

12-1-2015

Perceptions of mattering in the doctoral student and advisor relationship

Holly Anne Schneider

University of Nevada, Las Vegas, hollyanneschneider@gmail.com

Follow this and additional works at: <https://digitalscholarship.unlv.edu/thesesdissertations>

 Part of the [Education Commons](#)

Repository Citation

Schneider, Holly Anne, "Perceptions of mattering in the doctoral student and advisor relationship" (2015). *UNLV Theses, Dissertations, Professional Papers, and Capstones*. 2581.

<https://digitalscholarship.unlv.edu/thesesdissertations/2581>

This Dissertation is brought to you for free and open access by Digital Scholarship@UNLV. It has been accepted for inclusion in UNLV Theses, Dissertations, Professional Papers, and Capstones by an authorized administrator of Digital Scholarship@UNLV. For more information, please contact digitalscholarship@unlv.edu.

PERCEPTIONS OF MATTERING IN THE DOCTORAL STUDENT AND ADVISOR
RELATIONSHIP

By

Holly Anne Schneider

Bachelor of Science – Kinesiology
California State University, San Bernardino
2006

Master of Science – Sports Education Leadership
University of Nevada, Las Vegas
2008

A dissertation submitted in partial fulfillment
of the requirements for the

Doctor of Philosophy – Higher Education

Department of Educational Psychology and Higher Education
College of Education
The Graduate College

University of Nevada, Las Vegas
December 2015



Dissertation Approval

The Graduate College
The University of Nevada, Las Vegas

October 28, 2015

This dissertation prepared by

Holly A. Schneider

entitled

Perceptions of Mattering in the Doctoral Student and Advisor Relationship

is approved in partial fulfillment of the requirements for the degree of

Doctor of Philosophy – Higher Education
Department of Educational Psychology and Higher Education

Doris L. Watson, Ph.D.
Examination Committee Chair

Kathryn Hausbeck Korgan, Ph.D.
Graduate College Interim Dean

Kimberly Nehls, Ph.D.
Examination Committee Member

Stefani Relles, Ph.D.
Examination Committee Member

Chyllis Scott, Ph.D.
Graduate College Faculty Representative

Abstract

Perceptions of Mattering in the Doctoral Student and Advisor Relationship

By

Holly Anne Schneider

Dr. Doris L. Watson, Dissertation Committee Chair

Professor of Higher Education

University of Nevada, Las Vegas

The advising relationship has been acknowledged as one of the most important factors in doctoral student persistence and attrition. Less researched are psychosocial factors that contribute to doctoral student persistence and completion. Preliminary research including measures of psychosocial factors on doctoral student success found faculty-student relationships and collegial support contributed significantly to doctoral completion more so than individual factors including motivation, career goals, procrastination, financial security, and external demands such as family.

The current study draws on the psychosocial construct of mattering (Rosenberg & McCullough, 1981) to examine doctoral students' perceptions of mattering to their advisors and the influence on their commitment to complete their PhD. Using a qualitative multiple case study approach, findings from this study revealed the impact of the discipline on the advisor-student relationship, particularly in how mattering is experienced and the influence on students' commitment to complete the PhD. Three components of mattering were examined: attention, importance and dependence. While a new form of attention emerged from both cases, this form of attention manifested in different ways for each case. Findings from this study revealed

students in one case felt their relationships with their advisors confirmed their commitment, while the same conclusion was not supported within the other case.

Acknowledgements

It is with the deepest gratitude that I thank my dissertation chair, Dr. Doris L. Watson for her unending support and dedication to see me through my PhD. During times of uncertainty and when circumstances threatened my persistence, your earnest belief in my capacity to succeed pushed me beyond what I thought possible. Thank you for never giving up on me, especially when I was on the brink of giving up on myself.

I would also like to recognize my committee members: Dr. Kimberly Nehls, Dr. Stefani Relles, and Dr. Chyllis Scott. Your guidance through this process has been an immeasurable help. Kim, you have been an amazing presence both on my committee and in my life. Words cannot adequately express how thankful I am for you.

To my parents, Debbie and Fred Amerson, and Deb and Rick Schneider – your love, support (and many hours of babysitting) have amounted to more than you will ever know. To my family members near and far, your words of encouragement and belief in me have lifted my spirit and lent me strength along this journey. I also count myself fortunate to have many colleagues and friends who have been there to cheer me on and commiserate along the way. Thank you to my dear friends Alex Lourdes, Brandy Smith, Julianne Flores, and Sara Elissa.

My three beautiful children, Lily, Gabriel, and William are also due thanks. There were many weekends you tolerated my absence so that I could meet my goals. You three inspire me to be better. To the man who matters most to me, Jubal, I am forever indebted to you. To call you a partner is an understatement. You have shouldered more burden than I ever expected, and sacrificed everything to see me succeed. My success is undoubtedly due in large part to you. From the bottom of my heart, thank you!

Table of Contents

Abstract	iii
Acknowledgements	v
Chapter 1	1
Introduction to the Problem	1
Statement of the Problem	6
Purpose of the Study	7
Research Questions	7
Theoretical/Conceptual framework.....	8
Mattering.....	8
Attention	8
Importance	8
Dependence.....	9
Overview of Methodology.....	9
Limitations and Delimitations of the Study.....	9
Limitations	10
Delimitations	11
Significance of the Study.....	11
Organization of the Study.....	12
Definition of Terms	13
Chapter 2	15
Literature Review.....	15
Historical Overview of Graduate Education.....	16
Graduate Student Socialization and Development.....	20
Graduate Student Socialization	20
Disciplinary Socialization.....	21
Model of Doctoral Student Development	24
Doctoral Student Attrition and Persistence	28
Doctoral Student Attrition	29
Doctoral Student Persistence	39
Mattering	46
Summary.....	50
Chapter 3	51
Methodology.....	51
Research Design.....	51
Positionality of the Researcher	51
Applicability of Qualitative Methodology	53
Applicability of Case Study.....	53
Case Study Design	54
Participants.....	55
Data Collection	56

Interviews.....	56
Observation	57
Documents	58
Data Analysis	59
Figure 1. Data Analysis Procedures (Marshall & Rossman, 2006)	60
Trustworthiness	68
Ethical Considerations.....	69
Summary.....	70
 Chapter 4	 71
Findings	71
Case 1: College of Science	71
Context	71
COS Within Case Findings.....	75
Attention	75
Importance	79
Dependence	82
Commitment to Degree Completion	83
Other Findings	86
Additional Roles of the Advisor	86
Marginality.....	87
Summary of COS Case.....	90
Case 2: College of Liberal Arts	91
Context	91
Findings	93
Attention	94
Importance	99
Dependence.....	105
Commitment to Degree Completion	108
Summary of COLA Case.....	115
Cross-Case Analysis.....	116
Attention	117
Importance	117
Dependence.....	118
Commitment to Degree Completion	118
Other Findings.....	119
Summary.....	119
 Chapter 5	 121
Conclusion.....	121
Findings for Research Question 1	121
Attention	122
Importance	124
Dependence.....	128
Findings for Research Question 2.....	129
Other Findings.....	132

Implications for Practice.....	135
Implications for Research.....	137
Conclusion	139
APPENDIX A: Interview Instrument	141
APPENDIX B: Recruitment Flyer.....	144
APPENDIX C: Informed Consent	145
References	149
Curriculum Vitae	162

List of Tables

Table 1. Data Sources for Cases	59
Table 2. Example of Research Log	62
Table 3. Codebook Example of Mattering Definitions	65
Table 4. Analysis of Mattering Components in the COS and COLA Cases	67
Table 5. Institutional Student Demographics	72

Chapter 1

Introduction to the Problem

Graduate education in the United States is valued for both its private and public benefits. Individuals that pursue graduate education develop advanced skills and expertise, and in some cases enjoy the prestige that comes with earning a graduate degree. Graduate education is crucial to the economy and workforce, contributes to the development of future leaders and innovators, and is tightly coupled with research (Wendler et al., 2012). The value of graduate education appears to be mounting, as the number of new and replacement jobs that will require advanced degrees by 2020 is estimated to reach near 2.6 million, with projected increases in master's degree and doctoral or professional degree requirements of 22% and 20%, respectively (Wendler et al., 2012).

Carnevale, Strohl and Melton (2011) report individuals with graduate degrees in 15 major fields of study enjoy a boost in earnings ranging from a modest 23% in the arts to 101% in biology and life sciences. While the financial returns experienced by individuals certainly convey an attractive private benefit, graduate education has become increasingly important in sustaining the United States in the global economy. As such, the Council of Graduate Schools (2007) draws attention to the contribution of graduate education, "Graduate education prepares the knowledge creators and innovators of tomorrow with the skills, expertise, and cultural awareness needed to compete effectively in the knowledge-based global economy" (p. 5). Whether graduate students go on to become faculty or administrative leaders in institutions of higher education, or venture into industry as innovators and problem solvers, the skills and knowledge they gain from graduate education are important to society.

Despite the value of and increasing need for graduate education, the high attrition rate of

graduate students is troubling. Estimates of doctoral student attrition over the past 50 years have remained between 40-50% (Berelson, 1960; Bowen & Rudenstine, 1992; Nerad & Cerny, 1993). Most recently, the Council of Graduate Schools (2008) reported a 43% attrition rate for doctoral students. Doctoral attrition is costly both to the student and the institution. Along with loss of time and money, students often face emotional and psychological damage as a result of attrition; at the same time, institutions and departments lose precious resources that have been invested in these students (Bowen & Rudenstine, 1992, Gardner, 2009a; Golde, 2005; Lovitts, 2001).

Studies examining doctoral student attrition and persistence have identified a number of related factors including but not limited to: academic integration (Golde, 2000; Lovitts, 2001; Tinto, 1993), the student-advisor relationship (Bair & Haworth, 2004; Bowen & Rudenstine, 1992; Gardner, 2009a; Golde, 2000, 2005; Lovitts, 2001; Nerad & Miller, 1996; Stallone, 2004), field of study and time to degree (Bair & Haworth, 2004; Bowen & Rudenstine, 1992; Lovitts, 2001; Nerad & Miller, 1996), departmental climate or culture (Bair & Haworth, 2004; Gardner, 2009a; Lovitts, 2001; Nerad & Miller, 1996), and financial support (Ampaw & Jaeger, 2012; Bair & Haworth, 2004; Bowen & Rudenstine, 1992; Ehrenberg, Jakubson, Groen, So & Price, 2007; Gardner, 2009a; Golde, 2000, 2005; Gururaj, Vasquez Heilig & Somers, 2010; Lovitts, 2001; Nerad & Miller, 1996; Nevill & Chen, 2007; Strayhorn, 2010; Tinto, 1993). Perhaps one of the most compelling, and most frequently occurring findings from Bair and Haworth's (2004) meta-synthesis of 118 qualitative and quantitative studies of doctoral student attrition and persistence is the association between doctoral completion and the student-advisor/faculty relationship. Students that had positive relationships with advisors or faculty were significantly more likely to complete their degrees.

Indeed, being historically grounded in the German, Humboldtian model of apprenticeship

(Berelson, 1960; Gumpert, 1993), it should come as no surprise that doctoral education in the United States is profoundly influenced by the faculty-student relationship. O'Meara, Knudsen and Jones (2013) emphasize the influential role faculty in doctoral education serve, "...where advisors most often shape students' dissertations, integrate them into the department, and socialize them into their profession" (p. 315). Lovitts (2001) further states, "Whether graduate students have a positive and successful graduate school experience (and sometimes even a successful professional career) is in large part determined by the quality of the relationship they have with their adviser" (p. 164). Recent scholarship has recognized the need to better understand human factors, otherwise noted as psychosocial factors (Stallone, 2004), involved in the faculty-student relationship considering its significance to doctoral student success (O'Meara et al., 2013). In her mixed-method study of doctoral completion, Stallone (2004) examined human factors such as faculty-student relationship, program culture or environment, and support from colleagues. Doctoral students reported human factors such as faculty-student relationships and collegial support contributed significantly to their completion more so than individual factors including motivation, career goals, procrastination, financial security, and external demands such as family (Stallone, 2004). Utilizing a revelatory case study of a single department, O'Meara et al. (2013) examined the emotional competencies exhibited by doctoral students and faculty in their mentoring and advising relationships. Their analyses of interviews revealed faculty displayed more instances of emotional competencies than students in social awareness and social skills. On the other hand, there was an equal display of self-motivation for both faculty and students. O'Meara et al. (2013) note, however that the doctoral program context influenced the competencies displayed by faculty and students. "While this program normatively prized student initiative, both students and faculty placed more emphasis on what faculty did" (O'Meara et al,

2013, p. 341). This finding highlights the central role of faculty in faculty-doctoral student relationships, and points to the need for future research to examine the manner in which faculty and doctoral students interact.

One measure of interpersonal relationships that has been slow to gain traction in higher education research is mattering. Mattering refers to the feeling that one has the attention of another. Rosenberg and McCullough (1981) assert "...mattering is a motive; the feeling that others depend on us, are interested in us, are concerned with our fate, or experience us as an ego-extension exercises a powerful influence on our actions" (p. 165). Mattering is important because the desire to feel as though we matter is not isolated to a single point in time, but is salient across the lifespan. Rosenberg and McCullough (1981) assert, "When others depend on us, worry about us, expect things of us, we are constrained and inhibited by these expectations" (p. 179). Though their work has focused primarily on adolescent mattering, their assertion that it influences actions leads one to question in what contexts, and with whom, this holds true.

According to Rosenberg & McCullough (1981), "the most elementary form of mattering is the feeling that one commands the interest or notice of another person" (p. 164). Studies have documented doctoral students' sentiments of not mattering in regards to their decision to depart from their programs. For example, Lovitts (2001) reports that very few of the departed doctoral students she interviewed felt as though their advisor took any personal interest in them. However, "the more interest noncompleters felt that their advisers took in their ideas, the longer they persisted" (Lovitts, 2001, p. 142). Similarly, in her examination of doctoral attrition, Golde (2000) describes a case where a doctoral student consistently perceived his advisor did not have any interest in him, and felt marginalized by the department:

He reiterated that this sense of not mattering 'was part of my not doing well in the orals.

Because I felt that no one there really cared if I did well or not, if I stuck around and did the project or not. And that makes a big difference.' (p. 209).

Another study documents the creation of a research support group designed to combat doctoral attrition (Wasburn, 2002). Despite reports from members of the group that their involvement resulted in renewed focus on their dissertation, provided professional rapport and personal encouragement, the intervention could not help one member surmount her perception of an unsupportive committee: "No one checks in or seems to care whether I finish or not, and in some cases, I actually feel that they don't want me to finish" (Wasburn, 2002, p. 16). Drawing on the work of Rosenberg and McCullough, Schlossberg (1989) applied the concept of mattering to higher education and found that undergraduate adult learners' feelings of mattering to an advisor or institution were instrumental in keeping them engaged with learning. Accordingly, Schlossberg (1989) indicates institutions of higher education must signify students matter if they wish for greater student involvement.

The importance of interpersonal relationships is evident in Tinto's (1993) theory of doctoral persistence. In particular, he points to the interactions between students, faculty and communities within the institution, and the importance of doctoral students' integration to both the department and the broader professional community. Stressing the importance of the local department to doctoral student integration, Tinto (1993) asserts,

In this respect, the notion of social integration at the graduate level is more closely tied to that of academic integration than it is at the undergraduate level. Social membership within one's program becomes part and parcel of academic membership, and social interaction with one's peers and faculty becomes closely linked to not only one's intellectual development, but also to the development of important skills required for

doctoral completion (p. 232).

While social integration occurs through informal interactions with peers and faculty as well as through extra-curricular activities (Tinto, 1975), academic integration entails “experiences in the formal and informal academic system resulting from interactions with faculty, staff, and students inside and outside the classroom settings that enhance the intellectual development of the student” (Wolf-Wendel, Ward & Kinzie, 2009, p. 415). In summing their review of major research studies on graduate education, one of Wulff and Austin’s (2004) main conclusions calls for doctoral students to develop a sense of belonging and integration at the outset of their programs. Considering the significance of integration to both undergraduate and graduate persistence models, it is worthwhile to note that Rosenberg and McCullough (1981) saw mattering as a considerable source of social cohesion. To state it simply, mattering may facilitate social integration, and in the graduate context, thus, academic integration. Therefore, measuring doctoral students' perceptions of mattering may make a useful contribution to existing models of doctoral persistence.

Statement of the Problem

Since Schlossberg, Lassalle, and Golec (1990) first developed and tested a mattering scale with undergraduate students 23 years of age and older, few other studies have empirically tested mattering within higher education (Elliot, Kao & Grant, 2004; France & Finney, 2009; Tovar, Simon & Lee, 2009). The absence of research regarding mattering in graduate education presents a gap in the literature that needs to be addressed specific to this population. Faculty are the gatekeepers to socialization and integration of doctoral students. Thus, examining doctoral students' perceptions of mattering to faculty may provide some indication of their academic and social integration, or lack thereof, and facilitate the identification of students at-risk of departing

prior to degree completion. Therefore, research on the topic of doctoral students' perceptions of mattering is important to understanding how their interpersonal relationships shape their decisions to persist or depart.

Purpose of the Study

Previous research on doctoral student attrition and persistence has identified the importance of the student-advisor relationship (Bair & Haworth, 2004; Bowen & Rudenstine, 1992; Gardner, 2009a; Golde, 2000, 2005; Lovitts, 2001; Nerad & Miller, 1996; Stallone, 2004). However, concluding their meta-synthesis of qualitative and quantitative studies of doctoral student attrition and persistence, Bair and Haworth (2004) contend many studies have not addressed questions regarding how persistence is shaped by the context and policies central to the program, department, and institution. Thus, Bair and Haworth (2004) recommend a qualitative approach for future research: “Through in-depth, multi-site case studies, researchers are likely to uncover context-rich explanations regarding the importance of previously identified variables as well as surface new factors or combinations of factors that play a central role in attrition and retention” (p. 523). The purpose of this study was to examine doctoral students’ perceptions of mattering to advisors within the context of their college, and determine how those perceptions influenced commitment to degree completion. The following research questions guided this study.

Research Questions

1. How do doctoral students perceive they matter to their advisor?
2. What is the relationship between doctoral students' perceptions of mattering and their commitment to degree completion?

Theoretical/Conceptual framework

The theoretical framework guiding this study is mattering as conceptualized by Rosenberg and McCullough (1981). The components of mattering will be discussed hereafter.

Mattering. Rosenberg and McCullough (1981) first brought attention to the concept of mattering as the reciprocal of significance, specifically that some people matter to an individual more than others. Their conceptualization of mattering proposed three components: attention, importance and dependence. Further description of each component is presented hereafter.

Attention. At the most basic level, Rosenberg and McCullough (1981) describe mattering as a feeling that one can gain notice, attention or interest from another individual. In essence, it is recognition from others that one exists. Acknowledgement of existence, however, does not represent the strongest expression of mattering. Thus, we turn to the second component, importance.

Importance. Beyond gaining the attention of others, a feeling of importance to others demonstrates a perception of mattering. Importance is the perception that one is an object of concern to another individual (Rosenberg & McCullough, 1981). Rosenberg and McCullough propose that one's designation as an ego-extension of another is an indicator of importance. The doctoral student that perceives their advisor will express joy in response to their success, or disappointment in their failures or shortcomings likely feels they are an ego-extension of their advisor. Rosenberg and McCullough (1981) also make the distinction that mattering is not bound by approval, rather an individual that criticizes may be indicating the extent that the recipient of their critique matters to them. The professor that critiques a doctoral student's work on a research paper by questioning the student's line of reasoning and providing copious notes may be interpreted as harsh, but also communicates the student is important enough to the professor to

dedicate time to provide such feedback.

Dependence. Rosenberg and McCullough (1981) describe mattering as a powerful motivator of behavior, and tie it to social integration. That is, "...we are bonded to society not only by virtue of our dependence on others, but by their dependence on us" (Rosenberg & McCullough, 1981, p. 165). Doctoral students working as part of a team in a research laboratory, or hired as a research or teaching assistant may experience the feeling that others are dependent upon them, which as a result may compel them to persist.

Overview of Methodology

A qualitative, multiple-case study design was used for this study. Use of case study is advantageous when "how" and "why" questions are being asked, which lends itself as appropriate to the current study (Yin, 2013). Additionally, case study design is appropriate for this study because it seeks to examine a contemporary issue, doctoral students' perceptions of mattering, in the real-world, bounded context of their college, and of which the researcher can exert little to no control (Yin, 2013, p. 14).

Golde (2005) advises, "When researching doctoral education, it is critical to disaggregate data to the level of department and program" (p. 695). The units of analysis for this multiple case study design were two academic colleges at one public, comprehensive research university with a subunit of analysis of doctoral students. The sample was purposive in that doctoral students were recruited who were within the first two years of their program of study. This criterion allowed for a selection of participants that had sufficient time to develop relationships with faculty, but had not yet advanced to candidacy. Data were collected and triangulated using in-depth, semi-structured interviews, observations of the departmental context and analysis of documents relevant to each department's doctoral program represented within the two colleges.

Limitations and Delimitations of the Study

Limitations. Using multiple case study design requires discretionary judgment on the part of the researcher to determine the number of cases necessary for the study (Yin, 2013). Such requirement cannot guarantee the absence of human error as an influence on the design. In addition, the case study researcher is expected to be knowledgeable about the issues relevant to their case, which may bias the researcher to be less open to contrary evidence that may emerge (Yin, 2013). Three approaches were used to allay this concern: first, multiple sources of evidence were drawn upon; second, a chain of evidence was maintained; third, participants in the case enhanced trustworthiness by reviewing the draft report (Yin, 2013).

One of the primary sources of data for this study was interviews which used self-reported data from participants. There is a tendency for people to over-report socially desirable behaviors which may influence the accuracy of data reported by participants (Bernard & Ryan, 2010). “Generalizing qualitative findings to other populations, settings, and treatment arrangements – that is, its *external* validity – is seen by traditional canons as a weakness in the approach” (Marshall & Rossman, 2006, p. 202). Yin (2009) argues that the purpose of case studies are not to generalize to populations, but to theory. The current study extends the theory of mattering with doctoral students. The use of multiple case study design in the current study limits the findings to doctoral students within the cases of the College of Science and the College of Liberal Arts at one institution. After reading the description of these cases the reader may decide if the context is similar to their own to determine the transferability of the findings. In addition, to counter the limitation of generalizability, Marshall and Rossman (2006) advocate use of a theoretical framework to guide data collection and analysis, and using multiple sources of data for triangulation. Rosenberg and McCullough’s (1981) framework of mattering was used to

guide this study. As a result, the interview protocol used for this study is limited to questions regarding the construct of mattering. While the researcher was open to participants' experiences of not mattering, the interview protocol did not include questions actively seeking those experiences.

Lastly, Marshall and Rossman (2006) indicate that in fields such as education, "...a strong autobiographical element often drives the study" (p. 29). In this study, the researcher was a current doctoral student, whose perceptions and experiences may have pre-disposed her to biases regarding the doctoral student experience. Investigator triangulation with the researcher's advisor and member checks with the participants were utilized to balance this concern.

Delimitations. Participation in this study was delimited to doctoral students who had not yet attained candidacy, but had been enrolled continuously for at least two semesters. This excludes doctoral students who had attained candidate status, or were currently in the dissertation phase of their program. The cases were also delimited to one institution which allowed a focused examination of characteristics that may be unique to each department, and reflective of their respective disciplines.

Significance of the Study

This study contributes to the institution and participating departments, as well as the extant literature on doctoral student attrition and persistence. In his *2013 State of the University Address*, the President of the institution at which this study is situated indicated a top priority for the institution is to move from the top 4.5% of U.S. research universities, to the top 2.3%. This strategic plan would alter the institution's current Carnegie designation of research university, high to research university, very high (University of the West, 2013). Further, the President communicated that to achieve this status, the institution must assess itself at all levels to identify

the current status and necessary changes. While this study is not commissioned by the university for those purposes, the close-up, in-depth examination of multiple doctoral departments may yield invaluable information about the culture and faculty-student relationships within those departments specifically, while providing insight to those departments not included in the study.

