea, 2002). Although doctoral supervision was revealed to be vital to the doctoral process and when supervision was inadequate this lessened the students' potential to complete their degree, financial support was a major part of the doctoral process and was discussed below.

Financial Support of Doctoral Students

Financial support is a multifaceted and fluid concept as few individual's financial situation remains constant throughout their degree. Existing research studies have shown the influence that financial support exuded over the student population, specifically, they demonstrated the relationship between finances and timely completion of a doctoral degree. There was a lack of agreement amongst scholars in the field about the role financial support played in doctoral student attrition rates. Lovitts and Nelson (2000) inferred that few students drop out of doctoral programs primarily for financial reasons. This contradicted explanations of other researchers (Baird 1997; Kluever 1997; Washburn-Moses 2008) who stated financial support was a direct link to success, both in terms of completion and time to completion.

Kluever (1997) conducted a study of doctoral student's attitudes towards responsibilities and barriers to completing their doctoral degree. The author cited that high attrition rates in doctoral education was an indicator that there was a need to analyze students attitudes. The author asserted that any information that increased the proportion

of students who graduated was of great value to both the institution and the student. Data were collected from 111 current doctoral students and 154 graduates from the University of Denver's College of Education. Surveys were designed to find out participant's experiences, strategies, and attitudes of the doctoral process, including perceived support systems, and employment. A total of 142 graduates and 97 current students responded to the questionnaire providing the researcher with 92% return rate. The findings revealed that the factors perceived as a major hindrance to completion included financial, family concerns, and dissatisfaction with dissertation advisor (Kluever, 1997).

Similarly, Baird (1997) examined the journey of completing a doctoral dissertation, by examining the responsibilities of students and programs. While the author acknowledged the variance between disciplines, his study did not look at disciplines in isolation but at the doctoral process as a whole. The author considered a number of factors that can have great influence on a doctoral student's endeavors, citing financial support, employment situation, and family responsibilities as being possible barriers to successful completion of a doctorate (Baird, 1997; Washburn-Moses, 2008).

Gravois' (2007) article explored the economic adversity faced by African American doctoral students. The author charted the financial experiences of two female African American doctoral students as they journeyed towards graduation, highlighted the growing cost of doctoral education along with expected financial returns once the degree was achieved. Gravois (2007) demonstrates the apparent disparity in the cost of doctoral degree verses the value of the degree concerned both doctoral students and institutions. If a doctoral graduate has accrued massive debts from undertaking a program of study then the awarded degree should assist individuals to gain higher paid employment, sufficient to repay the acquired debt alongside the cost of living.

Some academic institutions are changing the way in which some students are funded. A number of well renowned private colleges have identified students' concern over debt and have offered grants to those who would normally be forced to acquire loans (Guttman, 2008). The author discusses this situation and revealed that while it benefitted a few high performing students to attain affordable quality education, it left many others with no alternative but to select lesser institutions and accrue much debt.

In today's American society the burden of paying for higher education has shifted from the nation to the individual (DiFeliciano, 2008). This statement warrants the following questions; "who should pay for college? Is college, touted as a ticket to prosperity, a personal investment, with its cost to be borne mostly by the individual? Or is it a public good, dedicated to the general welfare, its cost should be distributed amongst us all?" (DiFeliciano, 2008 p. 31).

There are distinct variances in financial concerns of doctoral students when compared to those of undergraduates. Doctoral students were typically older and often had dependants. Many worked full-time jobs to support themselves and their families and unlike undergraduates few had financial support from their parents. Thus, employment during the doctoral study could be perceived as being both beneficial and detrimental to doctoral education. While full-time or part-time employment provided the finances to support the student, it was also likely to detract from the time devoted to academic studies and dissertation writing. Kluever (1997) emphasized the dissertation phase of the doctoral program as an area that suffered the most from full-time employment, stating "full-time employment as a one of the major deterrents to dissertation completion" (p. 55). Giancola, Munz, and Traes (2008) study examined differences in perceptions between first generation students with those of nontraditional students; analysis included

a review of the effectiveness and availability of financial aid. The authors stated that few doctoral students were satisfied with the financial aid offered to them.

A comparison of the types and amounts of financial aid students received in the public and private sector was reviewed by Doyle (2008). The study highlighted the disparity between public and private; particularly, the aid provided by private institutions had a positive correlation with income whereby students from wealthy families receive more aid. This was contrary to the public institutions whose aid was negatively correlated to income (Doyle).

Furthermore, Kim and Otts' (2010) study examined the effect of student loan amounts on time-to-degree, the authors sought to identify differences by race, discipline, or institutional characteristics. Two national data sets were combined for the study, the 2005 *Survey of Earned Doctorates* from the NSF (National Science Foundation) and the 2005 *Integrated Postsecondary Education Data Systems* from National Center for Education Statistics. The findings revealed that there was a rise in the average cost of doctoral education, "rising 50% from 1995 to 2003" (Kim & Otts, 2010, p. 2). However, the amount of financial assistance awarded such as grants and assistantships failed to provide sufficient income to address increased student expenditure, thereby generating an increased need for students to loan money. The results of the study indicated that the median amount of student loans by doctoral students had climbed from \$11,500 in 1993 to \$44,743 in 2003. The findings also showed that a higher proportion of African American doctoral students received fellowships than Asian and Caucasian students in the same discipline but African American and Latino students received fewer research assistantships when compared to their Caucasian and Asian counterparts (Kim & Otts). These findings showed that African American students were at a disadvantage because

they received less research scholarships which adversely affected their time to degree and possibly their ability to excel as researchers (Kim & Otts).

Summary

The review of literature revealed that studies which examined students' perception of the dissertation support and services offered to them were diminutive in the United States. Additionally, the studies that focused on the process of doctoral education from the advisor's or department's viewpoint, did so without due consideration to the doctoral student. The literature review addressed the following topics the doctoral education process, doctoral student attrition, doctoral supervision, doctoral student support and services, external doctoral support and services, and financial support.

The literature review showed that there were slight variations in the doctoral program between disciplines and institutions but the majority of doctoral programs within the American education system follow the same basic pattern. The development and completion of a program of study, comprehensive exams to test the students' comprehension and ability to apply their knowledge, the development and presentation of a research proposal, and finally a presentation of their findings in the form of a dissertation to their committee (Golde & Dore, 2001). Furthermore, doctoral student's characteristics were more diverse than undergraduate students. Doctoral students were more likely to have greater variances in age and have additional responsibilities that influenced their studies, their family lives and employment. The lack of homogeneous groups within doctoral students created challenges for researchers who attempted to generalize their findings to a larger population.

In addition, stakeholders in doctoral education demonstrated increasing support for a review and possible reform of the doctoral process citing the limited number of official national standards that govern doctoral programs (Walker, 2008). Moreover, it also showed that doctoral students were poorly informed about the doctoral process and how to navigate it, including the prospect of employment upon completing a doctorate degree (Gardner, 2009b; Golde & Dore, 2001). Furthermore, the review of literature showed that the problems that plagued doctoral education and deficiencies in standards governing the process caused high doctoral student attrition rates. The nature of doctoral work was shown to be academically demanding, physically draining, emotionally trying, expensive, and included pitfalls that not only discouraged students, but lead many to withdraw before they finished their doctoral degree. Faculty very rarely attributed blame for doctoral student attrition to the department or the program but simply found fault in the student and their abilities. The research studies reviewed also showed that faculty members were not always knowledgeable about why the doctoral student attrition occurred (Gardner, 2009b; Lovitts, 2001). This had an adverse effect on the possibility of reducing doctoral attrition when the problems were not acknowledged by higher education institutions.

The provision of support and services that facilitated the doctoral process was vital, yet few doctoral students were aware of the doctoral services provided by universities. In addition, there was plethora of external support services (independent peer support groups, books, online personal coaches, and dissertation boot camps/scholar retreats) which were both accessible and beneficial to doctoral students (Leatherman, 2000).

Moreover, research on doctoral supervision revealed that doctoral supervision was vital to the dissertation process and deficiencies in the doctoral supervision could influence whether doctoral students completed their degrees. However, in order for advisors to become effective supervisors, they must assume many roles (cheerleader, coach, counselor, and critic) in order to enable their students to complete their study (Spillet & Moisiejewicz, 2004). Swanson (2006) acknowledged that doctoral advisement was adversely affected by faculty members' other professional commitments essential to promotion and tenure. Furthermore, universities placed little value on advisement when evaluating for faculty promotion and tenure (Swanson). Despite the researched and documented plight of doctoral education, the problems were both persistent and endemic. Additionally, literature revealed that it was evident that doctoral students were not alerted to these problems to allow them to make informed choices about pursuing doctoral degrees in their area of interests.

The review of literature supported the purpose of this study which was to determine doctoral students' awareness and perceptions of the doctoral support and services offered to them by Mississippi State University. The literature revealed that doctoral students exhibited poor perceptions of their doctoral education, specifically in terms of doctoral supervision and doctoral support and services. Moreover, the literature showed that doctoral supervision played a significant role in the doctoral education process and in some cases it was linked to doctoral student attrition rates. Thus, it was pertinent to ascertain research participants' perceptions of the doctoral supervision they received. Furthermore, it was equally important to ascertain what doctoral support and services were sought inside and outside of the university and in what form. Moreover, financial support for doctoral studies was shown to be a contributing factor to doctoral

attrition rates, with scholars stating that higher education institutions did not provide doctoral students with the necessary information that could help them secure funding. In addition, the review of literature showed that one of the gaps in research studies conducted in this field examined current students' or alumni' perceptions of the doctoral process but rarely assessed both populations in the same study.

In order to address the areas of concern discussed in this chapter and gaps in research; five research questions were compiled to address the overarching objectives of this study. They included: (a) ascertain current doctoral students' and alumni perceptions of the dissertation support and services provided by MSU; (b) determine the forms of assistance external to those offered by MSU that were used by doctoral students; (c) determine how doctoral students perceived the financial assistance they received; (d) determine whether there were differences between current students and alumni' perceptions of the dissertation process and lastly (e) ascertain whether demographic variables such as age, gender, race, college, and academic status had an impact on participants' perceptions of the dissertation process.

CHAPTER III

METHODOLOGY

Introduction

The purpose of this study was to determine doctoral students' awareness and perception of the doctoral support and services offered to them by Mississippi State University. Additionally, the researcher determined if doctoral support and services were sought outside of the university and in what form. An explanation of the research design, the sample, and instrument are provided in the chapter. Methods of data collection and data analysis including the validity and reliability of the instrument, conceptual definitions for the dependent and independent variables, and the operational measures are also provided.

Research Design

The research design that was used in this study was descriptive, non-experimental design. Descriptive research involves accurately determining the characteristics of a particular sample through interviews, questionnaires, and/or tests (Gall, Gall, & Borg, 2003). Gay, Mills, and Airasian (2006) affirmed that descriptive studies were valuable for examining attitudes, perceptions, demographics, and practices related to educational problems and concerns. Therefore, descriptive research methodology was appropriate because of the nature of the information being sought from the research participants. Descriptive statistics were used to describe doctoral student's perceptions of the support and services they received during their time as doctoral students at Mississippi State

University. Self-report surveys were used in this study which is an effective method of acquiring insight into participants' perceptions (Gay et al., 2006).

Participants

The participants of this study included doctoral students who have completed their comprehensive exams and doctoral alumni from the seven colleges within Mississippi State University which offer doctoral programs. Specifically, the population consisted of students and alumni from ten departments in the College of Agriculture and Life Sciences, eight departments in the College of Arts and Sciences, four departments in the College of Business and Industry, four departments in the College of Education, eight departments in the College of Engineering, three departments in the College of Forest Resources, and three departments in the College of Veterinary Medicine. The research participants had graduated within the last five years, or were in the process of completing their dissertation in their area of specialization. The target population was determined with the assistance of the Office of the University Registrar, who provided contact information for 185 presently enrolled doctoral students. The Mississippi State University Foundation provided contact information for 433 doctoral alumni. Due to incorrect or deleted email accounts, 13 enrolled doctoral students and 261 alumni had to be removed from the study. The remaining participants included 172 doctoral students in seven colleges and 172 doctoral alumni. Responding participants equaled 142 (41%).