Additionally, this study contributes to the literature in two specific ways. First, mattering has not been examined in higher education beyond the undergraduate student population (Dixon-Rayle & Chung, 2007; Dixon & Robinson Kurpius, 2008; Elliot, Kao & Grant, 2004; France & Finney, 2009; Gossett, Cuyjex & Cockriel, 1996; Marshall, Liu, Wu, Berzonsky, & Adams, 2010; Raque-Bogdan, Ericson, Jackson, Martin, & Bryan, 2011; Tovar, Simon & Lee, 2009). This study addresses the gap in the literature by examining doctoral students' perceptions of mattering. Second, this study contributes to existing notions of doctoral persistence by including students' perceptions of mattering and the relationship to their commitment to degree completion. Traditional academic indicators such as doctoral and undergraduate GPA, type and quality of undergraduate institution, and attaining a Master's degree prior to pursuit of the doctorate, among others, have not been accurate predictors of doctoral persistence (Bair & Haworth, 2004). Lovitts (2001) posits that "attrition is more a function of what transpires after the student enrolls in graduate school than a function of the aptitudes and experiences that the student brings to the graduate program" (p. 94). This study examined more closely the experiences of doctoral students' advising relationships within different departments to understand their commitment to complete their degree.

Organization of the Study

This study consists of five chapters. Chapter one provided an overview of the study. Chapter two includes a review of literature, and overview of research related to the conceptual

framework of mattering. Chapter three details the methodology utilized for the research design of the study, while chapter four reveals the data analysis and findings from the two cases, summed with a cross-case analysis. Finally, chapter five concludes this dissertation with a discussion of the most salient findings followed by practical and research implications.

Definition of Terms

The following list includes definitions for terms that were integral to this study:

- *Academic integration* – academic integration entails “experiences in the formal and informal academic system resulting from interactions with faculty, staff, and students inside and outside the classroom settings that enhance the intellectual development of the student” (Wolf-Wendel, Ward & Kinzie, 2009, p. 415).
- *Attention* – Attention is the first component of mattering defined as one’s perception that they have gained the interest or notice of another (Rosenberg & McCullough, 1981).
- *Attrition* – With respect to doctoral education, attrition usually refers to students who begin a doctoral program, and do not complete the degree.
- *Conditional Attention* – Emerging from the data from the current study, conditional attention is the feeling that one commands the interest or notice of another person granted on certain terms.
- *Dependence* – The third component of mattering defined by Rosenberg and McCullough, dependence is the feeling that one is relied upon by another individual, or the feeling that another looks to one to satisfy a need or want (Elliot, Kao & Grant, 2004).
- *Importance* – The second component of mattering outlined by Rosenberg and McCullough, importance is the feeling that one is an object of concern to another person. Additionally, importance is defined as the feeling that one receives the investment of time

and energy from another person to promote their welfare, the feeling one is an ego-extension of another individual, and that one's behavior reflects on the other person (Elliot, Kao & Grant, 2004).

- *Mattering* – Mattering is the perception that another person, typically one that is deemed significant to an individual, cares enough to notice them, views the individual as an object of concern and ego-extension, and as though the person is dependent on them (Rosenberg & McCullough, 1981).
- *Persistence* – Persistence refers to the doctoral student's continued progress toward completion of their degree
- *Social integration* – Social integration in the context of higher education has typically referred to undergraduate students' informal interactions with peers and faculty, and through involvement in extra-curricular activities oft affiliated with the institution (Tinto, 1975). In the context of doctoral education, social integration refers to the informal interactions with faculty and colleagues that may often be tightly coupled with more formal academic interactions, e.g. classes, office-sharing as a result of graduate, research or teaching assistantship responsibilities (Tinto, 1993).
- *Universal Importance* – Emerging from the data of the current study, universal importance is the feeling that concern is provided to one's reference group, or the investment of time and energy from one person made available to all within one's reference group.

Chapter 2

Literature Review

The nearly 3 million students enrolled in graduate education account for approximately 14% of all enrollments in higher education in the United States (Aud et al., 2012). While they constitute a smaller population of postsecondary enrollments, graduate students are valuable to institutions. Doctoral students, in particular, contribute to the teaching and research missions of their institutions by serving as either teaching or research assistants. Graduate education is also valuable to society. The level of degree earned has a positive impact on an individual's median weekly earnings: high school diploma, \$652; Associates degree, \$785; Bachelor's degree, \$1,066; Master's degree, \$1,300; Professional degree, \$1,735; and Doctoral degree, \$1,624 (Hammond, 2013). Correspondingly, an inverse relationship between degree earned and unemployment rates is observed as individuals with less than a high school diploma experience upwards of 12% unemployment compared to Associate degree 6%; Bachelor's degree 5%; Master's degree 4%; Professional degree 2%; and Doctoral degree 3% (Hammond, 2013). In the United States graduate education is crucial to the economy and workforce, as well as sustaining research and developing future leaders (Wendler et al., 2012).

Despite the value of graduate education, doctoral attrition rates approaching 50% have consistently plagued the academy for the past 50 years (Council of Graduate Schools, 2008; Lovitts, 2001). To better understand this enduring trend the remainder of this chapter will present a brief history of graduate education followed by a discussion of graduate student socialization and development, after which relevant literature on doctoral student attrition and persistence will be presented. After reviewing factors related to doctoral student attrition and persistence the construct of mattering will be introduced.

Historical Overview of Graduate Education

Graduate education made its formal entrance in the United States at Johns Hopkins in 1876, which became the archetype of establishing research as a key University function (Berelson, 1960; Gumport, 1993). Influenced by the German, Humboldtian principle of unity between research and teaching, universities in the 1890's began to offer graduate schools where faculty could engage in scientific research while selectively choosing graduate students they wished to train (Gumport, 1993). The addition of Ph.D. programs also served to enhance institutional prestige in a competitive system of higher education, compelling institutions to hire faculty with research ambitions (Gumport, 1993).

Organizationally, graduate programs were situated within departments that began to form in the late 1890's. This arrangement provided a "flexible organizational structure for decentralizing and compartmentalizing graduate instruction" (Gumport, 1993, p. 229). This provision allowed for graduate programs to be a discrete component apart from liberal education while simultaneously delivering undergraduate instruction within their discipline, a lasting characteristic found in many graduate programs today. Furthermore, disciplines began forming national professional associations which represented a sort of standardization across graduate programs, and also encouraged development of doctoral programs (Gumport, 1993; Walker, Golde, Jones, Bueschel, & Hutchings, 2008).

Making provisions for the intertwined responsibilities of graduate education and research proved more easily achievable for institutions that were prosperous both in finance and prestige. Those institutions that flourished in the competitive drive for graduate education founded the Association of American Universities (AAU) in 1900. Gumport (1993, p. 230) notes, "Ostensibly the AAU was founded to establish uniformity of standards, yet it simultaneously

functioned as an exclusive club.” This hierarchy of elite institutions based upon graduate education and research has endured to the present system of higher education in the United States.

Along with the rise of graduate education came the expansion of external funding of research. Early on, philanthropic foundations such as the Rockefeller Foundation and the Carnegie Corporation enabled institutions to acquire necessary resources to conduct graduate education and research. Philanthropic contributions remained a stable source of support until World War II, while private industrial sponsorship served as a marginal, unstable source of support through the 1930s (Gumport, 1993). With the exception of the Morrill Acts, prior to World War II the government's role in research and higher education was minimal. In 1863, the National Academy of Sciences was founded by a congressional charter to serve as an advisory board to the government on scientific and technological matters. This initial venture of federal involvement in academic science failed, and as a result, more than 50 years later the National Research Council (NRC) was established. The NRC became a gatekeeper of sorts for federal funding of university research by connecting philanthropic foundations to scientists and scholars, and also played a role in determining the recipients of grants and fellowships (Gumport, 1993).

Federal funding of academic research continued to grow, particularly post-World War II. By the 1950's the federal government signaled a belief in the value of research universities, and established the National Science Foundation (NSF). Federal investment in research increased rapidly between 1958 and 1968, largely in response to the Russian launch of Sputnik (Walker et al., 2008). The competitive process of accessing federal funds, however, has reinforced the leading tier of research universities and the hard sciences, marginalizing smaller universities and other disciplines (Gumport, 1993).

Though the federal government continued to provide strong support for academic research through federal agencies such as NIH, NSF and NASA, the economic crisis of the 1970s led to reduction in financial support. This resulted in the withdrawal of fellowships to graduate students, leading to increased reliance on student loans and institutional provisions of teaching and research assistantships (Gumport, 1993). During the 1970s and 1980s, the economic pressures appear to have swayed federal beliefs in the value of, and their investment in, academic research. Gumport (1993) observes, "When the national government eliminated the bulk of its fellowship programs, it reduced support of graduate education as an intrinsically worthwhile activity and instead linked it more directly to the production of research" (p. 240). The effects of economic pressures on graduate students crystallized with the signing of the Tax Reform Act of 1986, which considered assistantship stipends as taxable income. Gumport (1993) contends this signifies a federal view of graduate students as academic laborers rather than long-term investments worthy of support.

This sentiment of decreased federal support for graduate education appeared to have made a slight turn in recent decades, however. The College Board (2008) reports that between 1991-92 and 2007-08, grant aid for graduate students tripled. While total grant aid to graduate students increased at annual rates of 8.6% from 1991-92 through 1999-00, and 3.4% between 1999-00 and 2007-08, total loans also increased annually at alarming rates of 10.0% and 7.9% for the respective timeframes (College Board, 2008). The increased reliance on loans to finance graduate education appears to be becoming the norm (Nevill & Chen, 2007), as federal loans accounted for 67% of the student aid to graduate students in 2011-12, an increase of 6% from a decade earlier (College Board, 2012). Meanwhile federal grants contributed to only 3% of graduate student aid in 2011-12, leaving institutions to cover a greater portion, 61% of all grant

aid, to graduate students (College Board, 2012). In addition to a growing reliance on student loans to finance graduate education, the Budget Control Act of 2011 eliminated graduate student eligibility for the in-school interest subsidy on Stafford Loans.

In addition to the shift of greater financial burden being placed on the student, the labor market also took a turn. Predictions of impending faculty retirements thought to be accompanied by an increase of hiring in the 1990's failed to materialize (Walker et al., 2008). Fiscal pressures resulted in a reduction of hiring tenure-track faculty, and an increased dependence of universities on contingent, or adjunct, faculty (Walker et al., 2008). Consequently, nonacademic careers are on the rise for PhD holders. The response of some fields to either accept or reject the shift toward nonacademic careers, Walker et al. (2008) argue, "is one way in which disciplinary differences in the doctoral student experience became more pronounced in the last quarter of the twentieth century" (p. 27).

The altered financial landscape and labor market along with the expansive growth of graduate education undoubtedly holds implications for students. Students' experiences, however, are unlikely to be homogenous even within the same disciplines or institutions. This is in part due to the localized structure of specialized fields of doctoral education. In the words of Gardner and Barnes (2007), "This is to say that the graduate experience is not monolithic; one cannot assume that what a doctoral student in chemistry experiences is similar to that of a doctoral student in history or a doctoral student in education" (p. 3). To make sense of the graduate student experience, the next section turns to literature on graduate student socialization, followed by discussion of a model of doctoral student development.

Graduate Student Socialization and Development

Graduate Student Socialization. Weidman and Stein (2003) state "socialization of individuals into the cognitive and affective dimensions of social roles related to the practice of learned occupations" is a focal point of doctoral education (p. 642). Loosely defined, socialization is the process of an individual acquiring the skills, values, and attitudes of a group to which they become a member (Austin, 2002). While the earlier works of Brim (1966), Merton (1957) and Van Maanen (1976/1978) have shaped current theories of socialization, an extensive review of their works is outside the scope of this section. Thus, for the purposes of this literature review, particular attention is dedicated to theories of socialization within higher education, and more specifically socialization of graduate and doctoral students.

In their theory of graduate student socialization, Weidman, Twale and Stein (2001) propose four stages that students progress through: Anticipatory, Formal, Informal and Personal. The Anticipatory Stage commences prior to beginning the program, with prospective students developing expectations about the requirements they may experience once in their program of graduate study. During the Formal Stage, socialization occurs as a result of interactions with faculty and peers, engagement in coursework and professional conferences. The Informal Stage involves learning the tacit role expectations demonstrated by colleagues or faculty in the program. The Personal Stage is characterized by the student's internalization of the values and expectations of the academic discipline (Weidman et al., 2001). During this stage, role conflicts between student and professional identity may be resolved (Mendoza & Gardner, 2010).

Tierney (1997) critiques the "modernist" assumptions inherent in theories of socialization such as Weidman et al (2001). Tierney (1997) explains that in modernist assumptions of socialization, individuals acquire knowledge in a "one-way process" (p. 5). Austin and

McDaniels (2006) posit that socialization may be viewed as "a dialectical process, through which newcomers bring perspectives, values, and ideas that interact with the expectations within the organization" (p. 401). From this view, doctoral students interact with their discipline and program, potentially reshaping existing norms. Golde (2010) cautions, "however, a strong system of socialization and intergenerational formation is also inherently conservative" (p. 93). Therefore, the socializing systems already in place will be resistant to change. None the less, the particularities of the disciplinary community "...exert a powerful socializing force on students" and influence their development (Golde, 2010, p. 92). Thus, the next sections attend to disciplinary socialization and a model of doctoral student development.

Disciplinary Socialization. Doctoral programs have different structures and expectations regarding the norms for becoming a professional in the community dependent upon the disciplinary field (Golde, 2010). "Regardless of the career path chosen by each student, in a well-structured doctoral program all students should be well socialized into the professional habits, norms and practices characteristic of that field" (Golde, 2010, p. 81). Thus different fields rely on different strategies of socialization to instill habits and skills distinct to that particular field.

Drawing from survey data reported elsewhere, (Golde & Dore, 2001, 2004; Golde & Walker, 2006; Walker et al., 2008) Golde (2010) illuminates disciplinary differences between doctoral students in English and chemistry, and the related socialization processes. The discipline of chemistry is closely linked to industry. Production of knowledge is dependent upon experimentation that takes place in research groups. Though research groups housed in specific programs are collaborative, it is highly competitive with researchers in other labs. Research at the academic level is funded primarily through federal grants or groups in industry. The majority of chemists holding a Ph.D. end up in industry rather than academia (Golde, 2010).

To the contrary, recipients of English Ph.D.'s primarily work in academic settings as faculty. The manner in which research is conducted in English is far more solitary than chemistry. Thoroughness is emphasized over the speed at which work should be completed. The profession is marked by a focus on writing and teaching. Given the stark structural differences between the disciplines of English and chemistry, it can be expected that socialization processes also take different forms.

Using three elements of doctoral programs that are typical in most disciplines: the dissertation, selection of the dissertation topic, and relationships with advisors, Golde (2010) illustrates how these elements shape socialization. The different forms these elements take reflect the norms of the profession. While the process may look quite different for students in English and chemistry, the intended outcome is the same: professional preparation.

For students in chemistry and English alike the dissertation is a mechanism to engage in the dominant form of scholarly or scientific communication (Golde, 2010). The format of the dissertation, on the other hand, varies by discipline and what is considered a scholarly contribution to that field. Doctoral students in English, and those in other humanities disciplines, typically complete their dissertations in book format, a process that may span two to four years to complete (Golde, 2010). Ideally, the dissertation would then be published as a book by a university press once the student has completed their degree and transitioned into a faculty position. The dissertation format in chemistry also reflects the norms of the field, and typically appears as a set of articles, often co-authored by others in the research lab and the advisor. Ideally, the articles featured in the dissertation should reflect the work for which the student has "primary intellectual responsibility" (Golde, 2010, p. 88).

The selection of the dissertation topic varies and is informed by the discipline just as the dissertation format is. Within chemistry research questions are bound by the line of research being conducted in the research lab, and for which funding is accessible. One outcome of this is that students are socialized how to manage research labs within the constraints set forth by funders. Because their topics are within the line of research of their advisor, students also earn a reputation of being affiliated with that advisor. In English, on the other hand, doctoral students must independently define a project rather than a problem for which to make an intellectual contribution. English students receive guidance from committee members along the way, but hold the primary responsibility of selecting and refining their topic. As a result, students demonstrate intellectual independence within a context of support.

The structures in place within each discipline also lead to different advising relationships. Due to the research lab format and competitive nature for funding in chemistry, student-advisor relationships tend to be close, but hierarchical. “The advisor’s productivity, reputation, and ability to compete for new grants are all bound up in their students’ productivity” (Golde, 2010, p. 91). As such, close supervision is common to ensure necessary adjustments are made to uphold research productivity. Close supervision of English students by advisors is much less common. Advisors are available for support when needed, and unlike their peers in chemistry, English students are more likely to seek support from a team of advisors (Walker et al., 2008).

Clearly the varying structures within disciplines shape how doctoral students are socialized into the profession. In addition, doctoral students’ experiences shape their cognitive, psychosocial, and identity development (Gardner, 2009b). Lewin (1936) posited that a person's behavior is a function of the interaction between the individual and their environment. Further,

each individual may experience their environment differently, and those interactions may serve to either help or hinder their development.

Model of Doctoral Student Development. While most student development theories focus on undergraduate students (Evans Forney, Guido, Patton & Renn, 2010), Gardner (2009b) draws on the major theories of psychosocial development, social identity development and cognitive-structural development in her presentation of a model of doctoral student development. Her model departs from a view of the doctoral experience as a set of stages of socialization by describing it "...as a series of three phases of challenge and support" throughout which time identity development or program departure may occur (Gardner, 2009b, p. 9). A central tenet of each phase of Gardner's (2009b) model rests on Sanford's (1966) notion of development occurring as a function of an optimal balance between challenge and support.

The first phase of challenge and support that doctoral students experience, labeled entry by Gardner (2009b), involves the time preceding admission leading to the time coursework begins. Prior to admission students face challenges involving the application process, making campus visits, assembling and conversing with faculty and peers in prospective programs, deciding on a program, relocating to a new place, commencing coursework, and grasping shifting expectations regarding their role. Sources of support that may assuage these challenges for doctoral students include opportunities to meet colleagues through orientation, and interactions with faculty and staff. It is within the balance of challenge and support in this phase that students may experience development psychosocially, cognitively and in their social identity. Doctoral students are challenged to think more independently, develop mature interpersonal relationships, and confront assumptions held within their personal worldview. If the challenges outweigh the support provided, students may choose to depart in this phase.

Clearly, establishment of interpersonal relationships represent both a challenge and source of support for doctoral students in the first phase according to Gardner's (2009b) model. It is in this earliest phase that doctoral students are at great risk for feeling marginal. Schlossberg (1989) points to the potential for individuals to feel marginal as they experience transition, particularly when differences between former and new roles are large. Conversely, as new doctoral students begin to meet colleagues and faculty that they will interact with throughout their program of study, they set the foundation for engendering a perception of mattering. Perceptions of mattering are based upon relationships with specific others that an individual considers significant to them; thus time is needed for a newly transitioned doctoral student to develop relationships and perceive a sense of mattering. One way in which mattering could be perceived by a newly transitioned doctoral student, however, is through the component of mattering labeled "dependence." For instance, if an individual is contracted as a graduate teaching assistant, or research assistant, they may perceive that they matter to the department or a specific faculty member because their services are needed.

The second phase of challenge and support, integration, spans the process of completing coursework to preparing for examinations preceding advancement to candidacy. In this phase doctoral students are challenged with indicating their academic competence through coursework and the qualifying examination, transitioning roles from student to professional and cultivating relationships with both peers and faculty, namely their advisor. Gardner (2009b) emphasizes the importance of supportive relationships with these individuals as instrumental to students' success and development in the second phase. Again, a careful balance of challenge and support allows students to develop psychosocially in their relationships, cognitively in their progression through

coursework and the qualifying examination, and possibly their social identity through interactions with peers, faculty, and in coursework.

The increasing importance of interpersonal relationships is evident in phase two of the model of doctoral student development. The fact that Gardner (2009b) named phase two "integration" emphasizes its centrality. There is a clear fit for mattering within the integration phase. In defining mattering, Rosenberg and McCullough (1981) also draw attention to this point when they state, "mattering represents a compelling social obligation and a powerful source of social integration: we are bonded to society not only by virtue of our dependence on others but by their dependence on us" (p. 165). Doctoral students' peers, faculty, and especially their advisors are in the position to help the student feel as though they matter. A doctoral student that is part of a cohort that meets regularly to study or provide feedback in the research and writing process may perceive that they are needed by their peers. Another facet of mattering is importance, which may take form as ego-extension. The accomplishments, or conversely the failures, of a doctoral student may be perceived as an ego-extension of their advisor, and in some cases the department.

The third and final phase, candidacy, encompasses the process of producing original research culminating through the dissertation. In the transition to candidacy, doctoral students face several challenges such as conducting independent research, dealing with feelings of isolation, beginning the job search, and transitioning from a student to a professional role. Students may also see a decrease in sources of support due to a lack of interaction with peers and faculty in this phase. As a result, the student's advisor becomes a central source of support during the dissertation process.

Gardner (2009b) points to several developmental outcomes throughout the candidacy phase. The doctoral student in this phase develops psychosocially to preserve a sense of purpose and also develops competence within their discipline. This takes place through production of original research which also provides the student the opportunity to develop advanced cognitive skills. Deeper relationships with students' advisors allow for interpersonal development, meanwhile doctoral students may experience identity development, and perhaps some identity discomfort, as they transition from student to colleague in these relationships. As doctoral students transition from the integration phase to the candidacy phase, they may once again feel marginal if they experience limited interactions with those they had cultivated relationships with earlier in their program. Therefore, the student-advisor relationship remains the most important source of support.

As doctoral students progress through each phase they are faced with a number of transitions. "Every time an individual changes roles or experiences a transition, the potential for feeling marginal arises" (Schlossberg, 1989, p. 7). Students transition to new roles in each phase, and are presented with varying sources of support. These sources of support are almost invariably rooted in the interpersonal relationships that are established and cultivated within the doctoral program. It is also within interpersonal relationships, especially those one considers significant, that mattering is situated.

This and previous sections have highlighted the importance of the experiences which influence doctoral students' socialization into the profession and their development in multiple domains. This leads one to wonder what experiences have the most salient influence on doctoral students that depart without their degree. The next section examines factors related to doctoral student attrition, and its converse, persistence.

Doctoral Student Attrition and Persistence

The proliferation of research on undergraduate student attrition and persistence over the past several decades has outpaced research on graduate student attrition and persistence (Astin, 1975; Bean & Metzner, 1985; Braxton, 2000; Cabrera, Nora, & Castañeda, 1992; Nora, 1987; Stage, 1989; Stampen & Cabrera, 1988; Terenzini & Pascarella, 1980; Tinto, 1975, 1993). It is only within the past two decades that an increasing number of researchers have turned their attention to issues of doctoral attrition and persistence (Bair & Haworth, 2004; Ehrenberg, Jakubson, Groen, So, & Price, 2007; Gardner, 2009a; Golde, 2000, 2005; Gururaj, Vasquez Heilig & Somers, 2010; Lovitts, 2001; Nerad & Cerny, 1993; Nerad & Miller, 1996; Stallone, 2004; Strayhorn, 2010; Tinto, 1993; Vaquera, 2008; Wasburn, 2002). Tinto (1993) points out that while there is not an absence of research on graduate education, "...research on graduate attrition has not been guided either by a comprehensive model or theory of graduate persistence or by the methodological strategies that have been successfully employed in the study of undergraduate persistence" (p. 231).

Broaching the subject of doctoral student attrition inevitably leads to a discussion of the dichotomous concepts of success and failure. "The normative stance is that completing students are 'successes' while those who leave are 'failures'" (Golde, 2000, p. 224). Such a prevailing view can, and likely does, result in avoidance of reporting attrition rates at the departmental level. Golde (2000) notes: "Departments and schools rarely keep track of students who leave; departments seldom tout the accomplishments of nongraduates" (p. 224). In addition to possibly tarnishing the reputation of a department or institution, doctoral attrition is expensive. From pre-admission through a doctoral students' immersion in a program numerous resources may be expended by the department and institution (Gardner, 2009a). Recruitment efforts followed by

student funding through assistantships and stipends can add up, especially in instances where late attrition occurs (Gardner, 2009a; Golde, 2005). Beyond costs to the department and institution, doctoral students that depart without their degrees can suffer psychologically and emotionally (Gardner, 2009a; Lovitts, 2001). What follows is a review of literature in an attempt to understand what factors influence students' departure from, and conversely, persistence in their doctoral education.

Doctoral Student Attrition. In determining the causes of attrition, there have been disparate views regarding where the responsibility lies. When asked about the causes of attrition, the majority of graduate deans, faculty, and recent doctoral recipients reported the most important reasons were a lack of intellectual ability to complete the work, lack of motivation, and lack of financial resources (Berelson, 1960). Berelson (1960) did not include the perspectives of current doctoral students or those that had departed without completing their degree. Similarly, Lovitts' (2001) interviews with faculty and students that had not completed their degrees revealed the majority attributed blame for attrition on the student. These findings have been partially corroborated by a recent qualitative study of 60 currently enrolled doctoral students and 34 faculty within 6 disciplines at a research extensive university examining faculty and student attributions of attrition (Gardner, 2009a). In particular, faculty responses revealed they attributed attrition largely to the student lacking in some area:

That the student was lacking in ability, drive, focus, motivation, or initiative was cited most often by the faculty in this study as the reason for doctoral student departure in their departments, and accounted for about half of the total reasons given by faculty. (Gardner, 2009a, p. 104).

Meanwhile, though approximately one third of current students attributed attrition to personal problems of the student, they were also more likely than faculty to point out programmatic, departmental or institutional issues influencing attrition. For example, the most commonly reported departmental issue by students was bad advising. Also, in contrast to reports by the faculty, “for the students interviewed, it was not that the students perceived that their peers were not able to do the work but that they felt, most often, ‘that graduate school was not for them’” (Gardner, 2009a, p. 107).

Departing from the prevailing view of institutions which tend to place the blame of doctoral attrition on students, Lovitts (2001) examined the institutional culture and structure of graduate school to understand the persistently high doctoral attrition rates. To do so, Lovitts collected survey data from 816 graduate students; interviewed 30 noncompleter students; interviewed Directors of Graduate Study for each of the nine departments represented; interviewed high-Ph.D.- and low-Ph.D.-producing faculty from each department; collected faculty retention rates of departments; and recorded observations made during site visits to each university. At the time of the study, each university was classified within the top forty Ph.D.-granting in the United States. Under the monikers of Rural University and Urban University, the respective settings were at a public research university in a small town and private research university in a major city. Additionally, the nine departments included in the study are representative of three major disciplines: sciences, social sciences and humanities.

The concept of integration emerges as a key component in Lovitts' (2001) explanation of doctoral student departure. She argues "...that graduate student attrition is a function of the differential distribution of structures and opportunities for integration into the prevailing community" (p. 49). The structures and opportunities for integration investigated by Lovitts

include financial support, sharing an office, informal activities, and professional activities. Examination of the type of financial support received by completers and noncompleters revealed significant differences in distribution of resources. The most integrative forms of support, teaching assistantships and research assistantships, were nearly two and three times more likely to be held by completers than noncompleters, respectively. Furthermore, noncompleters were significantly more likely than completers to receive no support at all and as a result missed out on the integrative benefits associated with support from an assistantship. In addition to type of financial support varying between completers and noncompleters, significant differences were found for graduate students provided with a shared office. Completers were nearly twice as likely to have shared an office than noncompleters, and when controlling for type of financial support, chiefly in the form of TAs, RAs and university fellowships, they continued to be significantly more likely to share an office than noncompleters.

Opportunities for departmental integration were also assessed by participation in informal activities such as colloquia/brown bags, sports, on-campus and off-campus socializing, and other social activities. Controlling for type of support, completers were found to be more likely to attend colloquia/brown bags than noncompleters overall, but no differences were found for other social events. The effects of type of support on both completers' and noncompleters' participation in departmental activities, however, is indicative of the integrative potential by type of support:

...students (completers and noncompleters) who had TAs and RAs participated more often than students with fellowships, and students with fellowships participated more often than students with no support at all. The effect is stronger and more consistent for noncompleters than completers (Lovitts, 2001, p. 98).

Engagement in professional activities such as subscribing to a professional journal, belonging to professional organizations, and attending professional meetings were also used to examine students' integration. Prior to graduate school, as undergraduates, noncompleters appeared to be more likely to engage in professional activities. In contrast, once in graduate school, the trend reverses with completers being more likely to engage in each professional activity than noncompleters. Lovitts (2001) partially attributes this discrepancy to the time of attrition, with those departing later in their doctoral study being more likely engaged than those departing earlier in their study. While individual differences may account for some of the discrepancies observed, the reported results regarding each form of integration support the notion that the structures and resources distributed by departments account for a substantial portion of attrition.

While the structures and differential distribution of resources in graduate school can influence one's opportunities for integration, the interactions that take place between faculty and peers also play an important role. Data emerging from both the surveys and interviews indicate noncompleters had limited interaction with faculty, less so than completers at each stage of their education. In particular, interviews with noncompleters revealed that the few interactions occurring with faculty tended to be prompted by the student, and that they were disappointed with the lack of interest their faculty took in them. By contrast, when asked about faculty they had good experiences with, noncompleters discussed faculty that contributed to their intellectual and professional development, and characterized them as "...warm, caring, human beings" (Lovitts, 2001, p. 125). Similar to their interactions with faculty, noncompleters interacted less with other graduate students than completers. In addition to experiencing less interaction with peers, some noncompleters perceived their peers to be single-minded, while others expressed

feeling a lack of fit. Together the limited interactions of noncompleters with both faculty and peers present impediments to achieving integration.

Arguably, the most critically important relationship a graduate student may have is with their advisor. The advisor often serves as the key socializing agent to the discipline and profession (Lovitts, 2001). Thus, Lovitts (2001) asserts that doctoral completion and noncompletion are likely linked to one's relationship with their advisor, and further, that not having an advisor would have a negative effect on persistence. "Indeed, noncompleters were seven times more likely than completers to report that they did not have an adviser (23 percent vs. 3 percent)" (Lovitts, 2001, p. 132). Moreover, noncompleters with an advisor persisted a year longer than those without one. Not only were noncompleters more likely than completers to have reported not having an advisor, noncompleters were also more likely to have been assigned an advisor. Further, the assignment of an advisor was found to be linked with shorter periods of persistence, while conversely, selecting or being selected by an advisor were related to longer periods of persistence. Data gleaned from the survey and interviews suggest that alignment of interests between faculty and student combined with initiation of an advisor-advisee relationship early in the program contribute most to noncompleters' extent of study and beginning work on the dissertation (Lovitts, 2001). Unfortunately, comparisons could not be drawn between completers and noncompleters regarding this interaction.

The survey and interview data discussed to this point illuminate the implications of advisor selection, however, the type of advisor also influences doctoral students' experiences. Lovitts (2001) identified two types of faculty in her study: high producers and low producers of Ph.D.'s. Noncompleters and at-risk completers, completers that identified they had seriously considered leaving without their degree, were more likely affiliated with low producing faculty

than on-track completers. Interviews with the low producing and high producing faculty revealed a number of differences: "...low producers are less forthcoming with information and advice, less academically and socially engaged with their students, less engaged in department activities, and less engaged in cutting-edge research than high producers" (Lovitts, 2001, p. 164). Clearly, students affiliated with low producing faculty were at a disadvantage to be academically integrated into their departments and profession, and likely experienced poor advising.

In her examination of the social-structural causes of doctoral attrition, Lovitts (2001) reveals discrepancies in the distribution of structures and opportunities for integration between completers and noncompleters. While noncompleters did not attribute their decision to leave to one single reason, they often had secondary reasons which were related to lack of integration. Indeed, integration-related reasons were cited more often than any other reason for leaving the program. This notion is further supported by the noncompleter interviewees' responses to questions regarding what would have made their experience better, what could have prevented their attrition, and what could be changed to make graduate school a better experience for others. Nearly half reported their experience would have been better, and graduate school could be better for others by improving integration-related issues, while more than a third reported they would not have departed had they been better integrated. In response to these findings, Lovitts (2001) calls on departments to provide more opportunities for interaction between faculty and students, and to raise faculty awareness of "...the importance of being more supportive of, and interested in, graduate students, their ideas, research, and professional development" (p. 271). Thus, a measure that evaluates students' perceptions of faculty support and their interest in them may serve to inform departments on how they might improve advising and faculty-student

relationships that undoubtedly influence academic integration, hence influencing students' persistence.

Lovitts' (2001) findings regarding the influence of integration and relationships on doctoral attrition augment findings reported by Golde (2000) derived from her qualitative study of 68 former doctoral students from 6 different universities and 9 disciplines. Her presentation of three interviews in the form of case studies revealed students from different disciplines, social sciences, humanities and physical sciences, each experienced issues with integration. Of the three cases presented, one student did not achieve academic integration which ultimately led to his attrition. In describing his relationships he perceived a sense of not mattering, as though no one cared, and specifically a lack of support from his advisor. Conversely, the two other students appeared to be well integrated, though their advising experiences yielded different outcomes. Jane, an art history student, initially had a great relationship with her advisor. After a mutual falling out, and switching advisors she found herself questioning her desire to complete the Ph.D. The third student, Nathan, switched advisors which resulted in a positive relationship; however he became enticed by an opportunity to work in industry which drew him away from completing his Ph.D.

According to these findings, Golde (2000) posits that Tinto's (1993) theory of doctoral student attrition should not only account for students that fail to be integrated, but also the severance of well-integrated students. As such, Golde (2000) calls for emphases on advisor relationships, beginning early on in the program, as the cornerstone of doctoral academic integration. Bair and Haworth's (2004) metasynthesis of doctoral attrition and persistence studies underscores the importance of the advisor:

In studies of attrition, the student's departure was found to be due in part to inadequate or inaccurate advising, lack of interest or attention on the part of the advisor, unavailability of the advisor/faculty to students, or a negative relationship or even conflict between the student and advisor/faculty (p. 496).

Building on her previous work, Golde (2005) conducted a qualitative multiple case study investigating the influence of the department and discipline on doctoral student attrition. After observing and attending doctoral activities at four of the larger arts and sciences departments from one major U.S. research university, Golde (2005) conducted interviews with 58 doctoral students that had left without completing their degrees. Once individual case histories and case studies for each department were constructed, Golde (2005) identified themes common to the departments through cross-case analysis and organized those themes according to her framework of inadequate integration to the department and discipline. Due to emergent themes from the interviews not fitting neatly within the framework, Golde (2005) included a third category: "the discipline filtered through the department" (p. 680). Using this modified framework, six themes emerged to explain the contribution to student attrition. The themes indicated mismatch between student and the discipline, mismatch between student and the department, the discipline filtered through the department, and isolation from departmental communities contributed to attrition.

The first theme, mismatch between the student and discipline revealed that students realized that the requisite skills to be productive members of the profession and discipline were not their strengths. For example, departed history students noted the loneliness and isolation of archival research, while departed biology students lamented the extended failure rate of experiments. Others found the practice of the discipline did not meet their expectations. For instance, the slow, incremental rate of research and scholarship led some students to question the

meaningfulness of their work, while others doubted the relevance of their work to audiences beyond academia (Golde, 2005).

Two sub-themes emerged from the second theme of mismatch between the student and department. The first sub-theme indicates students had inaccurate expectations about the nature of graduate school. Some students, particularly in the humanities, were unaware they would be expected to think differently about the discipline than they had as undergraduates while others were unaware graduate school was training them for a specialized profession. In the sciences, many students departed because the excessive work demands did not fit with their expectations for a balanced life (Golde, 2005).

The second sub-theme in mismatch between the student and department indicated some students perceived they were less prepared than their colleagues. Golde (2005) notes there were no significant differences between GRE scores of those who completed and those who departed. For all departments, students were expected to resolve this shortcoming on their own. Some students realized too late that they would need additional coursework, while others were counseled to leave.

The third theme, mismatch between student and advisor, was especially relevant to attrition in the science departments, yet not mentioned in the humanities. Poor initial advising relationships made it difficult for some students to switch advisors due to the public nature in research labs, compelling them to switch to another institution where they could start over.

The fourth theme reflects the discipline filtered through the department: student perceives research university faculty life is incompatible. Students left because they did not fit the preferred norms to be a member of the discipline that they observed faculty in the department

exhibiting. Many students entered graduate school with idealized notions of academia, only to realize after experiencing graduate school that it was incompatible with them. In the sciences, especially, students perceived the work-life balance of successful faculty to tip in favor of work. In this case, the context is at one of the top research universities in the U.S. Thus, students' perceptions of faculty life may be considerably different at less research-intensive institutions.

Another way the discipline was filtered through the department is evident in theme five: students perceived the job market to be poor. The competitive job market and shortage of desirable tenure-track positions contributed to attrition. Some students felt faculty were unaware of the state of the job market and alternative career paths. Students in the humanities were particularly unaware of alternative career paths, while those in geology had many nonacademic options not requiring a Ph.D.

The final theme discusses the contribution of structural isolation from the department community to attrition. Isolation from faculty and peers occurred in the sciences as a result of small research labs, physically separate from the department, and in fieldwork settings with no other colleagues. Students in small subfields of history also experienced a degree of isolation, as they had limited opportunities to interact with other colleagues or faculty.

While Golde's (2005) multiple case study cannot be generalized to other departments or institutions, her findings reveal that the structures of departments influence student experiences and attrition decisions. In particular, these experiences influenced students' perceptions of "fit" or integration to the department and discipline. The lack of fit or integration often led to decisions to depart.

Doctoral Student Persistence. The opposite of doctoral student attrition is persistence toward completion of the Ph.D. This section examines factors related to doctoral persistence and completion including demographic characteristics, field of study, personal and departmental or institutional variables. Finally, studies examining the relationship between financial factors and persistence are examined.

Using longitudinal data from the 1992-1993 Baccalaureate and Beyond Study, Nevill and Chen (2007) tracked bachelor's degree recipients' persistence in and completion of graduate education within 10 years. Of the 40% of bachelor's degree recipients that enrolled in graduate school, only 5% earned a doctoral degree. Furthermore, students enrolled in doctoral programs were less likely to complete their degree than their peers enrolled in master's and first-professional programs.

Nevill and Chen (2007) found a relationship between several demographic characteristics and graduate persistence and completion. Men were nearly twice as likely to earn a doctoral degree as women; students that were single or had no children prior to enrollment were more likely to have earned a doctoral degree than students who were married or had children; and for women, having a child was negatively related to attainment of a doctoral degree. While many sub-groups could not be analyzed at the doctoral level due to small sample sizes, a number of other factors were identified as important to persistence in graduate school. Black students were more likely than White students to enroll in graduate school, yet less likely to attain a graduate degree. Age was also associated with degree attainment, with younger students more likely to attain a first-professional or doctoral degree. Additionally, students enrolled full-time and continuously were more likely to earn a graduate degree than those enrolled part-time or who took time off.

The students who had departed without completing a degree were also asked to report why they left. Nevill and Chen (2007) found change in family status was most commonly reported followed by conflicts with the job and the military, dissatisfaction with the program, and needing to work. It is unclear whether these reasons were a result of forced-choice options or open-ended answers. Further, the lack of qualitative description leaves one wondering what elements of the program students were most dissatisfied with.

Using both quantitative and qualitative methods, Nerad and Miller (1996) examined doctoral student attrition with the aim of improving retention. Completion rates varied according to field of study, time-to-degree, by gender, citizenship and ethnicity. Completion rates were highest in the biological and physical sciences, 73%, with the lowest rates being in the humanities at 44%. Low completion was also associated with longer time-to-degree. Not surprisingly, the sciences had the shortest time-to-degree, while the humanities had the longest. Regardless the field of study, men outpaced women in completing the doctorate, 51% vs. 44%. Similarly, regardless of field, international students had the highest completion rates. Non-Asian minority students were significantly less likely than White students to complete their doctorate. Students were also more likely to leave prior to advancing to candidacy.

The qualitative component of Nerad and Miller's (1996) study reveals several factors that influenced students' decisions to leave. Of those students who departed prior to candidacy, a number of reasons surfaced. Some never intended to earn the Ph.D. These students enrolled with the intent to earn a master's degree, but secured financial support by enrolling in a doctoral program. Other students switched degree programs from one doctoral program to another or from a doctoral program to a first-professional degree program at the same institution. Still others transferred to another institution, and perhaps completed their degree. Mismatch between

student interests and the program precipitated the departure of others. These students either did not research the program prior to coming, or become familiar with faculty's research agendas. Several students experienced frustrated expectations such as graduate life being more alienating than expected, lack of interest displayed by a famous scholar they had come to work with, and disillusion with research. Finally, amongst early leavers, students in professional schools left due to difficulty adjusting to academic culture, or after realizing there was mismatch between their career goals and academic life.

Amongst late leavers, or those leaving after reaching candidacy, students left for reasons related to the following: undecided, advisor-student relationship, inadequate financial support, and chilly departmental climate (Nerad & Miller, 1996). Undecided students are those who cannot commit to a dissertation topic, and lack either academic focus or professional goals. Some students experienced poor relationships with their advisors which led to their departure, while others could not secure adequate financial support to complete their dissertation. Lastly, of the students who departed later in their programs, "a chilly departmental climate – one in which students had the impression that they were wasting the time of the faculty or encountered few expressions of concern about their personal and professional advancement..." also influenced students' departure decision (Nerad & Miller, 1996, p. 71). This finding was especially important to women who sought validation from faculty to bolster their confidence in their own capabilities.

More recent research has examined the effect of financial factors on graduate student persistence (Ampaw & Jaeger, 2012; Gururaj, Vasquez Heilig & Somers, 2010; Strayhorn, 2010). The Council of Graduate Schools (2009) reports financial support is the most significant

factor for doctoral student completion. The empirical studies reviewed here reveal specific financial factors that predict student persistence.

Drawing from the 1992-1993 Baccalaureate and Beyond Longitudinal Study, Strayhorn (2010) examined the influence of background, academic and financial variables on the dependent variable, graduate student persistence. Using hierarchical binomial logistic regression, Strayhorn (2010) found several significant predictors of graduate student persistence. Two background variables, race and age, reached statistical significance. Black graduate students were significantly more likely to persist than their non-Black peers. Contrary to Nevill and Chen's (2007) finding that younger students were more likely to attain a degree than older students, Strayhorn found older students were significantly more likely to persist than younger students. The academic variable of undergraduate GPA also emerged as a significant predictor of graduate persistence, with those earning above a 3.5 GPA being nearly two times more likely to persist than those with a GPA less than 2.5.

Financial factors found to significantly predict graduate persistence include estimated family contribution (EFC), receipt of a graduate loan, total education loan, loan amount, deferment status, and research assistantship or tuition reduction. Those with a zero EFC were least likely to persist. In fact, students with EFC of \$10,000 or more were 3.2 times more likely to persist than those with zero EFC. Students borrowing loans were 1.66 times more likely to persist over those who did not borrow. Additionally, a significant positive relationship was discovered between total loan debt and persistence which Strayhorn (2010) suggests is a simple reflection of the relationship between duration of enrollment and amount borrowed. The amount borrowed, however, is also telling with those borrowing less than \$25,000 being nearly five times more likely to persist than those who borrowed over \$40,000. Students who deferred

repayment of their loans also enjoyed a greater likelihood to persist over those that did not. Other forms of financial support revealed to be significant predictors of persistence are research assistantships and tuition reduction. As a case in point, those with RAs are almost twice as likely as those without RAs to persist. Likewise, students receiving tuition reduction are 1.6 times more likely to persist than those not receiving a reduction (Strayhorn, 2010).

Gururaj, Vasquez Heilig and Somers (2010) conducted a meta-analysis of three studies to determine changes over time in the effects of financial aid and other factors on within-year graduate student persistence. The three studies analyzed used data from the National Postsecondary Student Aid Study (NPSAS). The models for the studies included in the meta-analysis contained variables such as background, college experience, field of study, price aid, and previous debt load. To compare changes in significance of financial variables on graduate persistence from the three studies effect magnitude analysis was derived using the delta-p statistic. The largest effect was found in the total grants category with a delta-p coefficient of .186. This means for every \$1,000 increase there is an 18% increase in the probability a student will persist. Also, similar to Strayhorn's (2010) findings, Gururaj, Vasquez Heilig and Somers (2010) found that for every \$1,000 in loans students were 7% more likely to persist. Additionally, for each \$1,000 increase in tuition, the probability of student retention increased by 3%. Gururaj, Vasquez Heilig and Somers (2010) posit that this relationship may be reflective of selective institutions where the higher the tuition, the more financial aid is available. All in all, their findings suggest the increased availability of loans over time has positively influenced graduate persistence. More importantly, their findings suggest the largest predictor of student persistence is the availability of grants. Notably missing from the analysis is a disaggregated report of persistence by Master's, doctoral or first-professional degree. Nevill and Chen (2007)

reported higher completion rates for first-professional students versus Master's and doctoral students. Therefore, persistence rates at the doctoral level may actually be lower than reported.

Looking specifically at doctoral students, Ampaw and Jaeger (2012) examined the effects of labor market conditions and student characteristics on persistence throughout three stages of doctoral education. The three-stage framework is based upon the doctoral persistence work of Tinto (1993) and Bowen and Rudenstine (1992) which outline doctoral education as consisting of a transition stage, development stage and research stage. Using a discrete-time hazard model, Ampaw and Jaeger (2012) analyzed the effects of factors such as student background characteristics, enrollment and academic performance, labor market information, financial aid, and department characteristics such as student to faculty ratio, faculty turnover, and college on persistence in the different stages.

Amongst student's background characteristics age was revealed to have a negative effect on completing the transition and development stages, while being an international student increased the odds of completing each stage. Odds of completing different stages also varied according to labor market variables. Higher unemployment rates in the field of study increases odds of completing the transition and development stages, while the odds of completing the research stage is influenced by increases in assistant professor salary. At the development stage, increases in foregone earnings increase the odds of completion. Sources of financial aid also had varying effects on persistence at each stage. Students had a higher likelihood of completing all three stages if they held research assistantships, while those with teaching assistantships had higher odds only in the transition and development stages. Similarly, those with grants had increased odds of completing the development stage, but reduced odds at the research stage.

Accumulation of loans increased odds of completing the transition stage while reducing odds of completing the development stage.

Background characteristics, financial and labor market factors have varying effects on persistence at different stages. Age and international student status were fairly consistent across the stages, while the labor market and finances had differential effects. For example, as students near graduation in the research stage, the potential salary holds more salience in influencing their persistence. Of the types of financial aid available, research assistantships increased the likelihood of completing all stages. Consistent with previous findings (Strayhorn, 2010), Ampaw and Jaeger (2012) suggest that beyond the financial benefits, students with research assistantships enjoy more opportunities to interact with colleagues and faculty, and develop relationships critical to their integration. Unfortunately, Ampaw and Jaeger did not include student-advisor relationships in their analyses of variables influencing persistence.

Thus far, this chapter has illuminated the importance of the doctoral student experience to socialization, development, attrition and persistence. The context of the doctoral program is influential in a number of ways. Depending on field of study, different structures inherent to the discipline influence the ways in which students are socialized. A context that provides balance of challenge and support nurtures development, while “chilly” climates influence students’ decision to depart. Different sources of financial aid provide opportunities for integration, while the structures and culture of doctoral departments can inhibit or engender students’ integration. In their conceptualization of mattering, Rosenberg and McCullough (1981) considered mattering to be a source of social cohesion. The next section reviews literature on the conceptual framework guiding this study, mattering.