Table 3.1 shows the summary statistics of the distribution of participants by gender: 78 of the participants who completed and returned the survey were male and 64 were female.

Table 3.1 Distribution of Participants by Gender (n = 142)

Gender	n	Percentage
Male	78	54.9
Female	64	45.1

Table 3.2 shows the summary statistics of the distribution of participants by race, the majority of participants were Caucasian (n=86) and Black/African (n=27).

Table 3.2 Distribution of Participants by Race (n=142)

Race	n	Percentage
Caucasian	86	60.6
Black/African American	27	19.0
Asian/Asian American	20	14.1
Hispanic/Hispanic American	5	3.5
Other	4	2.8

Table 3.3 shows the summary statistics of the distribution of participants by age, most of the participants were between 30 and 39 years old.

Table 3.3 Distribution of Participants by Age (n=142)

Age	n	Percentage
30-34	36	25
35-39	25	18
40-44	21	15
Under 30	20	14
50 and above	18	13
Missing	11	8
45-49	11	8

Table 3.4 shows the summary statistics of the distribution of participants by academic status, the majority of participants were alumni (n=94), enrolled students included *all but dissertation* (ABD) students who had defended their dissertation proposal (n=22), and post comprehensive students (n=26).

Table 3.4 Distribution of Participants by Status (n=142)

Status	n	Percentage
Alumni	94	66
Enrolled	48	34

Table 3.5 shows the summary statistics of the distribution of participants by college, indicated that 50% of participants (n=71) were College of Education students, while 50% were comprised from the other colleges.

Table 3.5 Distribution of Participants by College (n=142)

College	n	Percentage
College of Education	71	50
College of Engineering	23	16
College of Arts and Sciences	13	9
College of Agriculture and Life Sciences	12	8
College of Business and Industry	11	8
College of Forest Resources	8	6
College of Veterinary medicine	4	3

Instrumentation

An on-line survey was used to collect data for this study. The survey titled “Doctoral Student Perception Survey” was developed by the researcher. The instrument included a 4-point Likert scale system and additional spaces for research participants to

add their comments to open ended questions (see appendix A). The use of an online survey is advantageous for both researcher and the person being surveyed. Once devised, tested, and made available, participants were invited to complete the survey at their convenience. Participants could enter, edit, and delete their responses with ease. Responses were in the participants' own words, and could easily be cut and pasted into applications for later analysis, reducing the chance of inaccuracy. A large number of participants could be invited to complete the survey online, which avoids time constraints and financial costs.

The instrument was created using the research questions and literature review as a guide. To adequately ascertain the participant's perceptions, composite measures were developed to represent unique aspects of the doctoral process. Measures included examinations of the participants' program of study; support and services provided by MSU; doctoral supervision; and support and services external to MSU. Each of these are discussed below.

Dependent Variables

The analysis was designed to study the influence of factors on four different dependent variables: program of study, doctoral support and services, doctoral supervision, and external support and services. Several questions were used to create a composite measure for each dependent variable. This section discussed the questionnaire items used to construct the indices.

Program of Study

The program of study was commonly developed by a doctoral student's supervisor, it incorporated the core class requirements determined by the college and

department along with elective classes the student wished to include. Electives were often selected to match a student's area of interest or to support a chosen research field. A Program of Study (POS) composite measure was formulated to represent participant's perception of the program of study they had completed; it consisted of 10 survey items (see table 3.6). Perception of POS was based on the frequency, efficacy, and suitability of courses to adequately prepare for designing, conducting, and writing research. Where necessary, responses were reverse coded so that the most positive responses were scored the highest (i.e. POS 5r, 7r, and 8r).

Table 3.6 POS (Program of Study) Dependent Variable

	POS Construct Items
POS 1	My program of study equipped me with the knowledge required to conduct research.
POS 2	I have / had sufficient time to complete my doctoral degree.
POS 3	The required core courses of my PhD have prepared me for the dissertation process.
POS 4	The department provided me with an appropriate number of required core courses in my program of study
POS 5r	My program of study did not prepare me to conduct statistical analysis.
POS 6	My program of study has prepared me to write my dissertation.
POS 7r	The dissertation / research hours I enrolled in did not help me towards completing my dissertation.
POS 8r	My program of study did not provide me with the skills required to conduct research.
POS 9	Dissertation hours I registered for were used for dissertation work.
POS 10	The elective courses I have taken, prepared me to engage in research.

Doctoral Support Services

Doctoral support services were defined as any provision offered to doctoral students by the University that promoted and enabled doctoral students to better progress

through to the completion of their doctoral program. Such provisions included doctoral and dissertation workshops, non-credit courses or technology assistance provided by the university library or departments, and adequate access to current resources, both in terms of technology and reference materials. To be included, a provision must not be part of their doctoral program requirements and not be part of the supervision process. Doctoral Support Services (DSS) composite measure was formulated to represent participant's perception of the doctoral support and services provided by Mississippi State University. It consisted of 10 survey items (see table 3.7) gauging the efficacy, availability, and suitability of resources to enable and support the doctoral process.

Table 3.7 DSS (Doctoral Support and Services) Dependent Variable

DSS Construct Items	
DSS 1	Mississippi State University Library resources are / were beneficial to me during my dissertation work.
DSS 2	Mississippi State University Institutional Review Board workshop is / was helpful to understand the guidelines for conducting research.
DSS 3	The Mississippi State University office of graduate studies publication 'Thesis & Dissertation Guidelines' is / was beneficial to me during my dissertation.
DSS 4	Workshops provided by the library are / were helpful to me during my dissertation.
DSS 5	My department or college provide(d) me with access to facilities and staff that assist with statistical analysis for my dissertation.
DSS 6	The library doctoral support services provide(d) me with pertinent assistance to complete my dissertation.
DSS 7	My department and college provide(d) access to my dissertation technology needs.
DSS 8	My doctoral committee provide(d) me with pertinent statistical knowledge which help / helped me with my data analysis
DSS 9	The lab personnel in my department help / helped me during my dissertation work.
DSS 10	My department and college provide(d) sufficient access to my dissertation equipment needs.

Doctoral Supervision

Johnson, Lee, and Green (2000) described doctoral supervision as a pedagogical activity and technology which enabled the student to become “a licensed scholar, a ‘doctor’, who appropriately credentialed is deemed safe to pursue research unsupervised, autonomously” (p. 136). The process entailed the supervisor/major advisor and doctoral committee members overseeing and assessing the student’s needs and progress in order for the student to achieve the end goal, which was the independence to manage his/her own future research and pedagogical endeavors. A Doctoral Supervision (SUP) composite measure was developed to represent the participant’s perception of the supervision they received from their doctoral committee. It consisted of 11 survey items (see table 3.8). These included gauging the efficacy and frequency of meetings with supervisors, the responses times to inquiries and submissions, and the cooperation and encouragement received. Where necessary, responses were reverse coded so that the most positive responses were scored the highest.

Table 3.8 SUP (Doctoral Supervision) Dependent Variable

SUP Construct Items	
SUP 1	The number of doctoral committee members is appropriate.
SUP 2	My major advisor is / was available when advice is / was sought.
SUP 3	My major advisor provides / provided advice in a timely manner.
SUP 4	I have / had sufficient meetings with my major advisor
SUP 5	My major advisor provides / provided me with support.
SUP 6	My major advisor returns / returned draft materials in a timely manner
SUP 7r	My major advisor does / did not provide me with encouragement.
SUP 8	My doctoral committee and I developed a timetable for my dissertation progress.
SUP 9	I am / was confident in the abilities of all my doctoral committee members to support me with my dissertation.
SUP 10	My doctoral committee is / was knowledgeable of technology relevant to my dissertation
SUP 11	My doctoral committee members are / were knowledgeable about the statistical analysis required for my dissertation.

External Support and Services

External support and services were those beyond the scope / control of the institution. They include but are not limited to independent peer support groups, books, online personal coaches, even dissertation boot camps sometimes called ‘scholar retreats’ (Owler, 1999). An External Support Services (ESS) composite measure was developed to represent the participant's perception of doctoral support and services external to Mississippi State University. It consisted of five survey items (see table 3.9) that gauge the efficacy, availability, and suitability of resources and services available to doctoral students external to those offered by the institution.

Table 3.9 ESS (External Support and Services) Dependent Variable

ESS Construct Items	
ESS 1	The external doctoral support services I sought are/were helpful during my dissertation work.
ESS 2	The external doctoral support I used is/was more beneficial to me than my doctoral committee supervision.
ESS 3	The external doctoral support services provide(d) me with more practical knowledge about research than the knowledge I gained from my program of study.
ESS 4	The external doctoral support I seek/sought provided me with the skills I need(ed) to progress in my dissertation more than the support services provided by Mississippi State University.
ESS 5	My department will benefit from adopting some of the external doctoral support services I seek / sought.

External Support and Services Sum

An External Support and Services Sum (ESSSUM) composite measure was developed to represent the participant’s knowledge and use of support and services external to those offered by Mississippi State University. It consisted of 11 survey items requiring a Yes / No / N/A response from participants (see table 3.10). Responses were

coded so that a one (1) corresponds to reported knowledge or use of an external support or service.

Table 3.10 ESSSUM (External Support and Services Sum) Dependent Variable

ESSSUM Construct Items	
ESSSUM 1	I am / was aware of external support and services available to doctoral students.
ESSSUM 2	I purchase(d) text books that provide advice for doctoral students.
ESSSUM 3	I loan(ed) text books that provide advice for doctoral students.
ESSSUM 4	I seek / sought support online from websites and forums about dissertation work.
ESSSUM 5	I seek / sought assistance external to Mississippi State University about statistical analysis for my dissertation.
ESSSUM 6	I will / have enroll(ed) in a dissertation peer support group.
ESSSUM 7	My family is / was a major source of support.
ESSSUM 8	My peers are / were a major source of support.
ESSSUM 9	I use(d) a dissertation coach to assist me with my dissertation work.
ESSSUM 10	I attend(ed) a dissertation seminar.
ESSSUM 11	I attend(ed) an extensive residential dissertation seminar.

Content Validity

“Content validity is the degree to which a test measures an intended content area” (Gay et al., 2006, p.154). The researcher assessed content validity of use of the instrument by inviting a panel of experts from all colleges included within the study to review and assess the instrument prior to data collection. The experts were selected based on (a) their knowledge and experience of designing research instruments, or (b) their experience serving as a graduate coordinator, or (c) their active role in graduate

advisement, or (d) their role as dissertation chair. Of the twelve experts invited to assist with the validity assessment, seven agreed to contribute. The panel of seven experts used in this study included professors from five of the seven colleges being surveyed. They were requested to provide feedback as to whether the instrument was pertinent to graduate mentorship, whether the instrument was comprehensive, whether items were clear and addressed the research questions included in the study. Over a period of two weeks the researcher corresponded with the panel via email to modify and enhance the instrument. Edits to the instrument were minimal, and focused on changes in terminology. Five items which were previously requesting a response on a 4 point likert scale were modified to only include a yes/no response, for example – *I selected my major advisor due to their reputation in the respective field of study*. In addition, one item originally considered for inclusion with the Doctoral Supervision (SUP) composite measure was deemed to be administrative and procedural in nature and was not consistent with the measure's focus on participant's perception, so it was removed.

Reliability of the Instrument

Reliability of this researcher-developed instrument was evaluated by two methods. The first examination of reliability was investigated using a test/retest method. The researcher requested 30 participants (15 Post-comps PhD students and 15 PhD Alumni from Mississippi State University) with similar characteristics to the population of interest to complete the survey. A retest was requested three weeks later. A total of 15 participants responded to both test and retest requests. This number is consistent with and exceeds the recommendation of 5 to 10 participants for pretesting a research instrument (Gay et al., 2006). The overall test-retest coefficient was .844; thus, the

instrument is considered acceptable and reliable for use in the research project. The fifteen participants who supplied responses for test-retest reliability were not used in the research reported in the remainder of this document.

The second method used to evaluate reliability of the instrument involved internal consistency. A factor analysis was used to examine whether the items that form the composite measure actually measure what the construct was designed to measure. Factor analysis could be used “to confirm or to refute the proposition that the internal structure of the tests is consistent with that of the construct dimensions underlying a test of battery of tests” (Reynolds, Livingston, & Willson, 2009, p. 139). A single questionnaire item was unlikely to adequately represent complex concepts such as perception, while using several indicators of a variable can provide a more complete and accurate representation. In addition, manipulating several questionnaire items could be a complex operation, and so it was beneficial to unite multiple items that represent different aspects of the common theme of the dependent variables.

Factor analysis allowed the researcher to remove items when they were determined to be measuring factors outside of the scope of interest. The remaining items were combined into an index. According to Nardi (2006) it was customary to “create an index by summing a set of items that have been development to measure a particular concept even after the data has been collected and statistically analyzed” (p. 58). This process was repeated for all composite measures.

Factor analysis was conducted on composite measures to determine the variance between items. The type of factoring used to improve the perception composite measures was principal factor analysis (PFA), also known as principal axis factoring (PAF) which sought “the least number of factors which can account for the common variance

(correlation) of a set of variables” (Garson, 2009, p. 1). Thus, PFA was conducted consecutively on all items from each composite measure. The objective of PFA was to ascertain factor loadings that were higher than .40. Hair, Anderson, Tatham, and Black (1998) asserted that all factor loadings above .60 are considered high while loadings below .40 were considered low.

In addition, internal consistency reliability of the instrument was also calculated on the entire research sample. Internal consistency reliability “provides data about the consistency among the items in a single test” (Gay et al., 2006, p. 160). The researcher used Cronbach alpha, “a general formula for estimating internal inconsistency based on a determination of how all items on a test relate to all other items and to the total test” (Gay et al., 2006, p. 161).

The reliability of the survey was reassessed by examining its internal consistency after the removal of items indicated as being outside of the composite measure by the factorial analysis. The POS composite measure required the removal of three items: POS item #2 *I have / had sufficient time to complete my doctoral degree*, POS item #4 *The department provided me with an appropriate number of required core courses in my program of study*, and POS item #9 *Dissertation hours I registered for were used for dissertation work*.

The principal factor analysis produced an eigenvalue of 3.869 which explained 55.27% of the total variance, the subsequent reliability coefficient (Cronbach's alpha) adjusted from .863 to .859.

The DSS composite measure required the removal of two items: DSS item #1 *Mississippi State University Library resources are / were beneficial to me during my dissertation work* and DSS item #2 *Mississippi State University Institutional Review*

Board workshop is / was helpful to understand the guidelines for conducting research.

The principal factor analysis produced an eigenvalue of 4.72 which explained 59.0% of the total variance, the subsequent reliability coefficient (Cronbach's alpha) adjusted from .908 to .898. The Doctoral Supervision (SUP) composite measure required the removal of three items: SUP item #1 The number of doctoral committee members is appropriate, SUP item #2 I am / was able to change my doctoral committee with little difficulty, and SUP item #10 I am / was confident in the abilities of all my doctoral committee members to support me with my dissertation. The principal factor analysis produced an eigenvalue of 5.32 which explained 66.47% of the total variance, the subsequent reliability coefficient (Cronbach's alpha) adjusted from .910 to .924.

The ESS composite measure did not require the removal of any items, the reliability coefficient (Cronbach's alpha) remains .827. Having removed the aforementioned items from each composite measure, the revised measures were used in all subsequent analysis (see table 3.11).

Table 3.11 Perception Constructs

Construct	Cronbach's Alpha	Sample Item
Program of Study (POS)	.859	My program of study equipped me with the knowledge required to conduct research.
Doctoral Support and Services (DSS)	.898	The library doctoral support services provide(d) me with pertinent assistance to complete my dissertation.
Doctoral Supervision (SUP)	.924	My major advisor provide(d) advice in a timely manner.
External Support Services (ESS)	.827	The external doctoral support services I sought are / were helpful during my dissertation work.

Overall, the analysis indicated that the reliability of the constructs was high, and that the constructs were valid measures to use to determine doctoral student's perception of their program of study, doctoral support and services, doctoral supervision, and support and services external to their institution.

Data Collection and Procedures

The researcher administered the survey to research participants in the fall semester of 2009 between September and October. Participants were contacted via email and requested to complete and submit the survey online via a survey service (Survey Monkey), a hyperlink to the questionnaire along with a short description of the study, and a consent form were included. A financial incentive was included with the invitation email, recipients who were willing to participate in the study by deadline were entered into a prize draw. A winner was selected at random and received a one hundred dollar Amazon.com voucher.

The participants were also notified that they could withdraw from the study at any time and that their responses would be kept confidential. Although tracking of participants removes anonymity, confidentiality was maintained and the process permitted follow ups on non-respondents to ascertain their information (see Appendix B for Institution Review Board Approval of Study).

To establish that non respondents were not statistically different from participants who returned the survey initially, the researcher conducted a follow up on non respondents by randomly selecting ten participants who did not return the survey. They (non respondents) were contacted via email and asked to complete the survey. The researcher statistically compared those students who returned the survey to those who did

not initially respond. T-test analyses were used to determine whether non-return participants perceptions were significantly different from those who completed the questionnaire (see table 3.13).

Table 3.12 Independent T-Test Results of Non Respondents vs. Respondents

	N	Mean	SD	t	Df	Sig
POS Construct Non Respondent	10	3.01	.73	-.137	140	.891
Respondent	132	3.04	.66			
DSS Construct Non Respondent	9	2.51	1.22	.809	136	.420
Respondent	129	2.22	1.04			
SUP Construct Non Respondent	10	3.02	.89	-.761	138	.448
Respondent	131	3.21	.72			

* Difference is significant $p < .01$

The demographic variables *gender, race, and academic status* were also compared to establish if non respondents were significantly different from participants, T-test analysis of demographics results matched the t-test perceptions results with no significance difference being reported.

Method of Data Analysis

The data obtained from this study were analyzed using the Statistical Package for Social Science (SPSS) 16.0.1 program. A descriptive statistical analysis using means, frequencies, percentages, and standard deviations was used to describe the demographic variables and answer research questions. Additional analysis methods included T-tests, ANOVA , and multiple regression.

Research Question 1

How do doctoral students perceive the dissertation support and services provided by MSU? This question was analyzed by using descriptive statistical analysis of means and standard deviations to analyze the items from POS, DSS, and SUP sections of the survey to determine participant's perception of the support and services.

Research Question 2

What forms of assistance, external to those offered by MSU, do doctoral students obtain to facilitate the dissertation process? This question was analyzed by using descriptive statistical analysis of means and standard deviations to analyze the items on the External Support section of the survey to determine what types of external assistance is sought by participants (see p. 121-124, appendix A).

Research Question 3

How do doctoral students perceive the financial assistance they received? This question was analyzed by using descriptive statistical analysis of means and standard deviations to analyze the items on the Financial Support section of the survey to determine participant's perception of any financial assistance received by participants (see p. 125, Q1-Q5 appendix A).

Research Question 4

Is there a difference in student's perceptions of dissertation support between current doctoral students and doctoral alumni? This question was analyzed by using a t-test to analyze the mean difference of the composite measures POS, DSS, SUP, and ESS, using academic status (alumni, enrolled) as the independent variable.

Research Question 5

Is there a relationship among participants in their perception of dissertation support based on age, gender, race, college, and academic status? This question was analyzed by using correlation and multiple regressions. Independent variables included demographics variable, age, gender, race, college, and academic status. Dependent variable included the composite measures POS, DSS, SUP, and ESS.

Summary of Methodology

The research design that was used in this study was a descriptive, non-experimental design. Descriptive research allowed the researcher to accurately determine ABD doctoral students' and doctoral alumni' perceptions of the dissertation support and services they receive through self-report surveys.

An instrument was created by the researcher and was administered to ABD doctoral students and doctoral alumni participants. Analyses investigating non-return respondents found no differences between non return respondents and the respondents that returned the survey initially. Evidence was presented to support the content validity and reliability of the instrument. The data collected in fall 2009 were analyzed using descriptive statistics, t-tests, and multiple regression.

CHAPTER IV

RESULTS AND DISCUSSION

The purpose of this study was to determine doctoral students' awareness and perception of the doctoral support and services offered to them by Mississippi State University. Additionally, the researcher determined if doctoral support and services are sought outside of the university and in what form. This chapter included the description of the survey results and the analysis of the data in this study. Data collected from the "Doctoral Student Perception Survey" were used to answer the research questions. The following research questions were addressed in this study:

1. How do doctoral students perceive the doctoral support and services provided by MSU?
2. What forms of assistance, external to those offered by MSU, do doctoral students obtain to facilitate the doctoral process?
3. How do doctoral students perceive the financial assistance they received?
4. Is there a difference in student's perceptions of doctoral support between current doctoral students and doctoral alumni?
5. Is there a relationship among participants in their perception of doctoral support based on age, gender, race, college, and academic status?

Analysis of Research Question One

How do doctoral students perceive the doctoral support and services provided by MSU? Data regarding doctoral student's perception of the support and services were

collected from the “Doctoral Student Perception Survey”. Perception was measured using the mean scores derived from the POS composite measure, the DSS composite measure, and the SUP composite measure. Participants responded to items using a 4-point Likert-type scale labeled 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree. Descriptive analysis of means and standard deviations of the perception constructs were used to examine this question and are presented in Table 4.1.

Table 4.1 Descriptive Analysis of Perception

	Mean	SD
Program of Study (POS)	3.05	.60
Doctoral Support and Services (DSS)	2.95	.63
Doctoral Supervision (SUP)	3.17	.71

Table 4.1 showed that the Doctoral Supervision composite measure (SUP) received the highest mean score of 3.17. This mean score was not significantly higher than the mean calculated for the POS composite measure 3.05, which in turn was not significantly different from the Doctoral Support and Services composite measure which received the lowest mean score of 2.95. The inclusion of the 4-point scale required participants to provide a positive or negative response for each item; the midpoint of the scale equated to 2.5 and provides a figure representative of participant’s neutrality. It was from this neutral value that the researcher interpreted subsequent mean scores. All mean scores above 2.5 were interpreted as participant’s perception being moderately positive.

Table 4.2 showed the individual survey items that were combined to generate the POS composite measure. Examining the individual survey item values provided insight into the areas of Program of Study that participants perceived as negative and positive.

Mean values ranged from 2.89 to 3.35 indicating that the majority of participants considered the Program of Study to be effective and suitable. The construct item that received the highest mean value from participants related to the knowledge gained by completing their program of study. *My program of study equipped me with the knowledge required to conduct research.* This received a mean value of 3.35. The construct item that received the lowest mean value from participants related to the suitability and effectiveness of elective courses they had completed. *The elective courses I have taken, prepared me to engage in research.* This received a mean value of 2.89.