Mattering

Institutions and faculty have tended to attribute causes for attrition squarely on the student (Berelson, 1960; Gardner, 2009a; Lovitts, 2001). Bensimon (2007) notes the overemphasis on students in "...the dominant scholarship on student success, practitioners are only present indirectly and that we lack a theory of student success based on the characteristics of practitioners" (p. 463). Further, Bensimon (2007) argues the importance of the practitioner-student relationship by stating they "...have the capacity to respond to students in ways that make them feel valued, worthy, and respected" (p. 463). Within doctoral education, when faculty display such responses to students they convey that the student matters.

Emerging as the reciprocal of significance, the construct of mattering was first introduced by Rosenberg and McCullough (1981). They proposed three dimensions of mattering: attention, importance and dependence. Attention refers to one gaining notice or interest from another. Importance refers to one's feeling that they are cared for by another, and that they are the object of concern. Dependence is one's feeling that others are reliant upon them. Furthermore, Rosenberg and McCullough (1981) indicate mattering is independent of approval, motivates behavior, and is attached to relationships with specific others. Thus, while criticisms from someone significant to us may at the surface appear negative, they can be interpreted as a form of mattering. Similarly, having others depend on us may be experienced as a burden; however it compels us to act because we matter to them. As an example, Rosenberg and McCullough (1981) point to the mother rushing to prepare dinner to appease the hunger of her children. Finally, while Rosenberg and McCullough (1981) point to the general importance of mattering throughout the lifespan, they also contend that mattering must be understood from relationships held with specific others. For example, in their study Rosenberg and McCullough (1981)

analyzed adolescents' perceptions of parental mattering, though examination of mattering within other populations has evolved.

While their initial work on defining the construct of mattering relied on theoretical replication using existing data from four large-scale surveys of adolescents, Rosenberg and McCullough's (1981) findings point out important associations with mattering. Their findings revealed an association between perceptions of mattering to parents and various measures of emotional disturbance independent of self-esteem, as well as a significant association between mattering and delinquency in adolescent boys. Notwithstanding the limitations of using a dated sample from as early as the 1960s, as well as limits in gender, race and ethnicity, Rosenberg and McCullough's (1981) findings set the stage for research on this important relational construct.

Additional studies have primarily examined mattering of adolescents (Dixon, Scheidegger, & Jeffries McWhirter, 2009; Elliott, Cunningham, Becker, Reuland & Gelles, 2008; Elliott, Cunningham, Colangelo, & Gelles, 2005; Elliott, Cunningham, Cowhig, Horton & Gelles, 2009), and college students (Dixon & Robinson Kurpius, 2008; Dixon-Rayle & Chung, 2007; Elliot, Kao & Grant, 2004; France & Finney, 2009; Gossett, Cuyjex & Cockriel, 1996; Marshall, Liu, Wu, Berzonsky, & Adams, 2010; Raque-Bogdan, Ericson, Jackson, Martin, & Bryan, 2011; Tovar, Simon & Lee, 2009). Whereas a few of the studies have focused on validating mattering for measurement with different populations, some of the studies have established relationships between mattering and other mental measures.

More recent studies on adolescents' mattering have revealed correlations with other mental and emotional indicators. Dixon et al. (2009) found an inverse relationship between mattering, anxiety and depression with variations by gender. Female adolescents reported lower anxiety and depression than males, but similar mattering scores. Another mental indicator,

subjective life expectancy, was revealed to be related to adolescent mattering. Elliot et al. (2008) found that adolescents that perceive they matter more to family expect to live longer than those with lower perceptions of mattering to family. In addition to the relationships established between mattering and mental and emotional indicators, correlations between mattering and socially undesirable behaviors have also emerged. In an earlier study, Elliot et al. (2005) found as adolescents' perceptions of mattering increased, their violence towards family members decreased. Similar findings were revealed in 2009 where Elliot et al. reported mattering to family has a significant negative effect on adolescents' use of marijuana, even while controlling for age, sex, race, SES, family structure, and the adolescent's religiosity. Though many of the studies on mattering focus on adolescents, Rosenberg and McCullough (1981) speculate mattering holds significance across the lifespan. As a result, mattering has also been applied to adults, particularly in the college setting.

Schlossberg (1989) first argued the importance of mattering in her discussion of the polar concepts of marginality and mattering and their effects on student involvement. She posits "that people in transition often feel marginal and that they do not matter" (Schlossberg, 1989, p. 6). This led to the development of the Mattering Scales for Adult Students in Higher Education (Schlossberg, Lassalle, & Golec, 1990), which assessed adult students', 23 years and older, perceptions of their college environment in five dimensions: administration, advising, peers, multiple roles and faculty. While Schlossberg, Lassalle and Golec (1990) claim validity of the scales was reached through factor analysis, supporting data were not provided in the report. Since the initial development of a mattering scale for use in the college environment, more recent attempts at validating the measure of mattering have included samples of undergraduate students (Elliot, Kao & Grant, 2004; France & Finney, 2009; Tovar, Simon & Lee, 2009).

Additional studies on undergraduate students' perceptions of mattering have revealed the importance of social support, especially for females, related to their academic stress (Dixon & Robinson Kurpius, 2008; Dixon-Rayle & Chung, 2007). Dixon and Robinson Kurpius (2008) found undergraduate females reported more college stress, and both mattering and self-esteem were negatively correlated with perceived stress. In a study examining undergraduate students' self-compassion and mattering, both were found to be significantly and positively correlated with mental health (Raque-Bogdan, et al., 2011). Beyond the relationship to other mental health measures, differences in perceptions of mattering by students' race/ethnicity have also been explored. In their comparison of African American and non-African American students' perceptions of mattering at predominately white institutions, Gossett et al. (1996) found differences in each of the subscales of mattering. One important finding was that the advising subscale was the only one in which African American students perceived they mattered more than their non-African American peers. Finally, only one study has addressed the perceptions of mattering over time and found that mattering remained invariant across three years with undergraduate students (Marshall et al., 2010). While these studies connect mattering to other mental health measures and point to gender and racial/ethnic differences, no such study has been directed at graduate students.

A longitudinal study of doctoral students in the sciences examined how they experienced community, sense of belonging and mattering, however the use of the mattering construct in their study was unclear (White & Nonnamaker, 2008). For the purposes of their study, White and Nonnamaker appear to conflate mattering and sense of belonging. While these are related constructs, the current study operates on the notion expressed by Strayhorn (2012) that, "sense of belonging is related to, and seemingly a consequence of mattering" (p. 21). Despite combining

the constructs of mattering and sense of belonging, White and Nonnamaker found that beyond the department and institutional systems, the discipline, lab and advisor emerged as salient communities they belonged to.

The implications of mattering within the context of undergraduate education have been connected to mental health, and stress, with variations by gender and race; however the implications of mattering within graduate education have yet to be explored at length. Rosenberg and McCullough (1981) saw mattering as a considerable source of social cohesion. Social cohesion, or social integration which is tightly coupled with academic integration in higher education, has been identified as a key component of Tinto's (1993) theory of doctoral student persistence. The current study is important in that it appears to be one of the first to address doctoral students' perceptions of mattering to their advisors, and how this shapes their commitment to completing their PhDs. In particular, this study examines how doctoral students experience mattering to their advisors.

Summary

The current study addresses a gap in the literature by examining doctoral students' perceptions of mattering to advisors within the context of their college, and how those perceptions influence commitment to degree completion. This chapter first provided a historical overview of graduate education followed by a review of graduate student socialization and doctoral student development. Subsequently, an overview of factors identified in doctoral student attrition and persistence were presented, followed by an overview of the conceptual framework guiding this study, mattering. The next chapter presents the methodology and research design for the current study.

Chapter 3

Methodology

The purpose of this study was to examine doctoral students' perceptions of mattering to advisors within the context of their college, and determine how those perceptions influenced commitment to degree completion. Specifically, this study sought to answer the following research questions:

1. How do doctoral students perceive they matter to their advisor?
2. What is the relationship between doctoral students' perceptions of mattering and their commitment to degree completion?

This chapter outlines the research methodology designed to achieve the purpose of this study. First the positionality of the researcher will be discussed. Second, rationale for the applicability of a qualitative, multiple-case study embedded design will be presented. Next the selection of participants, procedures for data collection and data analysis will be discussed. The chapter will be concluded with a discussion of trustworthiness and ethical issues associated with the research design.

Research Design

Positionality of the Researcher

Marshall and Rossman (2006) observe that "a strong autobiographical element often drives the study" when it comes to applied fields such as education (p. 29). In the case of the current study, this certainly rings true. The lead researcher was a doctoral student whose experiences and shifting circumstances while in graduate school had oft led her to question her

place in the academy, and her commitment to continue toward completing her Ph.D. During the course of her doctoral program, the department in which she began her initial doctoral work was eliminated, thus forcing her to alter her degree focus and program. She had also had the blessing of giving birth to three children during this time. These factors coupled with the more typical obstacles of doctoral completion had resulted in her personal interest in this topic, referred to as the researcher's positionality. Her curiosity is further situated in her relationship with her advisor who had worked closely with her for the last 8 years, as she completed her Master's degree and began her doctoral degree. It has been the nature of this relationship which had underscored further curiosity in the complexity of doctoral student completion that positioned her at the point of initiating the current study.

To demonstrate that the positionality of the researcher did not bias the study, Marshall and Rossman (2006) recommend that inquiry "should be guided by systematic considerations, such as existing theory and empirical research" (p. 31). As such, the researcher relied upon the work of other scholars to build the theoretical rationale for the current study. In particular, the work of Rosenberg and McCullough (1981) provided a focused lens to view the experiences of doctoral students with regard to their perceptions of mattering to their advisors. This guiding framework informed the design and analysis of the study, which will be discussed later in this chapter. Additionally, the researcher conducted a pilot study within the College of Education that her own program was situated in. Three semi-structured interviews were conducted with individuals representing two different departments within the College of Education. Data from the pilot study were not included in the final results of this study, as the researcher acknowledges her positionality in the college may have influenced data gleaned from the interviews. The

researcher utilized the pilot interviews to test the interview guide before collecting data from the cases reported on in the final case report.

Applicability of Qualitative Methodology

Qualitative research is useful when a complex, detailed understanding of an issue is needed (Creswell, 2007). The complexity of the issue under examination qualified the current study for a methodological approach that can suit this demand. Creswell (2007) clarifies that such level of detailed understanding "can only be established by talking directly with people, going to their homes or places of work, and allowing them to tell the stories unencumbered by what we expect to find or what we have read in the literature" (p. 40).

Furthermore, qualitative research allows for inquiry in naturalistic settings to uncover "complex social interactions" and the meanings that participants ascribe to those interactions (Marshall & Rossman, 2006, p. 2). These characteristics of qualitative research lend well to understanding how doctoral students perceive they matter to their advisors within the context of their college.

Applicability of Case Study

For a number of reasons, the qualitative research approach of a multiple case study design was selected for this study. Yin (2013) describes three conditions for which case study is appropriate: (a) the research question takes the form of "how" or "why," (b) the researcher has no control of behavioral events, and (c) the focus is on a contemporary issue. A case study approach was desirable for this study as it sought to explain the link between perceptions of mattering and commitment to degree completion of doctoral students in Tinto's (1993) stages 1 and 2 (Yin, 2013). Furthermore, doctoral students' perceptions of mattering to advisors represent a

contemporary issue in which the contextual conditions are pertinent, and cannot be controlled by the researcher (Yin, 2013).

This study utilized the multiple case study design to examine doctoral student perceptions of mattering to their advisor. Because of the powerful disciplinary influence on doctoral students' experiences, it is important to collect data at the level of the department or program (Golde, 2005/2010). Thus, cases were bounded by the college encompassing departments the doctoral students were enrolled in and include embedded analyses of the doctoral student advising relationship. Multiple case study design relies on the premise that cases will result in either literal replication or theoretical replication. Literal replication means each case will predict similar results, whereas theoretical replication means each case is predicted to have contrasting results for expected reasons (Yin, 2013). The current study relies on both literal and theoretical replication in that departments with close disciplinary roots are expected to share similar results while differing from departments with other disciplinary roots, e.g. disciplines rooted in the humanities versus sciences (Golde, 2005).

Case Study Design

The units of analysis for the multiple case study design were doctoral students from two departments within the College of Science, and three departments within the College of Liberal Arts. Creswell (2007) advocates using no more than 4 to 5 cases, and states this number can provide adequate opportunity for identifying common themes and conducting cross-case analyses. Utilizing Tinto's (1993) conceptualization of stages of doctoral persistence, the current study was also bound by selecting students within the end of stage one, or at the beginning of

stage two. Stage one is typically marked by the first year of doctoral study, while stage two culminates in the passage of the comprehensive exam.

Participants. The purpose of this study was to examine doctoral students' perceptions of mattering to advisors within the context of their college, and determine how those perceptions influence commitment to degree completion. To address this line of inquiry, purposeful sampling was used to identify participants that had sufficient time to establish relationships with faculty, namely advisors, but had yet to advance to candidacy. Purposeful sampling "means that the inquirer selects individuals and sites for study because they can purposefully inform an understanding of the research problem and central phenomenon in the study" (Creswell, 2007, p. 125).

Participant selection was guided by the theoretical framework of doctoral persistence as developed by Tinto (1993). Tinto (1993) posits that the social and academic interactions taking place in stage one shape their affiliation with the community. Therefore, those who are near the end of the stage, or first year of study have had sufficient time to develop relationships, and begin to academically and socially integrate to their advisor in the program. Meanwhile, in stage two the academic and social experiences are intertwined, and though students are focused on developing competency, faculty influence their persistence (Tinto, 1993). Selecting students that are early in the second stage also allowed adequate time for development of relationships central to the purpose of the study.

Participants were recruited via e-mail correspondence through the respective college's student listservs, and printed flyers posted on the Graduate Student Professional Association (GPSA) bulletin board, and within the buildings where the colleges were housed. The email

correspondence included a brief description of the study and inclusion criteria. Gall, Gall and Borg (2007) indicate that there are no set rules for determining sample size, however, "the ideal sampling procedure is to keep selecting cases until one reaches the point of redundancy, that is until no new information is forthcoming from new cases" (p. 186). Within the constraints of the selection criteria, sampling concluded when additional participants that fit the criteria could not be identified.

All participants were provided an informed consent form once they indicated interest in the study, and participation was voluntary. Those agreeing to participate in the study were interviewed by the researcher in a private office on campus. To protect participants' identities, pseudonyms replaced their real names, and department names were changed to a generic term within the college from which the department originated.

Data Collection

Interviews. One of the most important sources of evidence for the cases investigated in this study was the compilation of semi-structured interviews with doctoral students from each department. Semi-structured interviews consist of similar questions or topics posed to each participant, which allows flexibility in the order and detail of how topics are covered (Bernard & Ryan, 2010). This flexibility allowed the individual participants to share their own perspective while maintaining the capability of drawing comparisons across interviews (Bernard & Ryan, 2010).

Yin (2013) proposes the development of a case study protocol to guide the researcher during data collection. A semi-structured interview instrument was created for the purposes of this study, guided by the research questions of the current study and drawing from the conceptual

framework of mattering (Rosenberg & McCullough, 1981). The interview instrument includes questions regarding background variables considered important to doctoral persistence (Nevill & Chen, 2007; Tinto, 1993). Furthermore, the instrument includes items representative of the three dimensions of mattering (Rosenberg & McCullough, 1981; Appendix A). The interview was comprised of three sections: background, mattering to the doctoral advisor, and other interactions or experiences relevant to their commitment to degree completion. The total questions included were as follows: background section 11 questions; mattering to the doctoral advisor 5 questions; and the section titled other included 4 questions. Each interview lasted between 30-60 minutes.

Interviews were conducted by the lead researcher and audio recorded using a digital recorder. All participants agreed to be audio recorded. Notes were also recorded by the lead researcher during each interview, and included in the research memos. The audio recordings and notes from each interview were transcribed by the researcher into Microsoft Word immediately following each session. Transcriptions were stored on a password protected flash drive and kept in a locked drawer in the advisor's office.

Observation. Using a case study approach relies on the study taking place in a real-world setting which enables the researcher to conduct direct observations (Yin, 2013). To understand the context of the department that doctoral students were situated, the researcher observed department-sponsored events such as seminars and colloquia structured for graduate students within their departments. In total, four observations took place between April and October. Two observations were conducted within the College of Science case – one for each department, and two observations were conducted within the College of Liberal Arts case for two of the three departments.

The two observations conducted in the College of Science case were selected from weekly seminars sponsored by the two departments represented in the case. Both seminars were held in large auditoriums with capacity for 50 or more attendees. Approximately 25 individuals attended the seminar in Department A featuring an undergraduate senior presenting his research. Meanwhile, roughly 50 individuals attended the seminar in Department B featuring an invited professor from an outside institution. Both presentations were conducted in a format similar to an academic conference presentation; speakers presented their research followed by time for audience questions.

The two observations conducted in the College of Liberal Arts case were also selected from series of research colloquium presentations sponsored by Departments 1 and 3. The colloquia events were both held in smaller rooms than those hosted by the College of Science. Department 1 held their colloquia in a classroom set with stadium style seating that could accommodate approximately 36 attendees. Department 3 utilized a boardroom with seating intended for 14, but lined the perimeter of the room with chairs to accommodate an additional 13 attendees. Over 30 individuals attended the research colloquia in Department 1 which featured an invited professor from an outside institution. Department 3 drew a similar sized audience of 27 attendees, and featured a new assistant professor from the Department.

Documents. In addition to direct observation a number of documents were reviewed to understand the complexities of the context for each case. Department handbooks, program requirements, and additional documents relevant to each doctoral department were gathered for review. In addition to corroborating evidence from observations, another advantage to collecting documents is that it is relatively unobtrusive to participants (Yin, 2013). Table 1 illustrates the data sources for the two cases examined in the current study.

Table 1. Data Sources for Cases

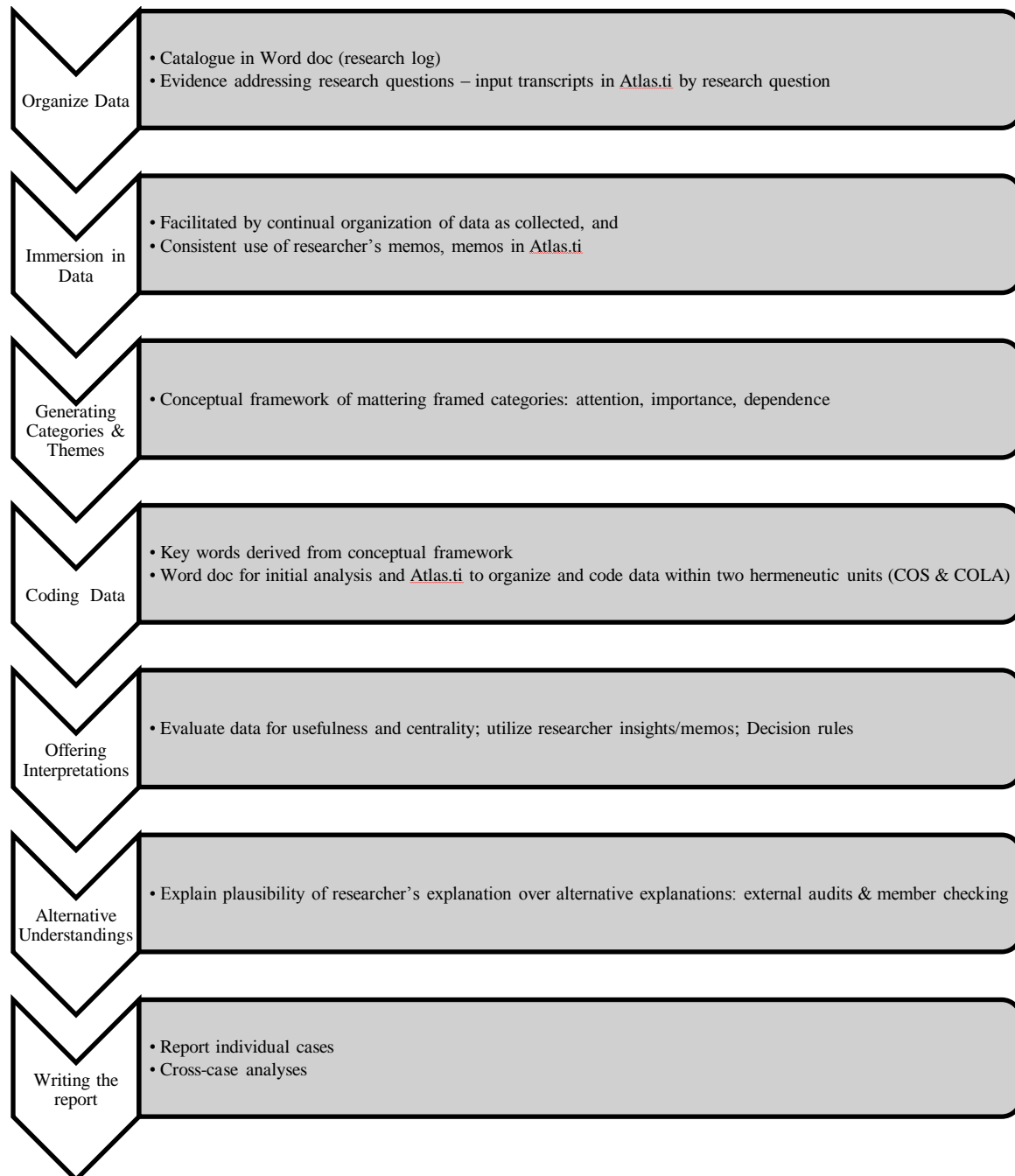
Data Source	College of Science	College of Liberal Arts
Interviews	4 doctoral students	6 doctoral students
Observations	2 department-sponsored events (research colloquia)	2 department-sponsored events (research colloquia)
Documents	Department handbooks, program requirements, other documents relevant to program/department	Department handbooks, program requirements, other documents relevant to program/department

Data Analysis

Yin (2013) advises development of an analytic strategy prior to data collection. "The needed strategy should follow some cycle (or repeated cycles) involving your original research questions, the data, your defensible handling and interpretation of the data, and your ability to state some findings and draw some conclusions" (Yin, 2013, p. 136). To systematically approach data analysis the current study drew upon Marshall and Rossman's (2006) seven phases of analytic procedures: organizing the data, immersion in the data, generating categories and themes, coding the data, offering interpretations through analytic memos, searching for alternative understandings, and writing the report. Marshall and Rossman (2006) indicate that data collection and analysis should be conducted concurrently in qualitative research studies. Bogdan and Biklen (2007) affirm this strategy, and also advise that the researcher maintain memos with important insights that occur during data collection. Consistent with these recommendations, research memos were recorded beginning with the first interview, and

following each observation. Figure 1 illustrates the data analysis procedures guiding the current study.

Figure 1. Data Analysis Procedures (Marshall & Rossman, 2006)



It is important to note that while the phases of analysis illustrated in figure 1 would appear to be a linear process, in reality, execution of these phases occurred more fluidly. At times multiple phases occurred simultaneously, and phases were revisited as necessary. Using the phases as a guide, data were organized throughout the data collection process. A research log was maintained in a Word document which catalogued data by date and time, location of the event, activity (e.g. interview or observation), participant pseudonyms, and researcher memos. Ten semi-structured interviews ranging from 30 – 60 minutes were conducted by the lead researcher with participants individually in a private office. Interviews were audio recorded and transcribed by the lead researcher into a Word document immediately following the interview.

The immediate transcription of interviews and maintenance of research memos facilitated the second phase of immersion in the data. Throughout the process of transcription while listening to the audio recordings of the interviews, insights or questions that arose were recorded in the research log. Table 2 includes examples of data sources recorded in the research log. For the purpose of this example, some of the researcher memos were edited to remove identifying information or details that were considered extraneous to the analysis.