Table 4.2 Descriptive Statistics of POS Construct Items

	N	Mean	SD
POS Construct	142	3.05	.60
My program of study equipped me with the knowledge required to conduct research.	140	3.35	.69
My program of study did not provide me with the skills required to conduct research.	142	3.19	.780
My program of study has prepared me to write my dissertation.	140	3.06	.84
The required core courses of my PhD have prepared me for the dissertation process.	138	2.99	.80
My program of study did not prepare me to conduct statistical analysis.	138	2.96	.85
The dissertation / research hours I enrolled in did not help me towards completing my dissertation.	139	2.93	.97
The elective courses I have taken, prepared me to engage in research.	131	2.89	.787

Table 4.3 showed the individual survey items that combine to generate the DSS composite measure. Examining the individual survey item values provided insight into the areas of Doctoral Support and Services which participants perceived as negative and

positive. Mean values ranged from 2.65 to 3.25 indicating that the majority of participants considered Doctoral Support and Services to be sufficient and appropriate. The construct item that received the highest positive values from participants related to the *'Thesis & Dissertation Guidelines'* publication made available to them (*The Mississippi State University office of graduate studies publication 'Thesis & Dissertation Guidelines' is / was beneficial to me during my dissertation*). This received a mean value of 3.25. The construct item which received the lowest mean value (2.65) asked participants views on the support provided by technical staff (*The lab personnel in my department help/helped me during my dissertation work*).

Table 4.3 Descriptive Statistics of DSS Construct Items

	N	Mean	SD
DSS Construct	140	2.95	.63
The Mississippi State University office of graduate studies publication 'Thesis & Dissertation Guidelines' is / was beneficial to me during my dissertation.	125	3.25	.73
My department and college provide / provided access to my dissertation technology needs.	110	3.00	.77
My doctoral committee provide / provided me with pertinent statistical knowledge which help / helped me with my data analysis	114	2.98	.90
Workshops provided by the library are / were helpful to me during my dissertation.	84	2.95	.76
My department and college provide / provided sufficient access to my dissertation equipment needs.	100	2.93	.88
The library doctoral support services provide / provided me with pertinent assistance to complete my dissertation.	96	2.93	.81
My department or college provides / provided me with access to facilities and staff that assist with statistical analysis for my dissertation.	116	2.77	.95
The lab personnel in my department help / helped me during my dissertation work.	66	2.65	.95

These findings were in contrast to the results discussed in the literature review which indicated that doctoral students were insufficiently prepared for the rigors of research. Findings from existing research revealed that the majority of doctoral students were uninformed about what the doctoral education process entailed. Furthermore, information that universities provided about dissertation competencies was limited (D'Andrea, 2002; Golde & Dore, 2001). Difficulties arising due to inadequate information and instruction provided by Mississippi State University within publications was not indicated by the results of this study, yet a small number of comments provided by participants in the open ended sections of the instrument indicated some measure of confusion due to a lack of clarity in program orientation, and published program materials (see appendix C).

Table 4.4 showed the individual survey items that combine to generate the SUP composite measure. Examining the individual survey item values provided insight into the areas of Doctoral Supervision which participants perceived as negative and positive. Mean values ranged from 2.74 to 3.38 indicating that the majority of participants considered Doctoral Supervision to be sufficient and appropriate. The construct item that received the highest mean value from participants related to their perception of the support provided by their major advisor (*My major advisor provides / provided me with support*). This received a mean value of 3.38. The construct item that received the lowest mean value from participants related to the development of a timetable of progress with their committee (*My doctoral committee and I developed a timetable for my dissertation progress*). This received a mean value of 2.74.

Table 4.4 Descriptive Statistics of SUP Construct Items

	N	Mean	SD
SUP Construct	141	3.17	.71
My major advisor provides / provided me with support.	138	3.38	.79
I have / had sufficient meetings with my major advisor	139	3.32	.85
My major advisor provides / provided advice in a timely manner.	141	3.26	.91
My major advisor is / was available when advice is / was sought.	139	3.23	.92
My major advisor returns / returned draft materials in a timely manner	132	3.17	.93
My doctoral committee members are / were knowledgeable about the statistical analysis required for my dissertation.	115	3.17	.67
My doctoral committee is / was knowledgeable of technology relevant to my dissertation	124	3.15	.72
My doctoral committee and I developed a timetable for my dissertation progress.	131	2.74	.97

Analysis of Research Question Two

What forms of assistance, external to those offered by MSU, do doctoral students obtain to facilitate the doctoral process? Data regarding doctoral student's perception of external support and services were collected from the "Doctoral Student Perception Survey", which examined participant's perception of external support, and examined participant's knowledge and use of support and services external to those provided by MSU. Perception was measured using the mean scores derived from the ESS composite measure, and knowledge and use were determined using the ESSSUM composite measure. Participants responded to items using a 4-point Likert-type scale labeled 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree. Descriptive analysis of means and standard deviations of the perception constructs were used to examine this question and are presented in Table 4.5.

Table 4.5 Descriptive Statistics of ESS Construct Items

	N	Mean	SD
ESS Construct	74	2.57	.71
The external doctoral support services I sought are / were helpful during my dissertation work.	65	3.09	.66
My department will benefit from adopting some of the external doctoral support services I seek / sought.	57	2.79	.82
The external doctoral support I seek / sought provided me with the skills I need(ed) to progress in my dissertation more than the support services provided by Mississippi State University.	62	2.39	.82
The external doctoral support I used is / was more beneficial to me than my doctoral committee supervision.	62	2.37	.89
The external doctoral support services provide / provided me with more practical knowledge about research than the knowledge I gained from my program of study.	60	2.17	.91

Table 4.5 showed that the mean for the ESS Construct was 2.57 which indicated that their perception of External Support and Services was somewhat neutral with mean values ranging 3.09 to 2.17 indicating that the majority of responses fell between agree and disagree. However, examining the results indicated that many avenues of external support included within the items were not used and were not sought out by doctoral students; overall 56.28 percent selected N/A as their response. Examining the individual item values provided insight to those areas of external doctoral support which are perceived as negative. The construct item which received the highest mean value (3.09) asked participants to determine if external sources were beneficial during their dissertation (*The external doctoral support services I sought are / were helpful during my dissertation work*). The construct item which received the lowest mean value (2.17) asked participants to weigh their knowledge gained from external sources against knowledge

obtained from their program of study (*The external doctoral support services provide / provided me with more practical knowledge about research than the knowledge I gained from my program of study*). Overall, the items within the ESS composite measure were rated least positively by the participants, with mean values lower than those calculated for POS, DSS, and SUP composite measures.

The ESSSUM composite measure was a Sum of scores from External Support items which required a Yes/No response from participants. The following values were used: Yes = 1, No = 0, N/A =0. The results (see Table 4.6) indicated that all the avenues of external support included within the items were utilized by at least two or more of the participants. Examining the values of individual items provided insight into the frequency of use and therefore suggests indications of the preference of doctoral students' use of external support. The construct items that received the highest values from participants related to the support provided by their family 114 (81%) and peers 102 (72%). Other frequently used avenues of external support included the use of websites and web forums that provided support relating to dissertation work 73 (52%). Results indicated that participant's awareness of external support and services available to doctoral students was low only 65 (46%) of participants indicated that they were aware of external support and services. The construct item that received the lowest frequency 2 (1%) indicated whether the participant had attended an extensive residential dissertation seminar.

Table 4.6 ESSSUM Construct Means & Std Deviation

	N	Yes	No/N/A	Mean
My family is / was a major source of support.	141	114	27	.81
My peers are / were a major source of support.	141	102	39	.72
I seek / sought support online from websites and forums about dissertation work.	141	73	68	.52
I am / was aware of external support and services available to doctoral students.	141	65	76	.46
I seek / sought assistance external to Mississippi State University about statistical analysis for my dissertation.	141	50	91	.35
I purchase(d) text books that provide advice for doctoral students.	141	47	94	.33
I attend(ed) a dissertation seminar.	141	41	100	.29
I loan(ed) text books that provide advice for doctoral students.	141	30	111	.21
I will / have enroll(ed) in a dissertation peer support group.	141	19	122	.13
I use(d) a dissertation coach to assist me with my dissertation work.	141	7	134	.05
I attend(ed) an extensive residential dissertation seminar.	141	2	139	.01

Analysis of Research Question Three

How do doctoral students perceive the financial assistance they received? Data regarding doctoral student's perception of the financial assistance they received were collected from the "Doctoral Student Perception Survey"; four items examined their perception of financial assistance. Descriptive analysis of means and standard deviations of financial items were used to examine this question and are presented in Table 4.7.

Table 4.7 Descriptive Statistics of Financial Assistance Items

	N	Mean	SD
The benefits of obtaining a PhD outweigh the financial cost.	134	3.28	.76
Financial support gained through employment is / was essential to me completing my doctoral degree.	122	3.16	.95
Financial support provides / provided adequate funds to complete my PhD.	112	2.90	.99
My department and college provide(d) information about available assistantships / scholarships	124	2.61	.98

Participants responded to items using a 4-point Likert-type scale labeled 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree. The results indicated that the majority of participants determined that the financial support provided to them was adequate to complete their degree, reporting a mean value of 2.90. Furthermore, participants have a neutral perception that their department and college provided adequate information regarding the availability of financial support through assistantships and scholarships, reporting a mean value of 2.61. The majority of participants considered financial support gained through employment was essential to the completion of their degree, reporting a mean value of 3.16. However, the highest reported mean 3.28 purports to the participant's highly positive perception that the benefits of obtaining a doctoral degree outweigh the financial cost.

Analysis of Research Question Four

Is there a difference in student's perceptions of doctoral support between current doctoral students and doctoral alumni? This research question was analyzed using an independent t-test. Results are presented in Table 4.8.

Table 4.8 Independent T-Test Results of Alumni & Student on Perceptions of Program of Study, Doctoral Support and Services, and Doctoral Supervision.

		N	Mean	SD	t	df	Sig
POS Construct	Alumni	94	3.20	.56	4.12	140	.000*
	Student	48	2.78	.58			
DSS Construct	Alumni	94	3.08	.62	3.64	138	.000*
	Student	48	2.68	.59			
SUP Construct	Alumni	94	3.28	.66	2.77	139	.006*
	Student	47	2.94	.74			

* Difference is significant $p < .01$

There were statistically significant differences between alumni and students in all three perception composite measures. Results indicated that the alumni had a significantly higher perception of their program of study, the doctoral support and services provided by MSU, and doctoral supervision they received at MSU than current doctoral students (see Table 4.8). The participating alumni received their doctorates recently, all graduating within the last five years. Possible changes within their respective departments in terms of personnel, program modifications, available resources, were unlikely to differ significantly from those provided to present students, but could not be dismissed.

Additionally, a psychological factor that could have influenced the results was memory bias which could improve or mar students' recall of memory or change elements of that they stated they remember (Schacter, 2001). A review of this phenomenon showed that there are many types of memory biases, but those that could be argued to affect the t-tests results included; (a) change bias which could occur in instances whereby an individual invested time and effort to make a change and this could alter the way the

individual remembered one's performances and activities (Schacter, 2001); (b) egocentric bias referred to when an individual remembers the past in such a way that places him or her in a positive or self-serving light (Ross & Sicoly, 1979); (c) fading affect bias referred to instances whereby the feelings linked to bad memories diminish quicker than those connected with happy memories which could affect how the individual recalls certain events (Walker, Skowronski, & Thompson, 2003); (d) positivity effect referred to the recall over memories overtime, specifically older adults preferred to recall positive information rather than negative information in their memories (Mather & Carstensen, 2005); and lastly (e) rosy retrospection referred to individuals tendency to recall events in more preferably than it actually was at the time it occurred (Mitchell & Thompson, 1994).

Analysis of Research Question Five

Is there a relationship among participants in their perception of doctoral support based on age, gender, race, college, and academic status? This research question was examined using stepwise multiple regression to determine which demographic variable had the most impact on the perceptions of doctoral support and services using the data collected from alumni and enrolled students.

Criterion variables in the multiple regression analysis included composite scores on POS, DSS, SUP, and ESS. The predictor variables consisted of age, gender, academic status, and 10 dummy variables derived from the demographic variables. Specifically, (a) race was converted into three variables; white (reference category), black, race-other (see table 4.9); (b) college was converted into seven variables; College of Education (reference category), College of Agriculture, College of Art and Science, College of

Business, College of Engineering, College of Forestry, College of Veterinary (see Table 4.10). When using dummy variables in multiple regression analysis, the reference category was left to avoid multicollinearity, for instance, with the demographic variable race, white was omitted but black and race-other were included in the analysis.

Table 4.9 Coding of Predictor Variable Race

Categories of Original Variable:	New Variable White	New Variable Black	New Variable Race-Other
Caucasian	1	0	0
Black	0	1	0
Asian	0	0	1
Hispanic	0	0	1
Other Race	0	0	1

Table 4.10 Coding of Predictor Variable College

Categories of Original Variable	New Variable Education	New Variable Agriculture	New Variable Art & Science	New Variable Business	New Variable Engineering	New Variable Forestry	New Variable Veterinary
College of Education	1	0	0	0	0	0	0
College of Agriculture	0	1	0	0	0	0	0
College of Art & Science	0	0	1	0	0	0	0
College of Business	0	0	0	1	0	0	0
College of Engineering	0	0	0	0	1	0	0
College of Forestry	0	0	0	0	0	1	0
College of Veterinary	0	0	0	0	0	0	1

Description of Stepwise Multiple Regression Analysis

A stepwise model of multiple regression was used to analyze whether the demographic variables presented in tables 4.11 had an impact on the participant's

perceptions of the POS, DSS, and SUP composite measures. A stepwise regression model was computed for age, gender, status, and the 10 dummy variables representing race and college. The multiple regression analysis also included Pearson correlation results which examined the strength of the relationships between the criterion variable and predictor variables (see table 4.11).

Table 4.11 Pearson Correlations of Criterion Variable and Predictor Variables

Predictor Variables	Criterion Variable: POS Perception	Criterion Variable: DSS Perception	Criterion Variable: SUP Perception
Age	.036	.023	.111
Gender 1 = female	-.064	-.141	.128
Status 1 = student	-.347**	-.544**	-.286**
White	.079	.060	.073
Black	-.186*	-.158	-.250**
Race Other	.084	.079	.153
College of Education	-.121	-.172*	-.354**
College of Agriculture	.084	.230**	.128
College of Art & Science	.048	-.031	.030
College of Business	.141	.061	.124
College of Engineering	-.106	-.084	.130
College of Forestry	.090	.128	.193*
College of Veterinary	.026	.085	.038

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 4.11 showed that the academic status (alumni/current) of participants correlated negatively with all the criterion variables, POS composite measure (n = 142, $r = -.347$, $p < .01$), DSS composite measure (n = 138, $r = -.544$, $p < .01$), and SUP composite measure (n = 140, $r = -.286$, $p < .01$). The results showed that on perceptions of the program of study, doctoral support and services, and doctoral supervision, current

students exhibited a less positive endorsement than alumni. The only college which exhibited a significant negative correlation to two of the three measures was the College of Education. Participants from the College of Agriculture had a positive perception of doctoral support and services relative to their counterparts at other colleges ($n = 138, r = .230, p < .01$). Moreover, the correlations showed that black participants had more negative responses on the SUP composite measure ($n = 140, r = -.250, p < .01$). Participants from the College of Education demonstrated the highest negative correlation ($n = 140, r = -.354, p < .01$) when compared to their counterparts at other colleges on the doctoral supervision (SUP) composite measure.

The stepwise model of multiple regression was conducted and included all predictor variables (due to the inclusion of dummy variables within the analysis, the two reference variables *white*, and *College of Education* were omitted to avoid multicollinearity). The stepwise model began with all remaining predictor variables, the analysis proceeded by eliminating variables one at a time until the elimination of one makes a significant difference in R-squared. Furthermore, as part of the multiple regression analysis, the variance inflation factor (VIF) was examined to check for multicollinearity (an overly high correlation among predictor variables (Garson, 2010)). The VIF values were all below 4.0 and within the recommended criteria that VIF values fall below 4.0 (Garson, 2010). Table 4.12 shows the significant predictor variables for each of the criterion variables.

The multiple regression analysis conducted on the Program of Study (POS) revealed that the academic status predictor variable was found to have a significant impact on the dependent variable, $R^2 = .126, F(1,129) = 27.563, p = .0005$. (see table

4.12). The predictor variable academic status accounted for 13% of the variance in the perception of Program of Study (POS), with a beta value ($\beta = -.356, p = .0005$). The magnitude of the beta for academic status was negative which indicated that alumni status predicted a positive perception of their program of study. Other variables (e.g. race, gender, etc) were not found to be significant predictors of POS.

Table 4.12 Multiple Regression Analysis Predictors of Perceptions

Predictor Variables	Graduate Student Perception of Program of Study		Graduate Student Perception of Doctoral Support & Services		Graduate Student Perception of Supervision	
	B	β	B	β	B	β
Black					-.347*	-.192*
College of Agriculture			.622*	.172*		
Status	-.500*	-.356*	-1.058*	-.498*	-.331*	-.218*
R^2		.126		.306		.111
F		16.664*		27.563*		7.941*
Adjusted R^2		.120		.295		.097

Note. $N = 112$. * $P \leq 0.01$

The multiple regression analysis conducted on the DSS revealed that the academic status and College of Agriculture predictor variables were found to have a significant impact on the dependent variable, $R^2 = .306, F(2,125) = 3.59, p = .025$. (see table 4.12). The predictor variables accounted for 31% of the variance in the perception of DSS, academic status was the most influential predictor with the beta value ($\beta = -.498, p = .0005$). The magnitude of the beta for status was negative which indicated that alumni

status predicted a positive perception of the doctoral support and services provided by MSU. Moreover, enrollment in the College of Agriculture ($\beta = .172, p = .025$) indicated that these students and alumni exhibited a more positive endorsement of the doctoral support and services than those from the College of Education.

The multiple regression analysis conducted on the SUP revealed that the academic status and black predictor variables were found to have a significant impact on the dependent variable, $R^2 = .111, F(2,127) = 7.941, p = .032$. (see Table 4.12). The predictor variables accounted for 11% of the variance in the perception of SUP, academic status was the most influential predictor with the beta value ($\beta = -.218, p = .001$). The magnitude of the beta for academic status was negative which indicated that *alumni* academic status predicted a positive perception of their program of study. Moreover, black participants ($\beta = -.192, p = .032$) indicated that white participants exhibited a more positive endorsement of the doctoral supervision than black participants.

Summary of Results

The results of this study revealed that both current and alumni doctoral students had a moderately positive perception of the doctoral support and services offered to them by MSU. The doctoral program of study was considered to be effective and suitable by the majority of participants, who determined that by completing their program they were well prepared to conduct research. Participants considered support and services offered by MSU to be sufficient and appropriate, indicating that the dissertation guide provided by MSU to be beneficial in their efforts to document their research. Doctoral supervision was considered to be sufficient and appropriate by the majority of participants, who indicated that their doctoral advisors were supportive during their studies.

Participant's perceptions of sources of doctoral support and doctoral services external to Mississippi State University was somewhat neutral, results indicated that the majority of students did not seek support and services external to MSU. Participants who utilized external sources of support and services indicated a positive perception, and considered their use as beneficial. However, results indicated that the majority of participants did not consider that external sources provided greater practical knowledge than knowledge gained through their program of study.

Also, participants cited their family and peers as the greatest avenue of support during their doctoral program. A small number of participants indicated that they had attended a dissertation peer support group, attained the service of a dissertation coach, or attended a residential dissertation seminar/retreat.

The results indicated that participants considered the financial support provided to them was adequate to complete their program. Participant's perception of the provision of information by their department and college regarding avenues of support was neutral, while the use of employment to provide financial support was considered essential. The perceived benefits of obtaining a doctoral degree outweighed the financial cost of its completion.

Results indicated that the alumni status had a significantly higher perception of their program of study, the doctoral support and services provided by MSU, and doctoral supervision they received at MSU than current doctoral students. Additionally, enrollment in the College of Agriculture indicated a more positive endorsement of the doctoral support and services than participants enrolled in the College of Education. Moreover, black participants exhibited a more negative perception of doctoral supervision than white participants.

Open ended comment sections concluded each section of the instrument, these sections allowed participants to make any additional comments relating to the topics of each section. As a large portion of participants hailed from the College of Education, it was none too surprising to find the majority of responses have been provided by current and alumni from the College of Education. However, a review of the responses to the open ended questions which concluded each section of the instrument identified a significant pattern (see appendix C). While the responses from participants from all other colleges were predominately positive, the College of Education received predominantly negative comments (see table 4.13).

Table 4.13 Narrative Responses Analysis

College	Program of Study		Doctoral Support and Services		Doctoral Supervision	
	Positive	Negative	Positive	Negative	Positive	Negative
College of Agriculture	1	0	1	0	2	0
College of Business	0	1	0	0	0	0
College of Education	3	6	3	12	1	4
College of Engineering	1	0	2	1	0	0
College of Forestry	0	0	2	1	0	0

CHAPTER V

CONCLUSIONS

This chapter includes a discussion and conclusion of the study's findings, the chapter is organized around the major ideas and findings presented in the study. The chapter ends with policy implications, along with directions for future research.

Summary

The purpose of this study was to determine doctoral students' awareness and perception of the doctoral support and services offered to them by Mississippi State University. Additionally, the researcher examined whether doctoral support and services were sought outside of the university, in what form and participants' perceptions of the services sought. A descriptive, non-experimental design was used in this study and self-reporting online surveys were used to acquire insight into participants' perceptions. The participants of this study included doctoral students who had completed their comprehensive exams and doctoral alumni from the seven colleges within Mississippi State University that offered doctoral programs. Participants included 172 current doctoral students in seven colleges and 172 doctoral alumni. Responding participants equaled 142 (41% response rate). The survey was administered in the fall semester of 2009 during the months of September and October.

The validity of the intended use of the instrument was established by a panel of experts. Internal consistency and reliability was determined using factor analysis,

Cronbach's alpha, and test/retest reliability which revealed that the instruments were consistent and reliable.

Discussion of Findings

This section of the chapter examined whether the findings derived from the study supported or refuted existing theories and research. The discussion was structured using the major findings of the study; discussion and speculation of possible implications derived from the findings were included.

Participants' Perceptions

The findings of this study revealed that both current and alumni doctoral students indicated a moderately positive perception of the doctoral support and services offered to them by MSU. Essentially, the doctoral program of study was considered to be effective and suitable by the majority of participants, who determined that by completing their program they were well prepared to conduct research. Participants also considered support and services offered by MSU to be sufficient and appropriate, indicating that the dissertation guide provided by MSU was beneficial to their efforts to complete their research. Doctoral supervision was perceived to be sufficient and appropriate by the majority of participants, who indicated that their doctoral advisors were supportive during their studies. Moreover, the findings of this study showed that research participants had a positive perception of the doctoral process which refuted existing research that revealed that doctoral students were often dissatisfied with the advisement they received and this was a determining factor in their decision to withdraw from their degrees (Grevholm et al., 2005).

This study examined doctoral supervision in terms of the advice and feedback received from the committee, doctoral committee's research and statistics capabilities and lastly the doctoral director/major advisor's advisement, support and feedback. A review of literature showed that the doctoral supervision process was an intricate process which involved cultivating, organizing and directing original scholastic thought (Swanson, 2006). Moreover, doctoral supervision entailed enabling students to make the transition from a novice researcher who was dependent on the advisor to an independent researcher and academic (Holligan, 2005; Swanson).

The findings from this research showed that doctoral student's utilization of external sources of support and services was perceived as beneficial. The study expanded on existing research revealing that students primarily received support and assistance from family and peers, followed by the use of websites and web forums. The findings of this study did not conclusively support the findings of existing research. Leatherman's (2000) study examined doctoral student use of external sources of support that helped them complete their dissertation. The author documented the benefits of utilizing the sources (self-help books, dissertation boot camps, newsletters, online support groups, and dissertation software) identified by students. Overall, the findings of this study showed that the use of external services by doctoral students at MSU was low, with very few participants procuring external services. Also, this study indicated participants had a neutral perception towards any proposed adoption of the external support they used by their respective department. However, results also indicated that the majority of participants did not consider that external sources provided greater practical knowledge than knowledge gained through their program of study.