Table 2. Example of Research Log

Date & Time	Place	Activity	Who (pseudonyms)	Researcher Memo
February 26, 2014, 12:00 p.m.	E-mail	Participant Recruitment	Contact within the GPSA	After reaching out to the GPSA to send a recruitment e-mail to graduate students, I was informed that the GPSA listserv is restricted for news and activities items that are specifically GPSA related. It was then recommended that I reach out to the Rebel Announcements Via Email (RAVE) and post to the GPSA Facebook page. The moderator also kindly offered to post the announcement on the Graduate Student Commons Bulletin Board.
March 7, 2014, 10:00 a.m.	CEB Private office	Interview #2	Abigail	<p>Initial codes that are popping into my head for the attention component of mattering are “time,” “responsiveness,” and “personal interest”</p> <p>Both Abigail and Emily made mention a couple of times about not wanting to fail/disappoint or be considered a failure to their advisor. One other thing that came out in the interview with Abigail was the support of other women in her cohort, and support from other faculty than her advisor. In regards to other faculty, she mentioned it is sometimes easier to talk to someone who is not “in charge.” Although Abigail is in the Liberal Arts, her discipline is heavily lab-based. This reminds me of some discussion in the literature regarding how doctoral students in the sciences refer to their advisor as “the boss”</p>
April 4, 2014 1:00 p.m.	Auditorium	Observation #1 COS Seminar	~50 Graduate Students and faculty	Something that surprised me about the seminar was the attentiveness of the audience. They were quiet throughout the entire hour-long presentation aside from moments where questions were welcomed. I did not see or hear any whispering or side conversations. Occasionally I spotted an audience member quietly checking their phone or texting, and several had laptops on which they appeared to be typing notes. The clicking of keyboards was slightly audible at times. I also noticed that men tended to ask questions throughout the presentation, while women in the audience did not ask questions until the very end after which time the presenter opened the floor to questions.

The third phase, generating categories and themes, required the lead researcher to question the data while reflecting on the conceptual framework of mattering. A priori themes were identified in advance using the three components of mattering: attention, importance and dependence. During the coding process, data that did not fit within these themes were categorized with like data to see if additional themes emerged. Chapter four provides additional discussion on the new themes that emerged. Atlas.ti was used to organize data analysis for phase four, coding the data. The hermeneutic units for analysis in Atlas.ti were grouped by the two cases: College of Science (COS) and College of Liberal Arts (COLA). Reflective of qualitative methodology, the coding phase in this study involved multiple iterations (Saldaña, 2009). Further, Yin's (2013) suggestion to identify evidence that addresses the research questions guided coding. For each case, data were uploaded into Atlas.ti according to the overarching research questions of doctoral students' perceptions of mattering and their commitment to degree completion. A word document was created for each component of mattering, commitment to degree completion, and an "other" category which allowed doctoral students to provide additional information about their relationships with their advisors and about their experience in their doctoral program. These word documents aggregated data from all interviews within each case. For example, the within case analysis for the COS drew upon data from 4 interviews, while the within case analysis for COLA contained 6 interviews.

A codebook with definitions was developed to maintain coding consistency. For the purposes of this study, the components of mattering were defined according to Rosenberg and McCullough's (1981) conceptualization. However, when additional clarification was needed to define a term, the researcher turned to the literature on mattering (e.g. Elliot, Kao & Grant,

2004). Table 3 provides an example of the codebook displaying definitions of codes within the three components of mattering.

As can be seen in the codebook example, the framework of mattering as conceptualized by Rosenberg and McCullough (1981) was utilized to develop a priori codes. These codes included attention, importance and dependence as defined by Rosenberg and McCullough. In addition, following the recommendation of Creswell (2007) the researcher was open to new codes emerging in the analysis. Codes that emerged from the data also led to new themes: conditional attention and universal importance.

After initial coding was conducted in Atlas.ti, an excel spreadsheet was used to organize coded data into themes of mattering by the components of attention, importance and dependence, as well as data addressing the theme of commitment to degree completion. Guidelines for weighting the findings as important or unimportant were not found in the literature, so the researcher developed a decision rule for consistency. To be considered an important finding, the following decision rule was implemented: a code must be marked for more than half of participants within the case (COS = 3 out of 4, COLA = 4 out of 6). Table 4 displays this analysis for the components of mattering and the advisor's influence on students' commitment to degree completion by case study.

Table 3. Codebook Example of Mattering Definitions

Code	Definition	Example
Attention	The feeling one is the object of another's attention, commands interest or notice of another person; the person is aware of one's absence/presence (Rosenberg & McCullough, 1981)	Well, I get a couple emails from him a day, and he always responds very quickly to my emails to him. He takes and active interest in my classes, and asking how I'm doing in them. – Abigail, COLA
Conditional Attention	The feeling that one commands the interest or notice of another person granted on certain terms (emerged from data)	Well we have a standing meeting every two weeks as our time to really get together and he's only focused on me. – Daniel, COS
Importance	The feeling that one is an object of concern to another person (Rosenberg & McCullough, 1981) The feeling that one receives the investment of time and energy from another person to promote their welfare. The feeling one is an ego-extension of another individual. One's behavior reflects on the other person (Elliot, Kao & Grant, 2004)	However, when a RA position that I have, when the opportunity came up, she said I was the first person she thought of to take that position because she knew that it was in alignment with what I want to do after I graduate. – Allison, COS
Universal Importance	The feeling that concern is provided to one's reference group. The investment of time and energy from one person made available to all within one's reference group (emerged from data)	...I guess maybe it's not me, but I have noticed that when a paper gets accepted for publishing, or somebody's going to give a presentation he's very encouraging and upbeat about that. He's happy to see his students succeed in general. – Penny, COS
Dependence	The feeling that one is relied upon by another individual (Rosenberg & McCullough, 1981). The feeling another looks to one to satisfy a need or want (Elliot, Kao & Grant, 2004)	He would not be able to complete his job if I was not here. And has begun to rely on me more and more to cover. – Luke, COLA

The fifth phase, offering interpretations through analytic memos took place simultaneously during the coding phase. Researcher insights and questions were recorded directly in Atlas.ti to assist coding and interpretation. This process also informed the sixth phase or searching for alternative understandings. External audits with the researcher's dissertation advisor and member checking with participants also lent to the search for alternative understandings. These procedures were integral to the coding process, and pushed the researcher to revisit the data and recode when necessary. The final phase, writing the report, was guided by the multiple case study research approach used. Following Yin's (2013) recommendation the report presents individual cases, followed by a cross-case analysis.

Table 4. Analysis of Mattering Components in the COS and COLA Cases

	Participants within the COS Case				Participants within the COLA Case					
Component of Mattering	Allison	Daniel	Barbor	Penny	Emily	Abigail	Joseph	Adrianna	Ernie	Luke
Attention	X	X			X	X	X	X	X	X
Conditional Attention	X	X	X	X	X		X	X	X	
Importance	X	X	X	X	X	X	X	X	X	X
Universal Importance		X	X	X	X	X				
Dependence	X	X	X	X	X	X				X
Commitment to Degree Completion	Allison	Daniel	Barbor	Penny	Emily	Abigail	Joseph	Adrianna	Ernie	Luke
Advisor confirmed			X	X	X	X	X	X	X	
Advisor led to question					X					

Trustworthiness

It has been argued that the worth of a study is demonstrated by its trustworthiness (Lincoln & Guba, 1985). According to Lincoln and Guba, trustworthiness may be established through credibility, transferability, dependability and confirmability. Credibility is analogous to the more quantitative terminology for internal validity. To address the credibility of the study, the researcher engaged in member checking. In member checking, participants are provided a draft of the case study report to review, and either corroborate or challenge the researcher's findings and interpretations (Yin, 2013). None of the participants challenged the researcher's findings and interpretations in the draft of the case report. Allowing for such review enhanced the accuracy of the report, and minimized misrepresentation of the participants.

Transferability refers to the applicability of the study findings to other contexts (Lincoln & Guba, 1985). Thick description was utilized to lend to the transferability of the findings of this study. Positivist assumptions around empirical research rely upon statistical generalization in which inferences can be applied to a larger population based upon the representative sampling unit. In contrast, Yin (2013) posits that the type of generalization applicable to case study research is analytic generalization. Analytic generalization extends or modifies theoretical concepts. The investigation of doctoral students' perceptions of mattering to advisors extends the literature on mattering.

Dependability demonstrates the findings are consistent and repeatable (Lincoln & Guba, 1985). Dependability was addressed in two ways. First, following Yin's (2013) advice, the case study procedures were thoroughly documented, and a case study database developed. The first phase of Marshall and Rossman's (2006) analytic procedures, organizing the data, aided in

maintaining a case study database preserving raw data in a retrievable form (Yin, 2013). Second, external audits were conducted with the dissertation advisor.

Lastly, confirmability is the extent that findings are shaped by the participants, not by researcher bias (Lincoln & Guba, 1985). Confirmability was addressed in a number of ways. First, external audits with the dissertation advisor challenged the researcher's assumptions and analysis of the data. Second, the researcher has demonstrated transparency through acknowledging her positionality, and excluding data collected from the pilot study case situated in the college within which the researcher's own program of study resides.

Ethical Considerations

A number of ethical considerations arise when research involves human participants. Specific to this study, participants were interviewed to understand their perceptions of mattering to advisors, and how mattering influences their commitment to degree completion. Perhaps subtle in some cases while more pronounced in others, there exists a power structure between doctoral students and their advisors. It was anticipated that discussing the nature of their relationship may be difficult for some students, and fear of reprisal from their advisor may have prevented them from openly sharing their opinions. Accordingly, the researcher accommodated participants by interviewing them in a private location, and ensured confidentiality through the use of pseudonyms, and excluded descriptions from the final report that would allow for easy identification of the individual. Additionally, participation in this study was completely voluntary, and participants could elect to leave the study at any time without consequence. Following the requirements of IRB, all participants signed an informed consent acknowledging their decision to participate in the study.

Summary

This chapter provided an overview of the research methodology used to analyze the focus of the study, doctoral students' perceptions of mattering to advisors and the influence on their commitment to degree completion. First, the positionality of the researcher was acknowledged followed by a discussion of the qualitative multiple case study design implemented. The data collection and data analysis procedures were outlined, then trustworthiness concerns were addressed. Lastly, ethical considerations were presented. The following chapter will present the findings of the two cases examined in the current study including a cross-case analysis.

Chapter 4

Findings

The purpose of this study was to examine doctoral students' perceptions of mattering to advisors within the context of their department, and determine how those perceptions influence integration to the department and commitment to degree completion. Two research questions guided this study; how do doctoral students perceive they matter to their advisor; and what is the relationship between doctoral students' perceptions of mattering and their commitment to degree completion? To address these questions, a multiple case study was conducted using the lens of mattering. Mattering is the perception that another person, significant to an individual, cares enough to notice them, views the individual as important and depends upon them (Rosenberg & McCullough, 1981). This chapter provides an overview of the data analysis procedures and findings from the multiple case study. The data analysis procedures will be presented first followed by the findings for individual cases, and a cross-case analysis.

Case 1: College of Science

Context

This study took place at a large four-year, public institution. At the time of this study, the institution was classified as a research university/high research activity by the Carnegie Classification of Institutions of Higher Education (The Carnegie Classification of Institutions of Higher Education, n.d.). Over the course of this study, the institution has undergone initiatives to reach top tier status, or the designation of Research University/Very High classification. The institution boasts nearly 28,000 students and over 2,900 faculty and staff. Undergraduate students total 23,813 with 17,444 attending the institution full-time. The remaining 4,712

graduate students are nearly equally enrolled as part-time (n = 2,375) and full-time (n = 2,337). While the average age of undergraduates is 21, this institution harbors a sizeable nontraditional population with nearly a quarter aged 25 or older, and 32% of undergraduates are reported as low-income. The average age of graduate students is 30, though nearly a third falls between the ages of 25-29. Table 5 displays the diversity of the student demographics by undergraduate and graduate student status represented at this institution (Retrieved from, <https://ir.unlv.edu/IAP/Reports.aspx>).

Table 5. Institutional Student Demographics

	Undergraduates		Graduates	
	Number	%	Number	%
Men	10,666	45	2,052	43.5
Women	13, 147	55	2,660	56.5
American Indian/ Alaskan Native	71	1	23	0.5
Asian	3,667	15	389	8.3
African-American/ Black	1,814	8	323	6.9
Hispanic	5, 937	25	548	11.6
Native Hawaiian/ Other Pacific Islander	343	1	23	0.5
White	8,721	37	2,562	54.4
Two or more races	2,057	9	251	5.3
International	881	4	286	6.1
Not Reported	322	1	307	6.5

The College of Science (COS) encompasses 6 departments/schools with 5 of the 6 offering PhD programs. Participants in this study hailed from the two largest enrolled departments within the COS, hereafter referred to as Department A and Department B. At the time of data collection, the ratio of doctoral students to full-time faculty was nearly one-to-one for these two departments. The departments represented in this study hold rigorous academic standards for their doctoral students. Students must pass all coursework with a 3.0 or higher. In Department A, grades lower than a C will not be accepted and only one grade falling below B- is permitted. Students in Department B are subject to academic probation for a grade of C+ or lower in two courses.

Beyond GPA minimums, these departments have similar program requirements in respect to advising, participation in colloquia, and teaching. Both require initiation of the advising process early in the student's program. In Department B, doctoral students are expected to meet with their research advisor prior to enrollment in the first semester to design the initial degree program, while Department A requires selection of a research advisor by the end of the first semester. Both departments require annual meetings with the student's advisory committee to track progress and guide the student's research. Students in these programs are expected to present their research at least once per year in their respective department seminar or colloquium. Department A requires weekly attendance and a minimum of 2 credits in these seminars/colloquia. Meanwhile Department B requires attendance every semester with a maximum of 10 credits counting toward the PhD. Department A requires service as a teaching assistant for a minimum of two courses while Department B requires teaching service for a minimum of two semesters. Lastly, in Department A it is expected that doctoral students will

achieve publication of one research manuscript in a peer-reviewed journal, although the timing of when this must be completed is not specified.

Four doctoral students representing these two departments within the College of Science volunteered to be interviewed for this study. Per the participant inclusion criteria, all participants were within the first two years of their program of study and had not taken their comprehensive examinations. In Department A, one student was in the second semester of their first year, the other in their second year. One student in Department B was in the first year, and one in the second year of study. All held assistantships at the time of the study and worked part-time on campus. The two students in Department B held graduate assistantships, while one in Department A held a teaching assistantship, and the other a research assistantship. Three of the participants identified as White, and one identified as Black. Participants were split equally by gender; two identified as female and two as male with ages ranging from 28-41. Two of the participants were married, one was single, and one was in a relationship. None of the participants had children at the time of the interviews, although one was expecting a child later that year. Those who were unmarried had limited incomes reflective of the graduate assistantship stipends, while those who were married held incomes greater than \$70,000. The students that were relying solely on the assistantship stipends had also received grant or scholarship money to help fund their graduate studies.

Previous educational experiences also varied for these participants. Two of the participants attended community colleges before attending Research University/Very High institutions for their undergraduate degrees. These individuals also completed Master's degrees prior to beginning their doctoral programs. The other two participants attended 4-year doctoral institutions for their undergraduate degrees, although one attended a private, and one a public

institution. When asked about their career goals, only one indicated interest in academia, and with the caveat that the position would ideally be at a small liberal arts institution that afforded more flexibility. This student was referring to the pressure to balance teaching, research and service. The others indicated they would likely pursue careers in industry or government, or in a position that allowed them to help teachers in the K-12 setting.

COS Within Case Findings

The first research question asked, how do doctoral students perceive they matter to their advisor? Data analyses within the case of the College of Science (COS) revealed doctoral students perceived that they mattered according to the three components of mattering: attention, importance and dependence; however mattering was not expressed equitably across these components. The component of attention was the most prevalent form of mattering experienced by students, followed by importance, with dependence being expressed the least.

Attention. Rosenberg and McCullough (1981) define attention as “...the feeling that one commands the interest or notice of another person” (p. 164). Within the COS, attention manifested a little differently, resulting in the emergence of the new theme conditional attention. For this study, conditional attention is defined as the feeling that one commands the interest or notice of another person granted on certain terms or conditions. The terms or conditions that led to attention from advisors included: universal availability, initiation of the student, predetermined time, and shared interest in the advisor’s research or perspective.

Universal availability, or the availability of the advisor to students in general was noted by three students in the COS. Penny describes the awareness and concern of her advisor as available to all within her group: “At least my perception, my advisor is, he really does care

about the students in his research group. He is concerned with how we're doing, and not in the sense necessarily, 'are you doing what you're supposed to do?' But more like, 'are things going well?'" Similarly, Daniel and Penny describe opportunities for attention to the entire research group, initiated by their advisors, in an informal setting. Daniel elaborates: "Well, in general for all the graduate students he's had us all over at his house several times to have lab meetings where it's just all about socializing, and he can talk to you individually about your personal life and things like that that maybe at school or while you're working you don't get into those types of things. So I think those are good for us to kind of get closer on a more personal level than maybe what's possible in other situations." Allison notes that her advisor makes her cell phone number available for all her students, although the added condition of initiation of the student is the antecedent for attention from the advisor.

The initiation of the student to receive attention from the advisor is revealed in Allison's statement, "If I ever feel that I need help or to talk about something, she makes herself available. I can always contact her through text or email, and what have you." Barbor must initiate contact with his advisor to receive attention: "So let's see, he pays attention to me when I contact him, and sometimes otherwise. It's very independent." Penny indicates that while her advisor's time is limited, he is available to provide attention when asked,

It's really hard to say, I mean, the poor guy is kind of running around having to do all this stuff. And so he has pretty limited time, but I would say for the time he has, if any of us have questions he responds pretty quickly. So I can email him with stuff, and that kind of thing and I do get a response pretty quickly. I know he's busy so I typically don't email him or contact him unless I have to. And for the most part he hasn't had to directly oversee what I am doing either.

For some students within the COS, there were predetermined times they could count on receiving their advisor's attention. For example, Daniel shares, "Well we have a standing meeting every two weeks as our time to really get together and he's only focused on me. And I don't really expect anything more beyond that." Similarly, Allison's advisor encourages regular meetings,

She came to me, and suggested that we meet bi-weekly regularly to help me stay on track. She seems to be pretty engaged in making sure that I make progress towards my dissertation. Currently we've agreed to me defending my prospectus in the fall, and she's making sure I move along in the process. She gives me pretty much enough attention.

Both Penny and Barbor experienced attention from their advisors as a result of predetermined times in their programs such as the advisory committee meeting and annual evaluation. Following Penny's required first advisory committee meeting her advisor offers the following support,

And then after that committee meeting we had a good discussion on, you know, he said, "if this is too much or the whole research area is too overwhelming or too scary to figure out what you're going to do for your dissertation, we can narrow it down", or at least he can provide some more direction for narrowing it down, but he said, "you know if you're okay with just having it kind of broader for now and figuring out what directions you want to go, I'm okay with that."...So yeah, actually, after that committee meeting I was just feeling so much better in terms of okay, I'm actually doing okay for the most part when it comes to research related stuff.

Barbor shares a similar experience of receiving attention from his advisor resulting from a required annual evaluation and first committee meeting. Barbor shares, “and he just mentioned that I seemed to have a good work ethic and I was a bright student, and was working hard toward developing this good project idea. And I guess every student is evaluated by their advisor.” While both Allison and Barbor have commented on the limited attention from their advisors, these program requirements have ensured at least minimal attention.

Two students also relayed that their advisors expressed interest in them when the students shared their research interest or perspectives. Daniel’s advisor’s interest in him is tied directly to his research project:

He’s the one that dreamed up the project and got the funding for it, so I, so that’s kind of how science works, I’m helping him realize his goals and dreams. So it’s an opportunity for me to be able to assist with that. So yeah, whatever I am working on or talking about he’s one hundred percent right there because this is his baby and his project that he got funding for.

Penny perceives her advisor’s awareness of her background experiences give them a shared understanding setting her apart from the group:

I think one thing that my advisor does appreciate about me is having worked out in the quote on quote real world, but more so in [specific field of science] and my experience with lawyers because apparently he is having to deal with more and more administrative and legal issues to try to keep our research bubble inflated and shielded from some of that stuff. I think he probably appreciates having somebody who knows that there’s other stuff out there that causes a lot of grief, and there’s work that has to be done to kind of take

care of stuff like that...So I think that's one of probably a few things that at least between me and my advisor, we might be able to appreciate a little more than some of the other group members. Some of the, there's other stuff out there that makes the job tough.

Importance. Rosenberg and McCullough (1981) define importance as the feeling that we are the object of concern to another person. They also assert that being an ego-extension of that person indicates importance. In addition, Elliot, Kao and Grant's (2004) conceptualization of importance was used to guide coding,

The fact that people invest time and energy in us in order to promote our welfare suggests that we are a significant part of their world. In this form of mattering, the flow of relationship is from the other to the person, as people share themselves with us for our own betterment (p. 341).

While the importance component of mattering was not as evident as the attention component within the COS case, students experienced importance in a number of ways. Importance was experienced by the investment of resources, ego-extension, and universal importance.

All of the students within the COS case expressed their advisor invested resources in them in various forms. Allison reveals how her advisor invested resources in her: "However, when a RA position that I have, when the opportunity came up, she said I was the first person she thought of to take that position because she knew that it was in alignment with what I want to do after I graduate." Barbor and Penny both repeatedly mentioned their advisors' investment in them with regards to funding. Penny's advisor put in proposals to specifically fund her research and position,

Actually, now that I think of it, I just remembered. My advisor has put in, I know of at least one proposal that relates to what I would be doing. So he is, as far as funding the research group, he has put in a proposal that would generate funding for my position and my research. I am on his radar, even if it doesn't always seem like that.

Barbor's advisor alerts him to funding opportunities, "Then he does send me a lot of announcements of funding opportunities. So he's helping me out in whatever ways he can. Of course, reviewing my drafts and things like that."

The indication of importance through ego-extension was less pronounced in the COS case. Barbor shares how his advisor reacts to his successes,

So I haven't had too many successes since I've been here, but he seems to be pretty enthusiastic when I do something right. Which is good, or if I have a good idea or something like that he applauds it, just interpersonally.

Similarly, Penny relays her advisor's pride in her accomplishment,

...but he actually at the meeting he made some comments that I was actually pretty farther ahead than the average graduate student. Cause our equipment is kind of intimidating, usually the first year is I guess getting students to not be scared of it. Me, I'll just jump in and start working with it. So I guess I am farther along than I would have thought.

In addition to experiencing importance via investment of resources or as ego-extensions of their advisors, students also experienced universal importance. Universal importance was not part of Rosenberg and McCullough's (1981) original conception of mattering, and emerged from

the findings of the present study. For the purposes of this study, universal importance was defined as the feeling that concern is provided to one's reference group. Barbor describes his advisor's positivity about others' accomplishments within his department, "Not relevant to me, but when someone else in the department has done well he'll send a congratulatory email to the entire department noting whoever's had the accomplishment." Penny shares how her advisor values each student in the group by ensuring they are well funded:

I do know that as far as, he is, in proposals and looking for funding and that kind of thing, he does have specific things in mind for the different areas of research and which students are working on that. And he does keep in mind the funding for each individual student. So he does a pretty good job, or probably a better job than most advisors I would guess, I have no idea. But he is very aware of funding and making sure that we're all funded. Actually, one of our meetings we had while he was here last week, he had mentioned that all of us as graduate students have done our required two semesters of teaching, and so he was actually looking to get, for those of us who would still be teaching a few other semesters because the department needs it, or just until we can make sure we have funding coming from other sources, that he was going to try to give us some more money because we're going beyond our usual tour of duty for that. So he's definitely looking out for us.

Daniel's sense of importance to his advisor is couched within the interactions had with the group. Contemplating his importance to his advisor, Daniel states, "yeah, just as important as I think anyone would hope to be." He further shares that,

Well, in general for all the graduate students he's had us all over at his house several times to have lab meetings where it's just all about socializing, and he can talk to you individually about your personal life and things like that that maybe at school or while you're working you don't get into those types of things. So I think those are good for us to kind of get closer on a more personal level than maybe what's possible in other situations.