Financial support was described as a multifaceted and fluid concept because typically students' financial situation did not remain constant throughout their degree. Existing research studies showed the influence financial support exerted over the timely completion of a doctoral degree (Washburn-Moses, 2008). The results of this study indicated that the majority of participants determined that the financial support provided to them was adequate to complete their degrees. The results of this study also revealed that doctoral students funded their own degrees primarily through employment which could have important implications. While employment provided the necessary funding that allowed students to progress with their degrees, it also created additional responsibilities which could be detrimental to completing their degree (Gravois, 2007; Kluever, 1997). However, this finding supported DiFeliciano's (2008) assertions that financial support gained through employment was essential during the doctoral process. Similarly, students in this study also perceived the benefits of obtaining a PhD outweighed the financial cost of the degree.

Differences by Academic Status

This study expanded on existing research, indicating that alumni had a significantly better perception of their program of study, the doctoral support and services, and the doctoral supervision provided by Mississippi State University than current doctoral students. Similar results were not discovered during the review of literature because existing research did not examine both current doctoral students' and alumni's perceptions of the doctoral process in the same study. Any speculation as to the cause of the difference in academic status must acknowledge that possible changes within their respective departments in terms of personnel, program modifications, available

resources, may have contributed to the difference and cannot be dismissed. However, the researcher speculates that such changes were unlikely to differ significantly from those provided to present students, as the participating alumni received their doctorates recently, all graduating within the last five years.

Additionally, some form of memory bias could also be influencing the results. A review of this phenomenon indicated a number of memory bias types that could conceivably be contributing to the results. Mitchell and Thompson (1994) documented the psychological phenomenon called rosy retrospection whereby individuals remember the past more positively than actually was. Having invested much time and effort into their doctoral degree and having succeeded in achieving doctoral status, doctoral alumni could conceivably recollect the events and their experiences within a doctoral program from an altered perspective.

Differences by College

In testing for influence of different colleges on doctoral perceptions, results indicated that College of Agriculture students reported better satisfaction of doctoral support and services when compared to College of Education students. No other effects for colleges were found on the other dependant variables.

Nevertheless, a small number of comments provided by doctoral students in the open ended sections of the instrument indicated some measure of dissatisfaction with the advisement received (see appendix C). Specifically, doctoral students from the College of Education indicated a significantly less positive endorsement of the supervision they had received. This sentiment was expressed within the open ended comment sections which concluded each section of the instrument; a review of the responses identified a

significant pattern (see appendix C). While the responses from participants from all other colleges were predominately positive, the College of Education received predominantly negative comments. The apparent disparity between colleges may conceivably be caused by a number of factors. While not within the scope of the data collected in the study, speculation may include the possibility that College of Education faculty's role as advisors may include a larger number of doctoral students, which consequently divides and reduces the time available to devote to individuals. On the other hand, having reviewed existing literature which concluded that doctoral students were often dissatisfied with the advisement they received (Grevholm et al., 2005), literature indicated a potential rationale for the dissatisfaction: whereby doctoral students experienced isolation due to infrequent contact with major advisors. Infrequent and arguably inadequate doctoral advisement was also determined as being endemic in academia (Johnson et al., 2000). Other problems identified by researchers who examined doctoral supervision included, lack of communication between student and advisor and their major advisor/dissertation director had too much control over their research (Gardner, 2009b; Vilkinas, 2008). One could speculate that two factors; surmountable faculty workload and poor doctoral advisement are interrelated and have a significant impact on doctoral supervision and doctoral student's perceptions.

Differences by Race

Additionally, the results indicated racial differences; Black/African American doctoral students provided a significantly less positive endorsement of doctoral supervision than their white counterparts. Speculation as to the possible causes for this difference may require an examination of the diversity of Mississippi State University

faculty. While not included in the data collected for this study, a review of MSU faculty members demonstrates that it is not representative of the population of Mississippi and Black/African American faculty are underrepresented. Black/African American doctoral students may conceivably experience difficulties connecting with a doctoral committee that includes few or no Black/African American faculty.

Recommendations for Future Research

Several recommendations were made for future research based on the findings of this research. This study examined the perceptions of current and alumni doctoral students. To better comprehend and address the process of doctoral education, future research could include participants who had withdrawn from their programs. This would allow for a comparison between groups, and may identify patterns or facets of the doctoral process that impede student progress. Literature indicated that doctoral students who withdraw from programs frequently do not announce their departure, but simply stop communicating with their advisors and departments. This situation could feasibly make their inclusion in such a study problematic, a scenario whereby contacting and questioning individuals is increasingly challenging.

A method of research that may alleviate this problem would be a longitudinal study that followed doctoral students throughout their program. By selecting and obtaining consent from a broad sample of doctoral students during their first semester, yearly surveys and interviews throughout their program could conceivably improve existing knowledge of the barriers faced by doctoral students. By examining the wide demographic diversity of doctoral students, patterns may be discovered that would better assist universities to support their increasingly diverse student population. Should a

student withdraw from the program, and no longer be available/willing to participate, then a review of their most recent survey and interview may provide an indication as to their rationale for withdrawal.

In addition, the difference between the quantitative findings and the open-ended comments/narratives revealed the limitations of self-reporting survey data with regards to the honesty and accuracy of responses. Therefore, perhaps interviewing participants would have provided the research with the opportunity to ascertain students' genuine perceptions of their experiences of the doctoral process in their individual colleges. The employment of a mixed-method approach collecting both quantitative and qualitative data from the longitudinal study, could conceivably provide more insights into the perceptions of doctoral students. Qualitative research may allow for a more thorough understanding of the doctoral student's relationship with their institution, program, advisor, and peers than could be achieved through quantitative research alone. Conducting research at more institutions would allow the development of more comprehensive data; this study's single location makes generalization to other institutions difficult.

Recommendations for University

Based on both the written comments from some respondents from this study and from the results of previous studies and literature, the following recommendations are made to the University.

1. A review of the findings of this study to determine what actions may be required to improve doctoral education at Mississippi State University. Specifically, an examination of the doctoral programs, the support and

services provided to students, and a review of advisory methods presently in use. The College of Education is well represented in the data and would benefit from a review of the narrative responses for directions of improvement.

2. A review of publications that provide information to doctoral students would be beneficial to ensure that information is consistent and accurate. Specifically, promotional material and informational material that assists students in obtaining financial support.
3. The institution should conduct a formal examination of tools/methods that have been proven to assist doctoral students at other institutions and consider the adoption of the methods deemed to fit the needs of Mississippi State University.
4. The development of classes/seminars/workshops that address the common barriers faced by doctoral students would be beneficial, especially those that addressed deficiencies in research methodology, instrument design and development, and practical application of statistics.

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APPENDIX A
THE SURVEY INSTRUMENT

Doctoral Student Perception Survey Fall 2009

1. Introduction

My name is James Boulder, a doctoral student in the Department of Instructional Systems & Workforce Development, Mississippi State University. I am conducting research aimed at assessing doctoral students' perceptions of the doctoral support and services they receive from their academic institution.

The purpose of this research study is to add to the body of knowledge and provide data that enables educators to develop strategies that will benefit and expedite doctoral students' completion of their dissertation.

I am requesting voluntary participation in completing the questionnaire to enable me to collect data for my study. You can withdraw your participation at any time, you can also skip any items you choose not to answer. Your participation is confidential. The IRB approval number for this study is 08-303.

The questionnaire will be destroyed after the data is coded and analyzed. This survey will take approximately 10 minutes to complete.

If you require assistance my telephone number is 662-617-2270 and my e-mail address is jboulder@colled.msstate.edu. Dissertation Director - Dr A Elder - AElder@colled.msstate.edu
Thank you for your cooperation.

2. Informed Consent

The data collected for this research study will be kept confidential. The questionnaire will be destroyed after the data is coded and analyzed. In any sort of report we might publish, we will not include any information that will make it possible to identify you. Research records will be stored securely and only researchers will have access to the records. Please note that these records will be held by a state entity and therefore are subject to disclosure if required by a state entity and therefore are subject to disclosure if required by law.

Please understand that your participation is voluntary, your refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled, and you may discontinue your participation at any time without penalty or loss of benefits.

If you have questions regarding your rights as a participant in human subject research please contact the MSU Office of Regulatory Compliance at 662-325-5220 or irb@research.msstate.edu.

3. I consent to participate in this study.

Yes No

4. Demographic Information

1. Gender

- Male Female

2. Age _____

3. Race

- Caucasian Hispanic American
 African American Native American
 Asian American Other (Please specify)_____

4. Financial Assistance you have received during Grad School, while pursuing a PhD.

- Student Loans Fellowships
 Financial Aid Assistantships
 Scholarships Other (Please specify)_____

4. Status

5. Please indicate which best describes your current status.

- Ph.D. Alumni (Graduated with Doctorate)
 All But Dissertation (successfully defended your proposal)
 Post Comps (Passed Written Comprehensive Exam)

5. Socioeconomic Status: Alumni

1. Please indicate current annual salary.

- Under \$20,000 \$20,000 - \$40,000
 \$40,001 - \$60,000 \$60,001 - \$80,000
 \$80,001 - \$100,000 \$100,001 - \$120,000
 \$120,001 - \$140,000 \$140,001 and above

Additional Comments _____

6. Socioeconomic Status: ABD

1. Please indicate current annual salary.

- | | |
|--|--|
| <input type="checkbox"/> Under \$20,000 | <input type="checkbox"/> \$20,000 - \$40,000 |
| <input type="checkbox"/> \$40,001 - \$60,000 | <input type="checkbox"/> \$60,001 - \$80,000 |
| <input type="checkbox"/> \$80,001 - \$100,000 | <input type="checkbox"/> \$100,001 - \$120,000 |
| <input type="checkbox"/> \$120,001 - \$140,000 | <input type="checkbox"/> \$140,001 and above |

Additional Comments _____

7. Socioeconomic Status: Post Comprehensive

1. Please indicate current annual salary.

- | | |
|--|--|
| <input type="checkbox"/> Under \$20,000 | <input type="checkbox"/> \$20,000 - \$40,000 |
| <input type="checkbox"/> \$40,001 - \$60,000 | <input type="checkbox"/> \$60,001 - \$80,000 |
| <input type="checkbox"/> \$80,001 - \$100,000 | <input type="checkbox"/> \$100,001 - \$120,000 |
| <input type="checkbox"/> \$120,001 - \$140,000 | <input type="checkbox"/> \$140,001 and above |

Additional Comments _____

8. College

1. Please indicate your college

- College of Agriculture and Life Sciences
- College of Arts and Sciences
- College of Business and Industry
- College of Education
- James Worth Bagley College of Engineering
- College of Forest Resources
- College of Veterinary Medicine

Other (please specify) _____

9. College of Arts and Sciences

1. Please indicate your department

- | | |
|---|--|
| <input type="checkbox"/> Biological Sciences | <input type="checkbox"/> Physics and Astronomy |
| <input type="checkbox"/> Chemistry | <input type="checkbox"/> Political Science and Public Admin. |
| <input type="checkbox"/> History | <input type="checkbox"/> Psychology |
| <input type="checkbox"/> Mathematics and Statistics | <input type="checkbox"/> Sociology, Anthropology & Social Work |

Other (please specify) _____

10. College of Agriculture and Life Sciences

1. Please indicate your department

- Agricultural Economics
- Food Science, Nutrition and Health Promotion
- Agricultural Information Science and Education
- Human Science
- Animal and Dairy Sciences
- Landscape Architecture
- Biochemistry and Molecular Biology
- Plant and Soil Sciences
- Entomology and Plant Pathology
- Poultry Science

Other (please specify) _____

11. College of Education

1. Please indicate your department

- Leadership and Foundations
- Instructional Systems and Workforce Development
- Curriculum, Instruction and Special Education
- Music
- Counseling and Educational Psychology
- Kinesiology

Other (please specify) _____

—

12. James Worth Bagley College of Engineering

1. Please indicate your department

- Aerospace Engineering
- Civil & Environmental Engineering
- Industrial & Systems Engineering
- Agricultural & Biological Engineering
- Computer Science & Engineering
- Mechanical Engineering
- Chemical Engineering
- Electrical & Computer Engineering

Other (please specify) _____

13. College of Business

1. Please indicate your department

School of Accountancy

Marketing

Finance and Economics
Systems

Management & Information
(M&IS)

Other (please specify) _____

14. College of Forest Resources

1. Please indicate your department

Forestry

Wildlife & Fisheries

Forest Products

Other (please specify) _____

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15. Veterinary Medicine

1. Please indicate your department

Basic Sciences

Pathology & Population Medicine

Clinical Sciences

Other (please specify) _____

16. Perception of Program of Study 01

The purpose of this page is to ascertain your perceptions of the program of study you have received.