Dependence. Dependence is one's feeling that another individual is reliant upon them. Although dependence was the least evident component of mattering experienced by students in the COS, data revealed advisors' dependence on their students primarily surfaced in relation to research. According to these doctoral students, advisors were dependent upon them to contribute to their research agenda. Barbor notes his advisor's dependence on him due to the multiple roles the advisor fills

Well, I guess what I can think of is, because he does have all the administrative responsibilities, he's not very active in his own research right now, so I'm working with one of his post-docs on this project, his samples of course, but we're kind of doing the grunt work with it. So of course his name will be on those publications, and his name will be on publications that come out of my research as well.

Penny, on the other hand, is reluctant to label her advisor as dependent on her. While her contributions to the operations of the research lab are part of a collective effort by the group, she acknowledges the importance of her role in regards to the research project she has been assigned, That's a tough one, because from my perspective I don't feel like he's necessarily dependent on me, but at the same time I know that if I like just suddenly disappeared, that

is going to kind of leave a... it's one less person to help out in the lab and it's certainly, where do you find another person who's willing to work on this project I'm going to be working on.

Daniel shares how his advisor recognizes his success in research is dependent on his students' efforts,

That's kind of an interesting question because he, just last week we found out that he won [a] distinguished researcher award. And I am not too familiar with that award because I've only been here two years, but that sounds like a really big deal when you're talking about the whole college of science so when I congratulated him on that he turned it around and said well it's actually due to the hard work of everyone in the lab that I have to owe that. Yeah, he definitely recognizes that his success actually hinges on what, how we perform for him.

Commitment to Degree Completion. The second research question asked, what is the relationship between doctoral students' perceptions of mattering and their commitment to degree completion? According to the decision rule for the COS case, mattering was not strongly tied to the doctoral students' commitment to completing their degrees. Two of the students attributed their relationship with their advisor to confirming their commitment to completing the PhD, while two attributed their commitment to themselves.

Penny fondly shares how her interactions with her advisor have influenced her commitment,

I would say they've led me to confirm my commitment to completing my PhD...

The more I interact with my advisor, I guess that's the best way to sum it up, the more I

interact with my advisor the more I feel I am in the right place, and the better I feel about continuing on this path to get the PhD. In fact the only down-side, I think, of getting the PhD will mean it's over and I have to move on.

Barbor also believes the interactions with his advisor have confirmed his commitment to the PhD, but he's less certain of how much to attribute to his advisor,

I would say they've confirmed it, because whenever we do meet it's very professional for the most part. So I want to impress him, of course, and kind of receive his applause, I guess. So that kind of drives me to get more work done and spend a little more time in the lab, things like that. And I think the fact that we don't meet every week, that it's kind of, it's more up to me to present what I've done other than if we go two or three weeks without meeting and he asks me what I've done recently and I haven't done really much, you know, I'm going to feel guilty. So I think, but then there's a flip-side, and I'm sorry if I'm going back and forth. So there's that, there's that kind of induced self-motivation on my part, but then kind of the other side of that, since we aren't meeting regularly, there's no, kind of constant pushing to do things. It's more left up to my own devices rather than him telling me directly what to do.

On the other hand, both Allison and Daniel express a sense of self-motivation in their commitment to the PhD. Allison reveals, "I think all of my confirmation towards completing the PhD is all on me, no matter what my relationship with my advisor is." Similarly, Daniel states,

No, I think for a grad student you really have to take a lot of personal responsibility over whether you're going to achieve enough in the end to graduate or not. I think if somebody needed an advisor to really keep them motivated to go through it, then they're probably not really doing what they should be doing.

Other influences on students' commitment to completing the PhD include family, colleagues, post-docs, faculty from current or previous programs, and connections to people in industry. It is worth mentioning that the two students that did not attribute interactions with their advisors to confirming their commitment to the PhD mentioned other relationships that were influential. Daniel had this to say about the two post-doctoral associates in his lab, "both of them are also just incredibly brilliant, and have helped me immeasurably. So in the end I would owe a lot to them as well." When asked how they have supported him in his progress to the PhD, Daniel explains,

Just to be the person there to bounce a question off of them, and get a thoughtful and useful answer. It's good because then you don't have to pepper the PI or your advisor with all these kind of procedural or protocol kind of questions that invariably will come up, but having a post-doc who is open to those questions and actually knows what they're talking about is extremely helpful. And they have to have a lot of patience as well, because like I said, they're busy in the middle of things, and a lot of times I might feel like bothering them when they're right in the middle of something, uh, as I mentioned before if I'm right in the middle of something it's hard to have somebody hit you with something totally unrelated to what you're kind of focused on. But both the post-docs are really, really understanding with that, and kind of know that that's their responsibility.

The reliance on the post-doctoral associates is reflective of the conditional attention experienced within the COS case. For Daniel, the post-docs serve as a proxy to the advisor, and because attention is filtered through them, it makes sense that he credits them, rather than his advisor for influencing his commitment to the PhD.

In addition to wanting to be an inspiration to her nieces and nephews, Allison's

commitment to the PhD is influenced by past relationships,

Also, mentors from my previous schooling experiences that believe in me, and I have, I would love to be able to tell them that I finally graduated and I no longer need a letter of recommendation for another school, but I need it for a job now. But they've put a lot of effort and faith into me, and I just don't want to see that go to waste.

Allison's recognition of her past mentors' investment of "effort and faith" in her indicates she matters to them. Her resolve to not "see that go to waste" reveals how mattering can serve to motivate behavior. While not all students within the COS case expressed mattering to their *advisors* as an influence on their commitment to the PhD, mattering to others has a role to play.

Other Findings

Within the case of the COS, findings emerged that did not fit within the conceptual framework of mattering, but help explain the status of the advising relationship between the student and advisor. The themes that emerged are Additional Roles of the Advisor and Marginality. Each of the themes is discussed hereafter.

Additional Roles of the Advisor. In discussing their relationships with their advisors, all students within the case of the COS indicated additional roles their advisors fulfill. In particular, the students acknowledged the time commitment associated with these roles, and how that affected their advising relationship. In discussion about how important Barbor feels to his advisor he states, "Sometimes I think the administrative, his administrative duties might supersede kind of his faculty role." Daniel expresses awareness of his advisor's limited time due to his role as a researcher,

Actually, from undergrads, undergrads don't typically understand a professor's outside of the classroom responsibilities. They think that really all that they do is teach the class,

and they kind of have no comprehension of the research aspect of it. So actually I see that he probably gets interrupted a tremendous amount from undergrads that they don't even realize that they are interrupting him.

Penny chuckles as she explains how research her advisor is conducting out of the country impacts their relationship,

I think part of it is just the stress. There's a review process going on over in the [foreign country]. It's like this big, huge, stressful thing for him, and that's been tough for him, and it's also been kind of tough for us because it kind of affects his mood and energy levels and so it kind of filters down to the group because of that.

We're hoping after that's over that things get a little bit better.

The time spent in these additional roles often meant students had infrequent interactions with their advisors, although this was not always seen as negative. Penny shares,

And actually him being in [another country] part time, that kind of works out too. It gets all of us as students kind of working together and looking out for each other, so we have a more tight-knit kind of research group. It does have almost like a kind of family feel to it.

Later, she remarks, "It is kind of weird, I haven't had a lot of one on one interaction with my advisor, but for the little that I've had it's been largely positive and encouraging." Daniel expressed similar satisfaction with his advisor, regardless the infrequency of interactions.

Marginality. Unfortunately, there were also instances where students expressed feelings of marginality. Due to the sensitive nature of the comments related to the theme of marginality, the participants' pseudonyms will not be used in association with the quotes discussed in this section. As an additional layer of participant protection, where pronouns or descriptors are used

in students' quotes that would lead to easy identification of these individuals or their advisors, more generic terms will be used to replace them.

For some students the lack of interaction influenced feelings of marginality. Two students noted their advisor would not notice their absence, although with particular conditions attached. When asked, "Would your advisor notice if you are absent?" one states, "I guess not if it was a short period of time. I would say no." The other student answers,

Well, um, [my advisor] personally wouldn't know if I were to suddenly not show up. The rest of my research group would notice, and if they couldn't get a hold of me or contact me, they would definitely notify [my advisor], and then [my advisor] would worry greatly.

Another student experienced deeper feelings of marginality for a multitude of reasons, but most salient was the feeling of not being valued by the advisor. When asked how the student's advisor expresses valuing the student, the student responds,

I don't feel that I'm as important as I could be. I feel like there's a lot, my advisor doesn't know how to best use me. And it's a learning process for [my advisor], in, I'm not. I guess this is one of those areas where I guess I wouldn't feel like I'm being heard because even though I could suggest things, I'm not so sure that [my advisor] feels I'm at a level that I understand because [the discipline] is not my background at all. I'm coming into [the discipline] very new, so I don't know if [my advisor] trusts my opinions on the [discipline] side of things. And part of it also is me sort of getting back into learning. I don't know if I've given [my advisor] the confidence in me that I would like [my advisor] to have. But also when I try I feel like I'm not always, my ideas are not always accepted, and are not developed in that area. [My advisor] goes with someone else. And it

could be the same idea, but [my advisor] doesn't recognize as such, so it causes me to just sit back and wait.

This student repeatedly expressed not feeling valued by the advisor, and revealed instances that the advisor exploited the student. For example, the student shares the following:

So the first time when my advisor wanted to use my connections to [my advisor's] advantage...I got an email from [my advisor] asking who [my advisor] should contact for a future project. And when [my advisor] described the project, I said, "this sounds like something I want to do." So [my advisor] emailed me, and gave me a vague description of what this project was, and it sounded a lot like what I always said I wanted to do, and I had even written a mini proposal on it... And so I asked [my advisor] in an email response, said I was willing to speak with them, but can you tell me more about the project. [My advisor] says, no this is something that probably wouldn't affect you because it wouldn't happen for like 3 or 4 years, which made me suspicious because I was like, who writes a grant for 3 or 4 years from now. And [my advisor] said, plus you don't want to share too many ideas because people will steal them...and I find out [my advisor's team]... have gotten money for a new grant...And I feel like, even if [my advisor] can claim that [my advisor] didn't steal my idea, [my advisor] could've at least included me on it.

It is worth noting that the only student that identified as Black also expressed the deepest sentiments of marginalization.

I mean, like, my advisor doesn't know what to do with me. I feel like [my advisor] thinks there's some other way to handle me than a regular student. As opposed to just doing what you always have, just try not to make it an issue. I don't have an issue with it,

like I know who I am, I've always been the only one in the whole group. I'm cool, I've dealt with it all my life. I don't need it to be an issue for you. [My advisor] just expects things out of me, and I have no idea what they are. I don't know what [my advisor is] expecting.

Stories circulated around the department raise concerns for the student. The student shares the following example of racial tensions within the department,

And I've heard stories, but not spoken with people directly, but I hear stories about some students not being, like there are roadblocks being put up in front of them, I don't know why. But people are saying it is because of race; I don't know, I haven't experienced that...I am a little worried about that.

Summary of COS Case

In summary, the doctoral students within the case of the COS perceived they mattered to their advisors. The students experienced attention conditionally; importance in the form of investment of resources, ego-extension, and universally applied to a group; and dependence in regard to the advisor's research agenda. While only two students indicated their advisors influenced their commitment to the PhD, the remaining two students in the COS case indicated other influential people. For both students, these people had invested time, energy, and faith in them – demonstrating a sense of mattering. Other findings that emerged included the additional roles of advisors and marginality. Students in the COS acknowledged the additional roles their advisors held, and the associated time commitment for these roles. Lastly, feelings of marginality surfaced in the COS case.

Case 2: College of Liberal Arts

Context

The College of Liberal Arts (COLA) encompasses 8 departments/programs with 6 of the 8 offering PhD programs. Participants in this study represent three departments in the COLA, hereafter referred to as Department 1, Department 2 and Department 3. At the time of data collection, the ratio of doctoral students to full-time faculty was nearly one-to-one for Department 3, and approximately two-to-one for Departments 1 and 2. The departments hold their doctoral students to rigorous academic standards. All departments require maintenance of a 3.0 GPA at minimum. Department 1 allows no more than one grade of C or lower, while Department 2 will not count grades lower than B towards the program. A student earning a grade lower than B- in Department 3 results in academic probation, while a second grade lower than B- will result in immediate separation from the program.

The three departments also set forth specific timelines for completing the doctoral degree requirements. For each department, these timelines shift according to whether the student is admitted with or without a Master's degree. Department 1 requires appointment of an advisory committee, submission of the proposed degree program and an outline of a research project for dissertation by the end of the first year. Students in this department must also complete a progress form and present a conference style research paper annually. By the second year, students must complete all required coursework and take comprehensive exams to advance to candidacy if they already hold a Master's, or submit prospectus approval for the Master's. The student is expected to complete the PhD within 6 years of admission if admitted with a Master's degree. Department 2 is less specific in the exact timing of when requirements must be completed, but specifies coursework that must be completed for major and minor fields. On par

with Department 1, students must complete all coursework prior to taking their written and oral comprehensive exams. Common to these two departments is the requirement of pro-seminar courses. Department 1 requires two pro-seminar courses, while Department 2 requires 12 credits.

The third department's requirements are dependent on the strand the doctoral student has entered. The first strand requires: several semesters of practicum and internship, completion of the Master's thesis by the end of year two of doctoral study (if admitted with Bachelor's); and successfully passing comprehensive exams by end of year three (or end of year two if admitted with Master's). The second strand requires completion of one of the following qualifying activities by the third year: qualifying paper, three brief papers related to the student's area of specialization, or a written qualifying exam taken over three consecutive days of in-class testing. Students are also expected to attend annual department research conferences and present at the annual conference in their third year. They must also submit annual reviews on student progress, research and ethical/professional conduct. Lastly, the three departments strongly encourage students to become involved in professional associations, submit presentations to conferences, and seek out external funding.

Six doctoral students representing these three departments within the College of Liberal Arts volunteered to be interviewed for this study. One student was from Department 1, two students were from Department 2, and three students were from Department 3. Per the participant inclusion criteria, all participants were within the first two years of their program of study and had not taken their comprehensive examinations. The student in Department 1, and both students in Department 2 were second year doctoral students. All three students in Department 3 were first year students. All held assistantships at the time of the study and worked part-time on campus. Five held graduate assistantships, one held a research assistantship, and one

also noted teaching responsibilities in addition to the graduate assistantship. All of the participants identified as White. Participants were split equally by gender; three identified as female and three as male with ages ranging from 24-43. Three of the participants were married, two identified as single, and one was engaged. None of the participants had children at the time of the interviews. Those who were unmarried had limited incomes reflective of the graduate assistantship stipends, while those who were married reported incomes ranging from \$30,000 - \$95,000. All but one of the students reported additional aid either in the form of grants, scholarships or loans to help fund their graduate program.

Previous educational experiences also varied for these participants. Two of the participants attended community colleges before attending private 4-year liberal arts, Research University/High, and Research University/Very High institutions for their undergraduate degrees. Four of the students attended Research University/Very High institutions, with three being at public and one at a private institution. One student attended a small, private 4-year institution. Only two of the six students completed a Master's degree prior to beginning their PhD. When asked about their career goals, five students indicated interest in tenure-track positions in academia, although three of these students would prefer to teach at small liberal arts institutions. One student specified seeking a position at a research institution, and another detailed interest in teaching out of the country prior to taking a tenure track position. The student not opting for a tenure track position indicated interest in industry in a clinical position.

Findings

The first research question asked, how do doctoral students perceive they matter to their advisor? Data analyses within the case of the College of Liberal Arts (COLA) revealed doctoral

students perceived that they mattered according to the three components of mattering: attention, importance and dependence; however the experience of mattering was not distributed equally across these components. The components of attention and importance were the most prevalent forms of mattering experienced by students, while dependence was the least expressed form of mattering.

Attention. Within the COLA, all students experienced mattering in the form of attention, and the majority also experienced mattering in the form of conditional attention. Conditional attention is defined in this study as the feeling that one commands the interest or notice of another person granted on certain terms or conditions. The terms or conditions that led to attention from advisors primarily included initiation of the student and predetermined time.

Both Emily and Ernie describe how interactions with their advisors must be student-initiated. Emily is being co-advised, and describes her interactions with them as follows, “They are both very hands off. They are available if I need them, but they don’t generally check in on me. I need to check in or do status updates with them.” While attention from her advisors is student-initiated, Emily does not perceive it as negative,

When I say that they are very hands off, that doesn’t mean that they are inaccessible, or that they’re not open, it just means that you need to go to them, rather than them checking up on you. And they’re obviously, their mentorship style doesn’t work for everyone, and occasionally it is a bit disconcerting for me, but I think a lot of people just read the wrong things into it. I’m guilty of reading the wrong things into it. But they’re certainly interested in their students doing well, they’re certainly interested in the research that their students are doing. For the most part, it’s just they happen to be very hands off, but it’s not they’re not inaccessible, they’re not remote, they don’t ignore their graduate

students, they don't not care, they're not disconnected and just serving faculty time.

That's certainly not the case at all.

The condition of student initiation to receive advisor attention is echoed in Ernie's statement,

[He]...was always there and willing to help. And so, it was, a lot of the times it was contingent upon my going to seek that help out, but I never took that as a bad sign, I took that as he had a lot of stuff on his plate. So, he, I liked the latitude that he gave me, but then also was always there and never made me feel intimidated or bad for coming to ask him for assistance.

While Adrianna feels satisfied with the amount of attention she receives from her advisor, it is evident that student initiation as well as varying circumstances with the advising load influence the attention received,

I feel like he pays a good amount of attention to me. Partly, the two other students he has right now are working on their dissertation, so they're relatively independent for the most part. So I feel like I get a lot of attention from him. And he always seems, whenever I need a meeting, or need to talk to him, he always seems to be available.

Joseph received considerable attention from his advisor by initiating conversation about a paper he had been working on,

I said, here's the term paper I wrote, have a look at it so you can see what I've been doing what I've been thinking about. He said this is great. This is your publishable paper. It doesn't need a whole lot of work, you should send this out. And I was kind of

dumbfounded because I was thinking this will be like the beginning part of a paper that I'll develop after I go out and do some more fieldwork and can incorporate them together, but he felt it worked as its own paper.

The condition of student initiated attention may also instigate other forms of mattering. This conversation with Joseph's advisor led to additional attention from his advisor to encourage submitting the paper for publication, and fostered another form of mattering, importance, which will be addressed later.

The other condition serving as impetus for attention is that students interact with their advisors at pre-determined times. As a result of Joseph's initiation of a reading group he benefits from weekly interactions with his advisor,

When I first got here, I didn't get to see him too much, I didn't really have an excuse to talk to him. It wasn't necessarily that he wasn't available; we just didn't really have an excuse or a set time to meet. But by the end of my first semester I started a reading group with him, and now we meet every week for usually a few hours.

Emily's interactions with her advisors are less consistent, dependent on lab business or events scheduled by the department,

But they are not, uh, our grad office is not in the same building, and the lab is not in the same building as their office... I don't physically see them usually except for lab meetings or pre-scheduled meetings. Or, you know, department events. I happen to see them if they come to the same talk or something like that.

Adrianna comments on how her advisor would notice her absence at the pre-determined lab meetings,

Um, I think he would at least at lab meetings. If I stopped coming to lab meetings I'm sure he would notice. If I stopped, if I wasn't emailing him frequently, I don't necessarily think he would notice that. Or if I stopped emailing him.

Despite the fact that the majority of students in the COLA case experienced conditional attention, all students within the COLA case experienced mattering in the form of attention from their advisors. The key difference is that students were not subject to certain conditions or terms to receive attention from their advisors in many instances.

Abigail, Ernie and Luke all describe occurrences of advisor-initiated attention. Abigail frequently receives attention from her advisor, "Well, I get a couple emails from him a day, and he always responds very quickly to my emails to him. He takes an active interest in my classes, and asking how I'm doing in them." Although Ernie is typically the one to initiate contact with his advisor, he discusses how his advisor reached out to him during the summer,

Yeah, so just over the summer, last summer, he invited me and knew that I was around, and invited me in to talk about dissertation topics, and so that one was out of the blue. And so, went in and spent 45 minutes just chatting about different ideas of where he thinks it could lead, where I could have difficulties. And so that was nice, I thought, of him to take that time to do that.

Luke, on the other hand, has no shortage of attention from his advisor, although his advisor's deteriorating health has impacted the quality of attention. Luke shares, "His attention toward me has not decreased. It's been prevalent; it's just not nearly as good as it once was. The

level still is high, but the quality has been greatly degraded.” Despite his ailing condition, Luke appears to occupy his advisor’s focal point of attention,

He’s probably more interested in what I have to say than anybody else he talks to on a daily basis. Um, he’s genuinely interested in my work even though it’s not super similar to his, and he’s generally interested in me as a person... he has pretty much accepted me as a peer on my subject field, and not only my subject field but a lot of others that have to do with [the field of study], and um, when we are in class together, he’s teaching his undergrad class, and subjects come up, he turns it over to me to discuss with the students, and it’s very obvious that he is the one paying more attention to what I am saying than any of the students do. He is actually very much attentive to what it is I have to say, and has discussed, would discuss situations in the world with me that were going on, and generally want my opinion of what is going on.

The depth of involvement of the other COLA students’ advisors is less pronounced than Luke’s, however attention is expressed in the form of awareness. Emily shares that while her interactions with her advisors are limited, they are still aware and interested, “So, they are still very interested in my research, and they are very interested in what I do, and they remember in a lot of cases what I am doing.” Similarly, Joseph seems to receive sufficient amounts of attention from his advisor,

Pretty much every time I see him we end up talking for 2-3 hours no matter what we had originally intended to talk about. So, yeah, I feel he gives me attention, tries to throw me projects once in awhile, he’ll try to get me to do some outside research with him. Checks on bureaucratic things every now and then, but his overall style is pretty hands off.

Whether anchored to an advisor exercising hands off mentoring or to an extensively involved advisor, students in the COLA case experienced mattering in the form of attention. Attention was at times unsolicited, while at others students had to initiate contact with their advisors. We now turn to findings for the second component of mattering, importance.

Importance. As previously discussed, the importance component of mattering signifies that we are of concern to another person. That this person would invest resources into us also indicates that we are important to them (Elliot, Kao & Grant, 2004). Data analyses revealed all students in the COLA case experienced mattering to their advisors in the form of importance.

Several of the students' advisors demonstrated concern for their students indicating a sense of mattering. The advisors' concern for students can transcend beyond academic issues, and extend to more personal matters. Abigail's advisor goes out of his way to show concern for her during a difficult time,

Yeah, and I broke up with my boyfriend last semester which was my first semester here, so that was kind of, yeah, a rough transition for me. So he took the time out to call me and make sure I was doing okay, and kind of took away some of my responsibilities for a little while to make sure I had time to kind of get over that.

Joseph's advisor shows concern for his long-term goals regardless if he accomplishes the goals in his current program or moves on,

Well he has occasionally encouraged me to apply to other schools because of some of the dissatisfaction and concerns I've expressed about the program here, and the ability of somebody to get a job after graduating from this university. He has been encouraging of

that, and said if I ever did want to leave that we would be able to maintain a relationship, and he would still help me in any way that he could.

Luke's relationship with his advisor has been years in the making, as he completed a Master's degree with the same advisor. Luke notes that at the time of admission his advisor was "...very attentive, actually selected me to work with him. Through the master's program, he went out of his way, really guided me." The additional time spent with his advisor has allowed Luke to develop a familial type relationship which creates both opportunity and conflict as he considers selecting a new advisor,

I think academically I'm the most important thing he's got right now. And I would even say, probably also into his life. He and his wife have both kind of expressed that I am a family member, which makes life that much more difficult... Been to their house for dinner several times, have house-sat for them when they're out of town, been invited out to dinner, he's had visiting – he's very well known in his field and has had famous scholars come in to visit, and always gets me a good solid notice says we're doing dinner, come on over and has introduced me to them, and stimulated conversation. I'm exceptionally, and this is one of the reasons I feel so guilty about it, I'm exceptionally lucky to have had this opportunity to meet these well recognized scholars in the field, and I'm going to be the one that stabs him in the back.