1. My program of study equipped me with the knowledge required to conduct research.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

2. I have / had sufficient time to complete my doctoral degree.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

3. The required core courses of my PHD have prepared me for the dissertation process.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

4. The department provided me with an appropriate number of required core courses in my program of study.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

17. Perception of Program of Study 02

1. My program of study did not prepare me to conduct statistical analysis.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

2. My program of study prepared me to write my dissertation.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

3. The dissertation / research hours I enrolled in did not help me toward completing my dissertation.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

18. Perception of Program of Study 03

1. My program of study did not provide me with the skills required to conduct research

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

2. Dissertation hours I registered for were used for dissertation work.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

3. The elective courses I have taken, prepared me to engage in research.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

4. Additional comments about your 'Program of Study' here.

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19. Knowledge of Doctoral Support Services

1. ***My department informed me of the support and services available to doctoral students.**
 Yes
 No
 N/A

2. ***Statistical software packages are/ were made available by my department.**
 Yes
 No
 N/A

3. ***I know / knew who to contact within my department when I need research assistance with my dissertation.**
 Yes
 No
 N/A

4. ***I am / was aware of doctoral support and services external to my department but within Mississippi State University.**
 Yes
 No
 N/A

5. ***I know / knew who to contact within my department when I need research assistance with my dissertation.**
 Yes
 No
 N/A

6. **Additional comments about 'Knowledge of Doctoral Support and Services' here.**

20. Perception of Doctoral Support Services 01

1. Mississippi State University Library resources are / were beneficial to me during my dissertation work.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

2. Mississippi State University Institutional Review Board workshop is / was helpful to understand the guidelines for conducting research.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

3. The Mississippi State University office of graduate studies publication ‘Thesis & Dissertation Guidelines’ is / was beneficial to me during my dissertation.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

4. Workshop provided by the library are / were helpful during my dissertation.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

5. My department and college provides / provided sufficient access to dissertation equipment needs.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

6. Additional comments about your ‘Program of Study’ here.

21. Perception of Doctoral Support Services 02

1. The Library doctoral support services provides / provided me with pertinent assistance to complete my dissertation.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

2. My department and college provides / provided access to my dissertation technology needs.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

3. My doctoral committee provides / provided me with pertinent statistical knowledge which help / helped me with my data analysis.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

4. The lab personnel in my department help / helped me during my dissertation work.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

5. My department and college provides / provided sufficient access to dissertation equipment needs.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

6. Additional comments about your 'Doctoral Support and Services' here.

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22. Doctoral Supervision Knowledge

1. ***I am aware of how many doctoral students my major advisor has graduated.**
 - Yes
 - No
 - N/A

2. ***I am unaware of how many doctoral students my advisor is presently advising.**
 - Yes
 - No
 - N/A

3. ***My major advisor was assigned to me.**
 - Yes
 - No
 - N/A

4. ***My preferred choice of major advisor was unwilling / unable to work with me.**
 - Yes
 - No
 - N/A

5. ***I selected my major advisor due to their experience with the doctoral process.**
 - Yes
 - No
 - N/A

6. ***I selected my major advisor due to their reputation in the respective field of study.**
 - Yes
 - No
 - N/A

23. Perception of Doctoral Supervision 01

1. The number of doctoral committee members is appropriate.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

2. I am / was able to change my doctoral committee with little difficulty.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

3. My major advisor is / was available when advice is / was sought.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

4. My major advisor provides / provided advice in a timely manner.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

5. I have / had sufficient meetings with my major advisor.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

24. Perception of Doctoral Supervision 02

1. My major advisor provides / provided me with support.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

2. My major advisor returns / returned draft materials in a timely manner.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

3. My major advisor does / did not provide me with encouragement.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

4. My doctoral committee and I development a timetable for my dissertation progress.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

25. Perception of Doctoral Supervision 03

1. **I am / was confident in the abilities of all my doctoral committee members to support me with my dissertation.**

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

2. **My doctoral committee is / was knowledge of technology relevant to my dissertation.**

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

3. **My doctoral committee members are / were knowledgeable about the statistical analysis required for my dissertation.**

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

4. **Additional comments about your 'Doctoral Supervision' here.**

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26. Types of External Support & Services 01

1. ***I am / was aware of external support and services available to doctoral students.**
 - Yes
 - No
 - N/A

2. ***I purchase(d) textbooks that provides advice for doctoral students.**
 - Yes
 - No
 - N/A

3. ***I loan(ed) textbooks that provide advice for doctoral students.**
 - Yes
 - No
 - N/A

4. ***I seek / sought support online from websites and forums about dissertation work.**
 - Yes
 - No
 - N/A

27. Types of External Support & Services 02

1. ***I seek / sought assistance external to Mississippi State University about statistical analysis for my dissertation.**
 - Yes
 - No
 - N/A

2. ***I will / have enroll(ed) in dissertation peer support group.**
 - Yes
 - No
 - N/A

3. ***My family is / was a major source of support.**
 - Yes
 - No
 - N/A

4. ***My peers are / were a major source of support.**
 - Yes
 - No
 - N/A

28. Types of External Support & Services 03

1. ***I use(d) a dissertation coach to assistant me with my dissertation work.**

- Yes
 No
 N/A

2. ***I attend(ed) a dissertation seminar.**

- Yes
 No
 N/A

3. ***I attend(ed) an extensive residential dissertation seminar.**

- Yes
 No
 N/A

5. **Additional comments about your 'External Support and Services' here.**

29. Perception of External Support and Services

1. The external doctoral support services I sought are / were helpful during my dissertation work.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

2. The external doctoral support I used is / was more beneficial to me than my doctoral committee supervision.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

3. The external doctoral support services provides / provided me with more practical knowledge about research than the knowledge I gained from my program of study.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

4. The external doctoral support I seek / sought provided me with the skills I need(ed) to progress in my dissertation more than the support services provided by Mississippi State University.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

5. My department will benefit from adopting some of the external doctoral support services I seek / sought.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

6. Additional comments about your 'External Support and Services' here.

30. Perception of Financial Support

1. Financial support provides / provided adequate funds to complete my PhD.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

2. The benefit of obtaining a PhD outweigh the financial cost.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

3. Financial support gained through employment is / was essential to me completing my doctoral degree.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

4. My department and college provide(d) information about available assistantships / scholarships.

	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
Select the response that best reflects your position	<input type="checkbox"/>				

5. Additional comments about your 'Financial Support' here.

31. Thank you for your help.

Thank you for completing the survey appreciate your time and efforts.
You have now been entered into the prize draw and will receive an e-mail notification if you win the prize.

APPENDIX B
INSTITUTIONAL REVIEW BOARD (IRB) APPROVAL



MISSISSIPPI STATE
UNIVERSITY

Compliance Division
Administrative Offices
Animal Care and Use (IACUC)
Human Research Protection
Program (IRB)
1207 Hwy 182 West
Starkville, MS 39759
(662) 325-3496 - fax

Safety Division
Biosafety (IBC)
Radiation Safety
Hazardous Waste
Chemical & Lab Safety
Fire & Life Safety
70 Morgan Avenue
Mississippi State, MS 39762
(662) 325-8776 - fax

<http://www.orc.msstate.edu>
compliance@research.msstate.edu
(662) 325-3294

May 3, 2010

James Boulder
College of Education
MS State, MS

RE: IRB Study #08-303:
New title: A STUDY OF DOCTORAL STUDENTS' PERCEPTIONS OF THE
DOCTORAL SUPPORT AND SERVICES OFFERED BY THEIR ACADEMIC
INSTITUTION

Dear Mr. Boulder:

This is to confirm that the above referenced project was originally reviewed and approved via administrative review on 2/6/2009 in accordance with 45 CFR 46.101(b)(2) under the title "A Study of Doctoral Students' Perceptions of the Dissertation Support and Services Offered by Their Academic Institution." As requested, the title has been revised.

Continuing review is not necessary for this project. However, any modification to the project must be reviewed and approved by the IRB prior to implementation. Any failure to adhere to the approved protocol could result in suspension or termination of your project. The IRB reserves the right, at anytime during the project period, to observe you and the additional researchers on this project.

Please note that the MSU IRB is in the process of seeking accreditation for our human subjects protection program. As a result of these efforts, you will likely notice many changes in the IRB's policies and procedures in the coming months. These changes will be posted online at <http://www.orc.msstate.edu/human/aahrpp.php>.

Please refer to your IRB number (#08-303) when contacting our office regarding this application.

Thank you for your cooperation and good luck to you in conducting this research project. If you have questions or concerns, please contact me at cwilliams@research.msstate.edu or call 325-5220.

Sincerely,

[For use with electronic submissions]

Christine Williams
IRB Administrator

cc: Anastasia Elder (Advisor)

Office of Regulatory Compliance • Post Office Box 6223 • Mississippi State, MS 39762

APPENDIX C

NARRATIVE RESPONSES (COMMENT SECTION RESPONSES)

The following list is a verbatim representation of the comments provided by participants. Included with each comment is a label indicating the academic status, gender, race, and college of the respondent.

Narrative responses provided within the Program of Study section of the instrument.

1. Currently enrolled, Female, Black, College of Education.

My program of study was inadequate to say the least. None of the courses prepared me to conduct research or write my dissertation. My major adviser was useless. I never received feedback in a timely manner.

2. Currently enrolled ,Male, White, College of Education.

More research classes required - focus on type of research most doctoral students will be undertaking. Statistics classes should focus on analysis that students are considering using.

3. Alumni, Male, White, College of Education.

I feel that I had adequate preparation to conduct both qualitative and quantitative research and analysis. I worked on my dissertation topic in most of my research classes and subsequently was able to complete my dissertation the next semester after I completed my last class.

4. Alumni, Female, White, College of Business.

Limited assistance on real statistical methods. Lots of theory, but not much application.

5. Currently enrolled, Female, Black, College of Education.

The majority of the professors that I have had on my dissertation committee have been unresponsive. I have sent them information. Then followed up with phone calls and emails. I have volunteered to take off work and drive 90 miles one way to meet with professors to discuss Chapter 1 of my dissertation proposal, only to get very little response. I have been in the same place for 3 or more years.

6. Alumni, Female, White, College of Forestry.

I only took a couple of courses (I did my MS at MSU as well), learned the rest on my own

7. Alumni, Male, Black, College of Education.

The program of study was sufficient for my major of Community College Leadership.

8. Alumni, Female, White, College of Education.

Professors were not engaged with students to mentor or equip. Professors lacked the practical experience necessary to equip students to go into the superintendency.

9. Alumni, Male, White, College of Education.

There were some antiquated courses in my Program of Study that simply were no longer applicable to the overall body of knowledge associated with this degree. That information was conveyed to my major professor

10. Alumni, Female, White, College of Education.

The dissertation hours I enrolled in were to keep me an active paying student while I was writing my dissertation.

11. Alumni, Male, Asian, College of Agriculture.

Enjoyed studying at Mississippi State University in the department of Ag. & Exten. Edu under the supervision of my major professor Dr. Gary B. Jackson.

12. Alumni, Female, White, College of Education.

I enjoyed my Ph.D. program and found a few professors to support me throughout the dissertation process. There was one committee member in particular who supported me tremendously even though he was not my chair. My chair was not helpful through most of the process. She was not available most of the time and gave little useful feedback when she was available. In addition, I think there needs to be an exit course that guides students through the dissertation process because the required courses were not very helpful in learning how to engage in dissertation work. If it had not been for the aforementioned committee member patiently guiding me and giving me feedback, I don't know if I would have graduated. Again, I enjoyed my program and had many wonderful professors, but it is my opinion that there needs to be a greater emphasis placed on how to successfully navigate through the dissertation process and more professors capable of and willing to help students get through the process. I think another option would be to provide a non-dissertation route in areas where there are large numbers of students and/or professors who either do not have time or who are not willing to help students through the process.

13. Alumni, Female, White, College of Education.

My committee members were very helpful. I could not have completed my work without their guidance.

14. Alumni, Male, White, College of College of Engineering.

My program of study was very flexible. I do not believe there was a single "required" course in curriculum, though there were several "obviously appropriate" courses for me take (which I did take) for my area of research. I took some very good courses at MSU, some of which gave some preparation for my research/dissertation while others largely did not. MSU did not offer some types of coursework (available at other universities) which would have helped me further. Work-experience was tremendously influential in my research/dissertation.

15. Alumni, Male, White, College of Engineering.

Computational College of Engineering is a multidisciplinary degree. The CME program requires that the program of study consist of a minimum number of credit hours from Computer Science, Mathematics, and at least one other College of Engineering or science department (e.g. Aerospace, Mechanical, etc.). There are currently only a couple of classes directly offered by the CME department, and that is because they are not offered by anyone else.

Narrative responses provided within the Doctoral Support and Services Knowledge section of the instrument.

1. Currently enrolled, Female, Black, College of Education.

The services offered at MSU are nonexistent.

2. Currently enrolled, Male, White, College of Education.

I basically feel alone and abandoned in the entire process!

3. Currently enrolled, Female, White, College of Education.

very disjointed; advisor not available; needed more guidance/ course work on how to conduct research

4. Alumni, Male, White, College of Forestry.

The staff at the library was very helpful.

5. Alumni, Male, White, College of Forestry.

I don't recall any specific instances of being informed of extra-departmental support and services. For the most part, I didn't require any and therefore didn't miss them.

6. Alumni, Female, White, College of Forestry.

Didn't know a whole lot about external services and support but was aware of the Graduate Student Association and always contacted the Graduate School if I needed help.....

7. Currently enrolled, Male, White, College of Engineering.

Statistical software packages were made available to me, but not through my department. My department did request me to take statistical classes.

8. Currently enrolled, Male, White, College of Education.

No support except for library

9. Alumni, Male, White, College of Education.

I worked at the university so I had access to the programs because I was a member of the faculty.

10. Alumni, Female, Black, College of Education.

it really needs to improve.

11. Alumni, Female, White, College of Forestry.

Statistical software packages were made available by the University, but not all packages I needed

12. Alumni, Male, Black, College of Education.

I did not know much about doctoral support services. Many times I truly felt that I was "left in a river with no paddle for my boat." I simply had to do most things on my own.

13. Alumni, Female, White, College of Education.

Did not know about any support except my chair and the library.

14. Alumni, Male, Asian, College of Agriculture.

I will never forget the support provided me during my doctoral program of study.

15. Alumni, Female, White, College of Education.

ITS at MSU provided SPSS to me since I am a FT employee.

16. Alumni, Male, White, College of Engineering.

I was aware of the existing support services. However, I believe that the support could have been much better. At the very least, the writing lab needs to have someone on staff who can assist with dissertation writing.

17. Currently enrolled, Male, Asian, College of Engineering.

I am continually funded as RA throughout my study.

Narrative responses provided within the Doctoral Support and Services Perception section of the instrument.

1. Currently enrolled, Female, Black, College of Education.

I need something in place to hold me responsible for what I do!

2. Alumni, Male, White, College of Education.

I really didn't need any extra help. My courses in research and statistical analysis were sufficient preparation for writing my dissertation.

3. Currently enrolled, Male, White, College of Education.

No equipment needed, I had to change committee members to get someone who knows research.

4. Alumni, Male, White, College of Education.

These resources were available, but I didn't use them because I had them available in my department or had them personally.

5. Alumni, Female, White, College of Forestry.

I did my stats myself, without help from committee or any kind of services

6. Alumni, Female, White, College of Education.

I did not know about these services.

7. Alumni, Female, White, College of Education.

I lived 125 miles from campus and did most of my dissertation on my own, with the exception of contact with 2 committee members.

8. Alumni, Male, White, College of Engineering.

Most of research was performed off-site; however, I believe my research would have benefited from better on-site cooperation.

9. Currently enrolled, Female, Black, College of Education.

It is very difficult to obtain information and services when you are off campus. Many students are working and attending night classes. It is very difficult to ascertain information, technical and otherwise when you are not on campus. This also applies to students who traveling 2 1/2 hours to get to class.

10. Alumni, Male, White, College of Education.

My dissertation was a qualitative study. The primary resources for the study were provided through my dissertation committee chair who was from another department in the college of education.

11. Alumni, Male, White, College of Education.

Library staff, while helpful, are overly obsessed with dissertation formatting issues. In this technological age, it would seem the university is clinging to an outdated model

Narrative responses provided within the Doctoral Supervision section of the instrument.

1. Currently enrolled, Female, Black, College of Education.

My minor adviser is knowledgeable but no one else.

2. Currently enrolled, White, Male, College of Education.

I am at a standstill with my dissertation and unmotivated at present. The Ph.D. programs should help the student pick a topic at the start of the program and guide the student through the process since students have never written a

dissertation or any piece of scholarly work before, as is the usual case. The coursework is basically a bunch of busywork and PowerPoint presentations where students attempt to teach themselves rather than actual teaching/instruction taking place. Instead of having students write a completely useless dissertation, a directed project in many cases would probably be more applicable unless the student is actually planning on conducting research for a living or as part of their chosen career/job. The completion of the dissertation seems to be more of a power trip/bureaucratic process designed to highlight the university rather than actually serving a purpose for a community or helping the student.

3. Alumni, Female, lack, College of Education.

I did have to change one member of my doctoral committee to make things go smoother for me.

4. Alumni, Male, White, College of Education.

I conducted qualitative analysis, but my committee was knowledgeable in both quantitative and qualitative analysis.

5. Alumni, Male, White, College of Agriculture.

Both my major professor and my Ph.D. committee were extremely helpful to me throughout the entire process. They expected a lot from me, but they were always more than willing to assist me whenever I needed them.

6. Alumni, Male, Black, College of Education.

My major professor was not helpful at all. Most of my emails were never replied back to. Sometimes, I would email three to four times a day, every day, for weeks at a time and I would never get a response. The only time I would get a response is when I would take a day off from work, travel to Starkville and be there by 7:30 a.m., and wait for my major advisor with the hope of seeing him. If I did see him, he would give me some lame excuse about why he had not returned emails and then he would send me to the secretary of the department to schedule whatever it was I needed to schedule. Then after it was scheduled, I still had to wait months at a time to get a date/time finalized for a particular meeting. I never had a one on one conversation with my major professor about my dissertations. Other individuals on my committee were very helpful, but I wasn't allowed to continue with my dissertation until my major advisor scheduled orals, proposals, defenses, etc... I truly believe that I could have completed my doctoral degree a lot sooner than I did if I had communication with my major professor.

7. Alumni, Male, White, College of Education.

The Doctoral Supervision process was the weakest part of the doctoral process. My experience yielded frustration after frustration in attempting to communicate (e.g., email, phone, face-to-face) with my dissertation chair about potential progress in my dissertation. This is one area that could benefit from a major overhaul in its plan and approach. Other doctoral students that I graduated with would likewise share this sentiment.

8. Alumni, Female, White, College of Agriculture.

My committee was wonderful. My major advisor, Dr. Michael Newman, is the best advisor for which I could have asked. He was encouraging, supportive, knowledgeable, and understanding. So great!

9. Alumni, Male, White, College of Education.

My original doctoral committee was assigned to me and I did not feel very well supported. Our department was in a transition at the time and was being merged with another department. I was eventually advised to request a new dissertation committee chair from another department. Once that person took me on the dissertation process was navigated effectively.

Narrative responses provided within the External Support and Services Use section of the instrument.

1. Alumni, Female, White, College of Education.

I received much support from a cohort group for the entire doctoral experience.

2. Alumni, Male, White, College of Education.

I was adequately prepared to write my dissertation. I did not NEED to consult any sources to write my dissertation. I did need to go to another university to use a specific statistical program that Mississippi State did not have.

3. Alumni, Female, White, College of Forestry.

Dissertation is such a tiny part of what needs to be accomplished during a PhD, I was mainly focusing on papers, not the dissertation

4. Alumni, Female, White, College of Education.

I think the university, like other universities, expects doctoral students to be more independent, motivated, and resourceful in order to complete the dissertation.

Tenacity was the major resource in completing my dissertation. Most educators are not taught these skills in the context of their jobs.

5. Alumni, Female, White, College of Education.

The only "dissertation coach" I used was the committee member I mentioned in another section. He guided me through the process and provided quick and helpful feedback.

Narrative responses provided within the External Support and Services Perception section of the instrument.

1. Alumni, Male, White, College of Forestry.

I am not really sure about what is meant by external doctoral support. I attended classes in the library on research techniques, but did not have anyone person providing support other than my committee.

2. Alumni, Male, White, College of Agriculture.

I did not seek out any "external doctoral support." However, I did conduct a collaborative research project between MSU and Ohio State University. I would highly recommend this type of research. It was very beneficial to me to work with other professors and support staff outside of my comfort zone.

3. Alumni, Female, White, College of Education.

Doctoral students are more likely to be independent workers. Collaboration and support are overrated in retrospect. Doctoral students can benefit most from a get it done mentality, tenacity, and self discipline...not waiting to be supported by anyone. When I was a doctoral student, I desperately wanted the help listed here, but lacking it decided I would succeed anyway. This helped me grow as a person as I managed to complete it without the help I wanted at the time.

4. Alumni, Male, White, College of Business.

I did not seek external doctoral support.

5. Alumni, Female, White, College of Education.

I am answering these questions with the external doctoral support services defined as some source outside the school. But even if it is in the school, only the library helped, and that was with the format.

Narrative responses provided within the Financial Perception section of the instrument.

1. Alumni, Male, White, College of Forestry.

I paid for my courses and other expenses while working as an instructor at a community college. While the costs were substantial, the increased salary (not including travel and the time devoted to courses) covered these costs in one year.

2. Alumni, Male, Asian, College of Engineering.

I had a graduate research assistantship through out my PhD.

3. Alumni, Male, White, College of Forestry.

In our department, students don't come unless there is a funded project available. Therefore, for the vast majority of Wildlife and Fisheries students is, our assistantships are our employment.

4. Alumni, Female, White, College of Forestry.

This doesn't go under financial support....but my answers may seem conflicting because I had co-major professors - one that I chose based on reputation and experience, who was supportive and encouraging and one that I didn't choose who was a new faculty in my chosen field and who was extremely difficult to work with.

5. Alumni, Male, White, College of Education.

I was employed while working on my PhD. I went to school at night. I had student loans, and I received a raise after completing my degree.

6. Alumni, Male, White, College of Agriculture.

Although the financial support available through assistanceships is fairly adequate, it is still very difficult to get by without seeking other forms of financial aid such as student loans.

7. Alumni, Female, White, College of Education.

I was a graduate assistant.

8. Alumni, Male, White, College of Engineering.

Graduate Assistantship and Scholarship provided top-flight financial support in comparison with most other universities and programs. My full-time employment with a funding agency was very fortunate for me.