Ernie's advisor holds an administrative role, but manages to communicate he values Ernie as a scholarly peer,

I think being [an administrator], well I said that it takes away from his time, he also is very in demand as that advisee role for a lot of people, and so for me, he always knows,

even though he is advising a lot of other people, he always knows the last kind of idea we were having about which way research would be going, asking if I would co-author some articles with him, and just kind of that professional socialization as well that I think an advisor is key to have. So the article that he asked me to co-author with him was some research that he had just gotten the very beginnings started on, but he generally looks at, topic A, we'll say. And this one was in the same region, but a different topic than what he looks at, but was more in line with what I'm interested in doing. So it wasn't just throwing me a bone, as they say, 'do you want to just kind of write a paragraph and then we'll throw your name on this,' it was actually, 'here's something that might be in your research area that I would like to work with you on.'

Many of the advisors provide extensive time or resources to their students to promote their welfare or betterment. Emily's advisors consider her research interests when providing her resources,

So, one or both will email me articles, research articles that have recently come out that are relevant to my work. They do this to everyone, the whole lab gets sent out [subject specific] stuff, but I will get sent particular research articles that deal with my area of research by just them. Maybe asking a question in a lab meeting, or saying this would be of interest to you. More through email communiqué is them saying, 'hey, this may be of interest to you', or 'hey, this is related,' or 'hey, do you want to start a project on this' kind of thing.

Tying back into the conditional attention component of mattering, Emily explains that her advisors are generous with resources, but often the student must initiate,

They're very open to promoting their students. They'll give talks about the work their students are doing and give credit to the students, you know, say 'this is my grad student's Master's thesis, she worked on this, and I want to present some of the data from that.' So they're very, they promote, they help you network at conferences, they help you collaborate with other research institutions. They have an extensive network of contacts and they are more than happy to help you make contacts and collaborate with other labs. It's just generally speaking you have to go to them rather than them just coming to you and offering it.

Multiple students expressed the extensive time and support their advisors committed to them personally. Abigail's advisor offers extensive support, guidance, feedback, and involves her in many projects. The investment of time by their advisors is notable to the students with the COLA case. Emily recalled an off the cuff conversation with her advisor that extended an additional hour beyond the scheduled meeting time. Adrianna recounts similar experiences,

I think he's interested in what I have to say. We have definitely had meetings where we meet to discuss a specific thing, finish that and then kind of chat about the state of our field for an extended period of time. Like what was supposed to be 15 minute meeting turns into an hour long meeting because we're having a good conversation. So, that demonstrates to me that he's interested in what I say.

In addition to investment of time and resources to their students, advisors can impart a sense of importance by showing pride in their students' accomplishments or successes. Three of the six students in the COLA case shared examples of their advisors expressing pride in them. Joseph shares,

Oh, and he'll comment on how I am making quicker progress than most of the other graduate students since I wrote a publishable paper my first semester here. So that's been pretty, he seems to esteem me a bit for that, as well as some of his other, his other graduate students.

Similar to Joseph, Adrianna's advisor recognizes her for progressing beyond her peers despite falling short of her own goals,

Well the only thing that didn't quite go as planned is I was hoping to have already finished my thesis proposal at this point, and I had set that goal for myself, like end of winter break, that's when I'm going to have it done. And I didn't even come close, like I don't have a first draft completed yet. Um, and whenever I've brought it up with him, he's very much been like, 'you know you're setting pretty ambitious goals for yourself, and you're still, I mean the fact that you have a large portion of a draft done is very far ahead of pretty much every other student, so don't feel bad, you're still doing great.'

Luke's advisor commends him for surpassing his own accomplishments early in his career, and illuminates an academic rite of passage,

He's very happy about my successes, and has invested in me that my successes – not that my successes are his successes, but just prideful, very prideful...The success would be my first publishing. He very proudly told me that he, well he's very well-published, but because he's kind of a pioneer in his field, that almost all of his publishing was not peer-reviewed, he was invited to do stuff. So when I got my first article it was peer-reviewed, he said, 'congratulations, you've done something I never did, was peer-reviewed, and that shows that you really belong.'

Some students disputed the idea of being important to their advisor. For example, Joseph cites his advisor's tenure and productivity as reason for not needing him or any other graduate student,

Well, he's full tenure so he doesn't need me for anything, and he produces a lot, he publishes quite heavily, but does it all himself for the most part. He doesn't need graduate students to get his research out. Occasionally he'll do collaborative things, but that's not the bread and butter of what he does. So, I wouldn't say that he needs me. He's never been the chair of a graduate student before I came, and he's been here a long time. Yeah, I wouldn't say he needs me or any other graduate student particularly, doesn't really affect him.

The idea of universal importance, or that the advisor values or is concerned about one's reference group, emerges in discussion with Emily and Abigail. Emily views herself as no more important than other graduate students,

No more or less important than other grad students for the most part. But I wouldn't say that I am special as compared to any other grad student. I think they are interested in their grad student's work, but they are also interested in that we do work and we are self-sufficient. Self-reliant, you know.

Abigail divulges her advisor's enthusiasm and support for the accomplishments of all students he works with,

Um, he's usually really excited, so he'll send out an email, and this isn't always just me, he'll do it with everyone in the lab, even undergraduates that are RA's for us, he'll, when something good happens or we get an award, he'll let everyone know, we'll celebrate it,

and even talk about going out after hours, kind of thing to celebrate. So he's definitely very excited and supportive.

Importance as a component of mattering can surface in many forms. Within the COLA case, students primarily experienced importance in the form of invested time and resources imparted by their advisors. The contention that one is not important to their advisor, or as Joseph states, not needed, leads us to the next component of mattering: dependence.

Dependence. Dependence is one's feeling that another individual is reliant upon them. Of the three components of mattering, dependence was the least evident within the COLA case. Data from the COS fell short of the decision rule threshold of 4 out of 6 participants to be considered an important finding. The doctoral students in the COLA case are equally split between experiencing dependence from their advisors, and perceiving that their advisors are not dependent upon them. Of those who communicated experiencing dependence from their advisors, this primarily emerged in the form of taking on teaching, lab or other responsibilities to lighten the load of the advisor.

Abigail discusses the many responsibilities her advisor depends on her for as a teaching assistant,

Well, because I do a lot of the lower, kind of, lab managerial tasks, I think that he would be incredibly swamped with work and be really stressed out if I wasn't there to manage the little things and the organizational things, and scheduling participants, making flyers, that kind of thing. Cause he's really busy, and he's on the tenure-track. He just had his mid-tenure review, so he's really a prolific writer, so he has a lot of things on his plate that I try to help him out with...I graded a lot of quizzes, I helped out with papers even,

doing revisions, and grammar type things. I had office hours, I responded to student emails often. He had them as well, but he would guide them to me first. And I proctored tests, graded tests, entered grades, and then also when he had to cut out of class early or something I would kind of pick up the reigns for a little while, never a full class, but a couple times.

It is worthwhile to note that with relationships, the level of dependence can shift over time. This is evident in Emily's statement about the changing nature of her responsibilities, "Yeah, this semester I don't have to do it, but last semester I had to grade papers and grade exams, and that would have been very much noticed if I had not done that." She elaborates on how her responsibilities can change from one semester to the next,

I mean, the way, who I have my assistantship with, one of my mentors, she doesn't ask that much of me this semester. So, I wouldn't be missed as much in the lab, because I'm not personally the one running the RA's, it's just, the grad students, just not me, happen to be the ones running the RA's and experiments. Maintaining equipment, backing up data, doing all those things. I just don't personally have those responsibilities this semester, that's why I was able to say earlier that they wouldn't notice if I didn't show up. So when you asked how dependent are my mentors, it was more of an answer as to graduate students in the lab in general, rather than me specifically.

For one student, the intensity of dependence experienced is also linked to the depth of the advising relationship. Luke has developed a deep relationship with his advisor which has resulted in the burden of mattering. Luke shares,

Over the last 2 years now that I've been in the PhD his health has started to deteriorate, yet he refuses to admit to it. And now we've gotten to the point that he recently broke a hip, I had to take over his classes. He got an illness afterwards, I was still doing his classes. He shows up today for the first day. He's clearly not lucid, and is having problems functioning. So, my relationship with my advisor right now is terrible, but not for what would be normal reasons. It's terrible because he is in a situation that he won't admit, and I feel pressured to keep him as my advisor until *he* admits that he can't do it anymore. I'm screwed, is what I'm trying to say...He would not be able to complete his job if I was not here, and has begun to rely on me more and more to cover...And I let it go, and he seemed to have gotten better, but after the last day or two, it's like, this is. And sadly, it's at that point now, I've let it go on to that point that I'm fearful that if I was to go to him as his last, this is the last vestige he has of holding onto his whole life which is being a professor, and he has this grad student that is really covering his ass, and that if I go to him and say, "I'm done," wow, that's one of those guilt things it's gonna [sic] be like well that means he's done too, and I don't know that I've got the heart to do that.

Luke's experience of mattering to his advisor in the form of dependence reflects the burden of mattering discussed by Rosenberg and McCullough (1981). They state, "When others depend on us, worry about us, expect things of us, we are constrained and inhibited by these expectations (Rosenberg & McCullough, 1981, p. 179). Luke is constrained by his advisor's dependence on him to help hold his career intact.

On the other hand, half of the students in the COLA case did not perceive their advisors depend on them. Ernie does not see a direct dependency from his advisor, but discusses the impact of students on the program,

You know, I don't know that he, I don't know that I would say he is dependent on me at all, other than it's a new program and they are hoping to get new people out into the workforce for those sorts of statistics, but again I don't feel any pressure from him to do that, but otherwise I don't know that there's a dependency on his side towards me.

Adrianna laughs as she describes the lack of urgency and necessity related to the work she does for her advisor,

I don't feel like he is dependent upon me. I work for him as part of my GA 10 hours a week, and it's very much like he finds a few things to throw me to do as opposed to needing me to do things. Little projects that would be nice to have done and I'm a good tool to do it, but it's not like a huge rush or necessity.

Joseph points out his advisor's tenure and success in publishing negate his need to depend on any of his graduate students,

As I said, I don't feel that he needs me, so I don't know that I could say that he is dependent upon me. And considering he has full tenure and publishes the most of any professor in our department, it's hard to say that he needs any more status, and he doesn't really care about department politics and hasn't really participated in it before since he didn't have graduate students, so I don't feel like he has the need or the desire to improve his status, which I suppose he could by having graduate students, but it's not really something he seeks...So, yeah, I can't say he's dependent on me or any of his graduate students for anything.

Commitment to Degree Completion. The second research question asked, what is the

relationship between doctoral students' perceptions of mattering and their commitment to degree completion? In the COLA case, the majority of students (five of the six) reported their advisors confirmed their commitment to completing their degrees. Half of the group, however, also had mixed feelings about their interactions with their advisors leading them to either confirm or question their commitment to completing the PhD.

Ernie's advisor influenced both his decision to continue at the same institution for his PhD and his commitment to continue working towards his degree,

That was a big part of the reason why I stayed here to go on for the doctorate, was that I have kept the same advisor and throughout the same Master's process. So with him, or my advisor, he, when I got my Master's – my original thought was get my Master's here and go somewhere else. When he heard of the school, of schools I had gotten into, it was because [this institution] was so new, and it's all about rankings in graduate programs, it was very, 'well we're very sorry to see you go', and it was kind of a foregone conclusion, I told him that I wasn't necessarily thinking of leaving, and then well it took him by surprise, he then, he was very supportive of what I would want to do going forward. 'So, well if you want to be, if you're thinking of going to a liberal arts school you're going to need some teaching experience, at [this institution] we can offer you a lot of experience, and that sort of stuff. And then also offered all of his, well not all of his time, but his time to help guide me throughout the whole process, going forward in my studies. And so that itself just confirmed to me that at some of those other schools I was concerned that I would just be that faceless student, that I would have to reprove myself and that might take two years of classes, whereas right now I've already got that relationship...He's a big reason why I continued to want to stay here and continue to pursue my PhD, so, I think I

got really lucky.

Despite flipping between questioning and confirming his commitment, Joseph shares similar sentiments about his advisor's influence on his decision to pursue his PhD at this institution,

Oh, it could vary from day to day. Sometimes he'll say things like "I don't know why you're still here" and so, times like that I feel like oh, maybe I should think about it again. The first year I went back to my alma mater, cause I still keep in touch with them, my undergraduate advisors, the professors in that department, they were like you need to get out of there. I felt terrible after talking to them the first time after I came back. Because they were, "that does not sound good, you need to go to a new school" it got better after this year because I got funding, and so their tone changed. Now I'm doing interesting research with my GA, and got other things that are going well enough, and my advisor and I get along really well. It's primarily my, primarily that I have a good relationship with him that makes me want to stay, as opposed to anything about the program. Really the classes are the problem, the inadequate seminars and things.

Not unlike Joseph, Emily vacillates between questioning and feeling confirmed in her commitment as a result of interactions with her advisor,

Well isn't that a daily thing in graduate school? You know, don't you constantly waffle between this is awesome and this is horrible, I'm going to drop out? There have been a couple times. When we went to lunch with one of the visiting lecturers, where my mentor said he wasn't terribly interested in [Topic A] research, which is what I am interested in, and wasn't terribly interested in continuing to do [Topic B] research, which I am interested in. That was a bad week. That one hit hard for a while, but since then, I have

been told my stuff is really cool. So yeah, there have definitely been plenty of things that make me question my commitment to a PhD, but I feel like that's everybody, not just me.

Following this revelation of interactions leading to questioning her commitment, Emily comments that her experiences with her advisors overall have led her to confirm her commitment. Meanwhile, Adrianna feels supported by her advisor, but questions whether her advisor will be a constant for reaching her long-term goals,

So, because my goal is academia, and our research is not very conducive to that track. It doesn't get published very frequently, and most people in the field don't think it's worth very much, and I'm, I've become increasingly more passionate about it, and I really think it's of value. So it's interesting because some of the time it feels like he is encouraging me to try out other labs in order to more easily achieve my career goals. So I definitely feel very supported and wanting to continue to pursue these career goals that I have, but it is a little unclear whether or not being with this specific advisor is actually going to get me there. But that's a very open conversation that he's been having with me ever since I interviewed for the position here. It's a weird sort of mix between yes, and maybe you should try something else.

Abigail cites her own personal doubts about commitment; however her interactions with her advisor are predominantly characterized as positive,

Well I have a personally, imposter syndrome type thing going on right now in first year, which I'm personally struggling with, but I don't think that has anything to do with him. He's always been very supportive. He's always told me good job on things, and will list things that I've done well before, and things I haven't done as well, and always phrases

them in a very supportive way. And I've had him as a teacher before, so I've done well in his class so far, and yeah, so I guess, he never makes me feel like I'm not going to be good enough to complete it. He always makes me feel like I'm on par. He's also, sorry, very involved with the timeline of everything, so I feel like I'm not going to drag on like some people do that never actually finish a thesis, or kind of linger at the dissertation too long. I feel like I am going to finish in the appropriate amount of time, like he'll keep me on track.

In response to prompting about her advisor's influence on her commitment Abigail replies,

Oh, um, I guess a little bit. Like, when I'm feeling discouraged or something, I definitely feel like I wouldn't want to be the graduate student that failed him or something. And I'm really, really happy with him as a mentor, so I think if I had someone that wasn't as supportive as him, or as involved, I wouldn't be as motivated, so he definitely plays a role, a positive role.

In addition to their advisors, the students within the COLA case noted other significant people that influenced their commitment to completing their PhDs. These other influences include a mixture of the students themselves, family, colleagues, and faculty from current or previous programs.

Half of the students in the COLA case mentioned one or more colleagues in their programs as sources of support toward completing the PhD. Abigail refers fondly to a couple of colleagues from her cohort, "...there are a couple of girls I have become really good friends with, and have felt really supported by, and we're kind of in it together." Ernie shares a similar sense of camaraderie with his colleagues,

So that is just the much needed, not shoulder to cry on, but ‘I’m having a really bad week and here’s why,’ the kind of camaraderie that comes with staying, pulling an all-nighter to get a paper done that you know that other people are doing it as well. No one, it’s always celebrating successes, and if somebody has a bad day, there’s no one that’s ever going behind someone’s back and kind of cheering that on. And then we do stuff outside of school as well to blow off steam, and while you probably will start talking about school at some point, it’s not the key focus of going out.

Joseph has a smaller circle of confidants that he shares his doubts with. His fiancé and a colleague offer support in times that he questions his commitment,

Yeah, my fiancé. As much as I sometimes think about quitting so that we will not be separated, it’s a long distance relationship, she’s encouraging of completing it, and says “what are you going to do if you don’t complete it?” cause I don’t really have an alternative plan anyhow. So she’s been encouraging. I don’t express my doubts to a whole lot of other people, except some of the other graduate students are encouraging. My roommate is also in the department. We talk about it a lot, we have the same problems.

Emily’s husband and mother also reinforce her decision to pursue the PhD, Just talking with them, especially when I’m down, they remind me that this is, all in all, the happiest I’ve been for years, so, as long as I’m still happy or not dreading coming to work every day, then I’m way better off than I used to be. So no matter how hard it gets, reminding me that this is what I’ve wanted for a long time; that I’m finally pursuing my dream. That, yes, sometimes day to day reality can be hard, but it’s worth it in the end.

Half of the students within the COLA case also revealed that current and previous faculty

mentors influenced their commitment to the PhD. Luke recalls previous faculty that influenced his trajectory,

Both of them would be what you call mentors, who really kind of not only challenged me, but showed me special consideration, and really said, “you should be one of us” kind of thing. “You have the ability to be one of us.” And when I didn’t immediately, cause I had breaks between each thing, when I didn’t immediately make that step forward, they were a little disappointed.

Both Adrianna and Ernie acknowledge how shared research interests with current faculty mentors in their departments influence their commitment. Adrianna remarks,

I would say the other, not my primary advisor, but the other professor in my lab...I’ve also had a lot of good conversations with him about the state of the field, and what role our research plays in it. And I definitely think it has increased my interest in continuing this kind of research.

Adrianna’s experiences with the professor in her lab are paralleled by Ernie’s interactions with his graduate coordinator,

But also I’ve worked closely with our graduate coordinator as well, and so he has been instrumental as well because my research interests actually float in between my advisor and the graduate coordinators. And so the graduate coordinator has been excellent of making sure that I’m on track with classes, and takes a special interest as well.

Less frequently discussed by COLA students is how they themselves influence their commitment to the PhD. Luke proclaims his self-motivation, “My PhD is the single most important thing in my life.” Adrianna affirms her lasting commitment,

It’s funny, you ask about completing my PhD, and then I talk about doing research, but I

don't, not completing the program once I've gotten in has never really been a question for me. It's always been like, I've wanted to do this since I was a junior in college, and then I took four years off and then came back. So it's my goal.

Also worth noting is that Luke is the only student within the COLA case to reference using negative feelings about people from his past as motivation to succeed. Luke laughs as he confesses,

Yeah, every one of my Facebook friends that I want to make call me Dr. Um, yeah, every teacher I ever had. Or almost all the teachers I've ever had. And I'll say this in all honesty and complete bitterness. There's just as many people that have encouraged, that I want to show, I want to earn my PhD because they gave me encouragement, as there are I want to show my PhD, because I want them to understand I have succeeded. Yeah, I mean, that PhD as far as I am concerned might just be the start of the word "fuck you" to someone. I'm sure you understand. That there are a couple people out there that you're going to be very proud to say, "I got my PhD, aren't you proud of me? How's life in the trailer?"

In sum, the majority of students within the COLA case reported their commitment to the PhD was confirmed by interactions with their advisor, although half oscillated between feelings of confirmation and questioning. Findings from this case reveal that interactions with others, whether that be advisors or other significant individuals, influence commitment to the PhD. For some students, individuals reaffirm the commitment they have in times of questioning. Others take comfort in the support of colleagues going through the same experiences.

Summary of COLA Case

In summary, the doctoral students within the case of the COLA perceived they mattered to their advisors. The students experienced attention, though at times the attention was

conditional. Advisors showed students they are important by expressing concern for the student personally and professionally, investing time energy and resources into the student, and displaying pride in the student's successes. Half of the students in COLA experienced dependence in the form of taking on teaching, lab or other responsibilities on behalf of the advisor, while the other half felt their advisors do not depend on them. The majority of students (five of the six) within the COLA case reported their advisors confirmed their commitment to completing their degrees, however half of the students also reported mixed feelings about their interactions with their advisors leading them to either confirm or question their commitment to completing the PhD. Other significant people that influenced students' commitment to completing their PhD include the students themselves, family, colleagues, and faculty from current or previous programs.

Cross-Case Analysis

Yin (2013) explains that multiple cases are selected to predict similar results, literal replication, or predict contrasting results for expected reasons, theoretical replication. In this study, it was expected that similar results across cases would emerge due to the shared experience of being doctoral students at the end of stage 1. In addition, the cases selected for this multiple case study represent different academic disciplines, thus contrasting results due to disciplinary differences were expected.

Both similarities and differences were identified in the participant characteristics across the two cases. At the time that interviews were conducted all participants held graduate assistantships on campus. All but one of the participants identified as White; one identified as Black. The majority of doctoral students within the COLA case expressed career goals aligned with becoming tenure track faculty, while the majority of doctoral students within the COS case

did not foresee pursuing careers in academia.

This study examined doctoral students' perceptions of mattering to their advisors within two cases, the COS and the COLA. Students in both the COS and COLA experienced the components of mattering: attention, importance, and dependence. The similarities and differences in how students experienced mattering to their advisors across cases are presented here in the order of the mattering components previously identified.

Attention. The first component of mattering is attention. That another person is aware of one's presence and existence, recognizes one's absence, and shows interest in one is to have their attention. A key difference between the cases in this study was the form of attention students received from their advisors. Students within the COLA case experienced both unsolicited attention and conditional attention from their advisors, while students within COS primarily experienced conditional attention from their advisor. Conditional attention is to command the interest or notice of another person granted on certain terms or conditions. Two common conditions for attention that emerged from both cases were initiation of the student and predetermined time. According to these conditions attention resulted from the initiation of the student to establish contact with the advisor, or pre-determined times for meetings.

Importance. The second component of mattering, importance is based upon the premise that one is the object of concern to another individual. Importance may be demonstrated by the investment of this other individual into the person of concern. While strong perceptions of importance did not emerge within the COS, all students in this case expressed their advisor invested resources in them (e.g. funding, GA position). More generally, students conveyed a sense of universal importance demonstrated by the positivity the advisor showed in response to the accomplishments of students in the group.

By contrast, within the COLA case students experienced many forms of importance. In addition to being on the receiving end of time and resources invested by their advisors, advisors in the COLA case demonstrated concern for students academically and personally, and expressed pride in the students' accomplishments. While data revealed all students within the COLA case experienced importance, a couple disputed the idea of being important to their advisors. This is consistent with students in the COS case.

Dependence. Dependence, the third component of mattering, is the feeling that one is relied upon by another individual. In both cases, dependence was the least expressed form of mattering. In fact, students appeared hesitant to label their advisors as dependent upon them, especially in the COLA case. Half the students in the COLA case felt their advisors do not depend on, and one of the four in COS was reluctant to label her advisor as dependent. Students in the COS and COLA cases experienced mattering in the form of dependence differently.

Dependence in the COS emerged primarily related to the advisor's research. For some, this is the contribution they make to the advisor's research agenda, a current project, or the advisor's recognition that students' contributions result in the advisor's success. For one student, the advisor's dependence is related to the diversity the student represents, "the fact that I'm Black helps them on the project, which I'm okay with, but I feel like it is one of the reasons that [my advisor] keeps me around." On the other hand, students in COLA experienced dependence in the form of taking on teaching, lab or other responsibilities on behalf of their advisors. Students recognized their role in relieving their advisors of these teaching and logistical tasks seen as time-intensive labors.

Commitment to Degree Completion. In addition to examining doctoral students' perceptions of mattering to their advisors, this study also sought to answer: what is the

relationship between doctoral students' perceptions of mattering and their commitment to degree completion? The influence of the advising interactions on commitment to degree completion was less pronounced in the COS case than in the COLA case.

The majority of students in the COLA case reported their advisors confirmed their commitment to completing their degrees. Half of the group, however, also had mixed feelings about their interactions with their advisors leading them to either confirm or question their commitment to completing the PhD. Students in the COS case, on the other hand, were split down the middle regarding the influence of their advisors on their commitment. Half indicated their interactions with their advisors confirmed their commitment to complete the PhD, while the other half attributed their commitment to themselves.

Other Findings. Other findings that emerged were not replicated across cases. Within the COS, the finding that the additional roles of the advisor limited the attention students received was not evident in the COLA case. There was minimal mention of advisors holding additional roles within the COLA case, however the data did not reach the threshold of the decision rule. Second, the feelings of marginality expressed in the COS case did not emerge from the COLA case. In fact, students within the COLA case articulated a strong sense of supportive advising.

Summary

In summary, the findings from the COS and COLA cases revealed students experienced mattering according the components defined by Rosenberg and McCullough (1981), and a new form of attention, conditional attention emerged from both cases. Students conveyed that they experienced importance differently in the COS and COLA cases. For students in both cases, dependence was the least expressed component of mattering experienced. The findings from

these cases were also mixed in regards to the influence of advising interactions on students' commitment to completing the PhD. While students in the COLA case reported their advisors confirmed their commitment to completing their degrees, half of the group also had mixed feelings about whether advisors led them to confirm or question their commitment. Half the students in the COS case indicated their interactions with their advisors confirmed their commitment to complete the PhD, while the other half attributed their commitment to themselves. This chapter was intended to introduce the findings of this research. Chapter five will provide possible interpretations as well as implications for practice and future research recommendations.

Chapter 5

Conclusion

The purpose of this study was to examine doctoral students' perceptions of mattering to advisors within the context of their department, and determine how those perceptions influence commitment to degree completion. The purpose of this chapter is to provide an overview of the most salient findings. The findings are presented according to the research questions that guided this study. Following discussion of the findings, implications for practice and research will be presented.

The two research questions which guided this study are:

1. How do doctoral students perceive they matter to their advisor?
2. What is the relationship between doctoral students' perceptions of mattering and their commitment to degree completion?

Findings for Research Question 1

The first research question investigated how doctoral students within the cases of the College of Science (COS) and the College of Liberal Arts (COLA) perceived they mattered to their advisors. Rosenberg and McCullough's (1981) three components of mattering were used to guide the interviews and analysis. The three components of mattering are attention, importance and dependence. For both cases, a new form of attention, conditional attention emerged. Importance manifested differently in the COS and COLA cases, and dependence was the least expressed component of mattering experienced in both cases.

Attention. Rosenberg and McCullough (1981) referred to attention as the most basic component of mattering, "...the feeling that one commands the interest or notice of another person" (p. 164). According to this definition, attention only surfaced as a noteworthy finding for students within the COLA case. However, a new form of attention emerged from both cases in the current study: conditional attention. Conditional attention is the feeling that one commands the interest or notice of another person granted on certain terms or conditions.

All students within the COLA case expressed they received attention from their advisors. To delineate between attention and conditional attention, there were times students were not subject to certain conditions or terms to receive attention from their advisors. In fact, Abigail, Ernie and Luke each shared experiences where they received the attention of their advisors as a result of the advisor's initiation. While Emily's advisors tend to be more hands-off, she still perceived she commands their interest, "So, they are still very interested in my research, and they are very interested in what I do, and they remember in a lot of cases what I am doing."

This finding emerging as influential in the COLA case, but not the COS case reflects the structural differences of disciplines. Noy and Ray (2012) contrast the social sciences and humanities from the physical sciences pointing out that graduate students' research in the former disciplines is "...often farther removed from that of their advisors and advisor/student relations become much more oriented toward the research of the students" (p. 894). Conversely, research conducted by graduate students in the physical sciences typically center on the advisor's proposed research (Noy & Ray, 2012). Thus, the focus on the student's work and research interests in the social and behavioral sciences may help explain why attention emerged as important for students in the COLA, but not for students in the COS.

Students in the COS primarily experienced attention from their advisors conditionally. While the terms or conditions for receiving attention varied within each case, two common conditions emerged for both the COS and COLA cases: initiation of the student and predetermined time. According to the established decision rules for this study, initiation of the student emerged as important within the COLA case, and predetermined time emerged as important within the COS case.

Four of the six participants in the COLA case discussed receiving attention from their advisors by initiating interactions. The initiation of the student to receive advising attention is evident in Ernie's description,

[He]...was always there and willing to help. And so, it was, a lot of the times it was contingent upon my going to seek that help out, but I never took that as a bad sign, I took that as he had a lot of stuff on his plate.

The finding that doctoral students within COLA had to initiate interactions with their advisors at times to receive attention is consistent with findings in the literature explaining disciplinary differences in doctoral experiences. Golde (2005) described the work of doctoral students in the humanities as solitary and autonomous. Furthermore, according to Lovitts (2001), students in the humanities and social sciences do not typically work closely with their advisors until after passing qualifying examinations. All doctoral students from the COLA case participating in this study had not yet taken their qualifying examinations. This may appear contradictory to the earlier discussion on COLA students receiving attention from their advisors without condition; however, it reflects the disciplinary nuances described in the literature (Golde, 2005; Lovitts, 2001; Noy & Ray, 2012). Although at this stage of their doctoral programs COLA

students may have to seek the attention of their advisors at times, they also perceive their advisors show interest in them.

All four of the participants in the COS case mentioned predetermined times as a condition for receiving attention. Daniel shares, “Well we have a standing meeting every two weeks as our time to really get together and he’s only focused on me.” Allison’s advising attention is structured similarly, “She came to me, and suggested that we meet bi-weekly regularly to help me stay on track.” Meanwhile, Penny and Barbor experienced attention from their advisors as a result of predetermined times in their programs such as the advisory committee meeting and annual evaluation.

The finding that attention on the condition of predetermined times emerged as important for students in the COS and not in COLA may again be indicative of disciplinary differences. For example, research within the academic discipline of chemistry is primarily team-oriented and laboratory-based with the faculty advisor overseeing the group (Golde, 2010). Given this structure, individualized attention is not the focus. Thus, the intermittent, predetermined attention individual students in the COS received from their advisors reflects the structure prevalent in the science disciplines.

Importance. Importance is defined as the feeling that one is the object of concern to another individual. Rosenberg and McCullough (1981) also consider one being an ego-extension of another an indicator of importance. Elliot, Kao and Grant’s (2004) conceptualization of importance as the investment of the other into the individual also defined importance for this study.

Importance manifested in a number of ways including: the investment of resources, concern for the welfare of the student, and universal importance. Of these forms of importance, all of the students within both the COS and COLA cases benefitted from the investment of resources from their advisors. Within the COLA case, five of the six participants experienced importance in the form of their advisor expressing concern for their welfare. Meanwhile, universal importance was experienced by three of the four participants within the COS case.

The investment of resources for students in the COS primarily emerged in regards to financial support. For example, Allison's advisor considered her for a financially supported RA position, while Penny's advisor put in a proposal to fund her position and research. Barbor's advisor also sends him announcements for funding opportunities. The finding that investment of financial support for COS students emerged as important is not surprising given the nature of the academic discipline. In the sciences, the faculty advisor "sustains the group by garnering external funding for research expenses, stipends, and tuition (Golde, 2005, p. 677).

The students within the COLA case also experienced importance in the form of investment of resources from their advisors. However, diverging from the COS findings around financial support, students in the COLA case indicated advisors helped them network, and invested extensive time and support into them.

Some advisors made resources available to their students such as access to other scholars. Both Emily and Luke mention their advisors facilitate networking opportunities. Luke often was invited to dinner by his advisor with top scholars in the field. Emily's advisors were also willing to connect her to scholars that she could collaborate with on research. The investment of extensive time and support were also mentioned by Emily, Adrianna, and Abigail. Abigail says

of her advisor, “He provides a lot of support and a lot of guidance on new materials, and keeps me very involved in different projects, so I have a lot of different kinds of responsibilities.” Both Emily and Adrianna also recalled their advisors investing extensive amounts of time into them. They each told of meetings unexpectedly extending nearly an hour beyond their scheduled time.

Previous research on the doctoral advising relationship found that students in the physical, biological and social sciences were more likely to receive career support from their advisors than their peers in the humanities (Zhao, Golde & McCormick, 2007). Examples of career support include assisting the student in: securing funding, how to write grants and proposals, developing professional relationships in the field, etc. The investment of resources experienced by students both in the COS and COLA cases appear to reflect Zhao et al.’s conceptualization of the advisor behavior labeled career support.

In addition to the investment of resources, doctoral students in the COLA case also perceived importance through their advisor’s concern for their welfare. For some students, it is the care their advisors show for them personally. After going through a difficult breakup, Abigail’s advisor took the time to call her, and relieved her of some duties to aid in her transition during her first semester. Joseph’s advisor recognized his dissatisfaction with the program and offered to maintain a relationship with him even if he chose to seek a new program.

This finding is also consistent with Zhao, et al.’s (2007) finding that doctoral students in the humanities and social sciences reported more personal touch behaviors than students in the physical and biological sciences. Personal touch behaviors include: taking a personal interest in the student, caring for the whole person, providing emotional support, having the student’s best interest at heart, and supporting any career path the student chooses (Zhao, et al., 2007).

According to the Zhao et al. study, personal touch behaviors were found to have a significant correlation to doctoral students' satisfaction with the advising relationship. These findings are important to the doctoral experience as dissatisfaction with the doctoral advising relationship has been associated with students' decisions to leave without completing their degree (Lovitts, 2001; Golde, 2005).

The students within the COS case experienced another form of importance: universal importance, or the advisor's value of or concern for one's reference group. Penny, Barbor and Daniel each talked about their advisor's concern or care for students in general within the context of their research groups or departmental unit. Penny describes her advisor as "...looking out for us" by providing sources of funding for each student in the research group. Barbor's advisor signals his approval of others' accomplishments by sending congratulatory emails to the entire department. Daniel's sense of importance is situated within his group, as he considers himself just as important as anyone should hope to be. Again, he reveals his importance in a group setting,

well, in general for all the graduate students he's had us all over at his house several times to have lab meetings where it's just all about socializing, and he can talk to you individually about your personal life and things like that that maybe at school or while you're working you don't get into those types of things.

The emergence of universal importance as an important finding in the COS case and not the COLA case again points to disciplinary differences. An earmark of the sciences is the structure of collaborative teams or laboratories (Golde, 2010; Lunsford, 2012; White & Nonnamaker, 2008). Thus, students in the COS experiencing importance as part of the collective

aligns with the structural difference prevalent in the sciences. Because of the collaborative nature of the laboratories or research groups in the COS, it appears difficult to disentangle the individual from the unit.

Dependence. Dependence is defined as the feeling that one is relied upon by another person. Dependence was the least expressed form of mattering within both the COS and COLA. Within the COLA, findings relevant to dependence did not reach the decision rule threshold of 4 out of 6, though half of students in the COLA case experienced dependence from their advisors. For students in the COS case, dependence was primarily related to their advisor's research.

Doctoral students in the COS case revealed they experienced dependence from their advisors by contributing to their advisor's research agenda. Barbor's advisor depends on him to contribute to his research due to additional roles he fills,

Well, I guess what I can think of is, because he does have all the administrative responsibilities, he's not very active in his own research right now, so I'm working with one of his post-docs on this project, his samples of course, but we're kind of doing the grunt work with it. So of course his name will be on those publications, and his name will be on publications that come out of my research as well.

Similarly, Daniel explains his advisor recognizes the contributions he and other students make to his advisor's research. Daniel reports his advisor as saying, "...well it's actually due to the hard work of everyone in the lab that I have to owe that." Daniel continues, "Yeah, he definitely recognizes that his success actually hinges on what, how we perform for him."

Although Penny was hesitant to label her advisor as dependent on her, she reveals her importance to the research project she is assigned to, "...I know that if I like just suddenly disappeared, that is going to kind of leave a... it's one less person to help out in the lab and it's certainly, where do you find another person who's willing to work on this project I'm going to be working on."

The finding that contributing to the advisor's research is how COS students experienced the dependence component of mattering once again reflects the structure of the discipline. Golde (2005) aptly describes the structure of the sciences,

Each faculty member sits at the center of a small solar system – graduate students at various stages and post-doctoral research fellows orbit around the faculty advisor (often referred to as the P.I., or Principal Investigator, highlighting the primacy of research) (p. 677).

While the students in the current study did not see their advisor's dependence on them as negative, previous research indicates students in the biological and physical sciences are more likely to experience exploitative behaviors by their advisors and perceive they are "cheap labor" (Zhao, et al. 2007). Rather, for students in the current study, dependence on students to contribute to the advisor's research agenda reflected that they matter.

Findings for Research Question 2

The second research question investigated the relationship between doctoral students' perceptions of mattering to their advisors and their commitment to completing their PhD. Students within the COLA case expressed their interactions with their advisors confirmed their

commitment to completing the PhD. Meanwhile, data from the COS case did not reach the decision rule threshold to consider the influence of advisors on students' commitment to degree completion to be noteworthy.

While the findings from the COS case regarding perceptions of mattering and commitment to completing the PhD fell short of the decision rule threshold of 3 out of 4, there may be reason to believe that the students' stage in the doctoral program may be a contributing factor to this finding. In their longitudinal study of 60 doctoral students in the sciences, White and Nonnamaker (2008) found "...that doctoral students experience multiple communities whose salience varies according to a number of factors, including stages in the doctoral student journey" (p. 357). They contend that at any given time, doctoral students may find one or more communities (e.g. the discipline, institution, academic department, the lab, or advisor) more salient than another, and that these change throughout the student's progress through the program. Results from their study indicated the department community was most salient in the earlier stages of doctoral students' journey. Doctoral students in the COS case of the current study were in the early stages of their doctoral programs. While two of the four students from this case indicated their advisors influenced their commitment to the PhD, the remaining two mentioned other relationships that were influential. Daniel credits the post-doctoral associates in his lab as influencing his commitment, "both of them are also just incredibly brilliant, and have helped me immeasurably. So in the end I would owe a lot to them as well." Meanwhile, Allison attributes previous mentors as a source of influence on her commitment, "Also, mentors from my previous schooling experiences that believe in me...they've put a lot of effort and faith into me, and I just don't want to see that go to waste." While mattering to the advisor did not emerge as

important for the entire COS case, relationships with specific others influenced these students' commitment to complete their degree.

The students in the COLA case, on the other hand indicated their advisors influenced their commitment to completing the PhD, although there was a complex mixture of these interactions leading them to both confirm and question their commitment. Ernie and Joseph both credit their relationships with their advisors for their decision to stay at the institution for their PhDs. Meanwhile Abigail cites her advisor's support and involvement as a positive motivator for her commitment. Emily describes her interactions as waffling between, "this is awesome and this is horrible." Her advisor's waxing and waning interest in her research topics have led her to question her commitment at times, but her experience with her advisors overall have led her to confirm her commitment. Adrianna feels supported by her advisor, but questions his role in helping her reach her career goals. She shares, "It's a weird sort of mix between yes, and maybe you should try something else." Despite this mixture of questioning and confirming commitment to the PhD as a result of the advising relationship, the majority of doctoral students (5 of 6) reported their advisors confirmed their commitment.

The relationship between mattering to advisors and commitment to completing the PhD emerged as important in the COLA case, but not in the COS case. It is worth mentioning at this point that feelings of marginality emerged in the COS case, and not in the COLA case. In fact, students in the COLA case often mentioned the support they felt from their advisors. In their study, Noy and Ray (2012) found systematic disadvantage at the discipline level for advisor and student relations. In particular, doctoral students in the biological and physical sciences perceived their advisors as providing less support than those in the social sciences and

humanities. The lack of reported support and feelings of marginality that emerged from the COS case of the current study are discussed in the following section.

Other Findings. Other findings surfaced from the COS case that were not replicated within the COLA case in the current study. From those findings the themes of Additional Roles of the Advisor and Marginality emerged. These findings do not fit with the conceptual framework of mattering, but help explain how students in the COS experienced mattering to their advisors.

All students within the COS case indicated their advisors fulfill additional roles. Specifically, the students acknowledged the effect the additional time commitment associated with these roles had on their advising relationship. Barbor's advisor's role as an administrator affects how important he feels he is to him, "Sometimes I think the administrative, his administrative duties might supersede kind of his faculty role." Daniel and Penny both recognize how busy their advisor's are fulfilling the role of researcher. Daniel states, "...undergrads don't typically understand a professor's outside of the classroom responsibilities. They think that really all that they do is teach the class, and they kind of have no comprehension of the research aspect of it."

The time these advisors spent in additional roles limited the frequency of interactions students had with them, which partially explains why students in the COS experienced mattering in ways which diverged from students in COLA. Students in the COS case primarily experienced attention from their advisors conditionally – the condition being that they had predetermined times to meet with them. Also, students in the COS perceived they were important to their advisors as part of the collective and their advisors were dependent upon them contributing to

their research agenda. These additional roles of the advisors have a direct influence on how they interact with their students and express that they matter.

Within the COS feelings of marginality, the inverse of mattering, also arose. For some students marginality was a result of lack of attention from their advisors. Two students noted their advisor would not notice their absence, although with particular conditions attached. When asked, “Would your advisor notice if you are absent?” one states, “I guess not if it was a short period of time. I would say no.” The other student answers,

Well, um, [my advisor] personally wouldn’t know if I were to suddenly not show up. The rest of my research group would notice, and if they couldn’t get a hold of me or contact me, they would definitely notify [my advisor], and then [my advisor] would worry greatly.

Another student experienced deeper feelings of marginality primarily by not feeling valued by the advisor,

I don't feel that I'm as important as I could be...But also when I try I feel like I'm not always, my ideas are not always accepted, and are not developed in that area. [My advisor] goes with someone else. And it could be the same idea, but [my advisor] doesn't recognize as such, so it causes me to just sit back and wait.

These feelings of not being valued by the advisor will likely lead to dissatisfaction and influence the overall doctoral experience. Lunsford (2012) links two types of mentoring, psychosocial and career mentoring to satisfaction with the advisor. Psychosocial mentoring includes but is not limited to encouraging student input, respecting the student, and encouraging the student’s accomplishments. Meanwhile career mentoring includes advisor behaviors more administratively focused such as helping the student conduct work within a plan, setting

timetables for tasks facilitating professional development, etc. Barnes, Williams and Stassen (2012) found the level of satisfaction with the advising relationship to be moderately correlated to the advisor's role in advancement to degree completion. Further, the small proportion of doctoral students reporting their advisors as "not at all helpful" were more likely than students reporting their advisors as "very helpful" to perceive their time to degree was taking longer than expected.

It is worth noting the deep sentiments of marginalization expressed regarding being a student of color,

I mean, like, my advisor doesn't know what to do with me. I feel like [my advisor] thinks there's some other way to handle me than a regular student. As opposed to just doing what you always have, just try not to make it an issue. I don't have an issue with it, like I know who I am, I've always been the only one in the whole group. I'm cool, I've dealt with it all my life. I don't need it to be an issue for you. [My advisor] just expects things out of me, and I have no idea what they are. I don't know what [my advisor is] expecting.

Students of color often perceive receiving less support than their White peers (Noy & Ray, 2012; Winkle-Wagner, Johnson, Morelon-Quainoo & Santiago, 2010). In fact, Noy and Ray (2012) found that women of color are the most disadvantaged in doctoral advisor support. While the current study only had one participant of color, the feelings of marginality within the advising relationship are consistent with previous research.

Having a positive doctoral advising relationship has been found to increase the likelihood of completing the degree (Bair & Haworth, 2004; Nettles & Millet, 2006; Stallone, 2004). This dissertation helps explain how doctoral students from two colleges experienced mattering in their

doctoral advising relationship, and how that influenced their commitment to complete the PhD.

Implications for Practice

The findings from this study provide practical implications for doctoral education. This is the first study to examine perceptions of mattering in the doctoral student-advisor relationship. This study found that doctoral students experienced mattering differently according to their academic discipline. Similar findings have been reported in studies examining doctoral advising and mentoring across disciplines. Recommendations are directed to both students and faculty involved in doctoral programs. These recommendations also come with a word of caution about the limitation of generalizability within case study design. Generalizability depends on statistical sampling to extend the findings to the larger population. Rather, this qualitative multiple case study draws on the idea of transferability. The reader may judge the context within which this multiple case study is situated to determine if the recommendations from this study apply to a context with which they are familiar.

First, the different ways that doctoral students in the two cases experienced mattering reveal structural differences influenced by the discipline. As prospective doctoral students enter programs of study, coming with the understanding that the structure of the discipline influences the advising relationship may be helpful. The collaborative nature of the sciences, particularly those with lab settings, influences the type of attention given from advisor to students. Furthermore, the position of the advisor's research at the center of the group influences how students are considered important and relied upon. Due diligence on the student's part to seek out an advisor conducting research that aligns with the student's interests may be one way to increase the likelihood that the student perceives they matter to the advisor.

Meanwhile, doctoral students in the social sciences may expect to experience more individualized attention than their peers in the physical and biological sciences. The findings from this study suggest advisors in COLA are attentive to their doctoral students' research interests, see them as an object of concern and invest resources into them, however at times these students had to seek out their advisor's support. Students considering an advanced degree should consider these disciplinary differences and their own preferences or needs for support prior to beginning their doctoral program.

Second, the finding that doctoral students in the COLA case reported that their advisors confirmed their commitment to complete the PhD while students in the COS case did not has implications for faculty. While the current study cannot make the claim that these positive doctoral student-advisor interactions will ultimately lead to degree completion, the affirmation of one's commitment is a step in the right direction. Stepping beyond the basic advising duties of assisting in the planning of a student's degree program and coursework, advisors have the opportunity to fill the crucial role of a mentor. Nettles and Millet (2006) define a mentor as "...a faculty person who establishes a working relationship with a student and shepherd her or him through the doctoral process to completion" (p. 98). Creighton, Creighton and Parks (2010) advocate assignment of academic advisors upon entry in the program to address program structure and academic expectations, and within the first academic year students should select a mentor that not only guides research and dissertation, but also attends to role modeling, counseling and friendship. The extensive supportive advising that students in the COLA case of this study experienced exemplifies the importance of mentoring from early in their doctoral program.

Lastly, while students within the COS case of this study revealed they matter to their advisors with regard to their research, faculty should take care not to let this turn into an exploitative relationship. Prior research indicates that students within the biological and physical sciences are more likely to feel their relationship with their advisor is exploitative. Findings from the current study revealed students in the COS experienced feelings of marginality, whilst students within the COLA did not express similar feelings. Furthermore, while the current study only had one participant of color, the feelings of marginality expressed by this student have implications for mentoring. Results from, *The Condition of Education 2012*, indicate that only 25% of doctoral degrees conferred were to students of color (Aud et al. 2012). Similar underrepresentation is observed with faculty of color; all minority groups combined account for only 16% of full-time professors (Kena, et al., 2015). Mentoring doctoral students of color cannot and should not fall entirely on faculty of color. Aligned with the recommendations of Winkle-Wagner et al. (2010), faculty members must evaluate the possibility that they are privileging the majority leading to the marginalization of students of color. Further, “Departments and universities should provide, support, reward efforts to offer professional development to faculty so that they can become more effective and culturally sensitive advisors and mentors” (Winkle-Wagner, et al., 2010, p. 192). There must be buy-in at each level to better support doctoral students of color.

Implications for Research

Findings from this research study suggest that mattering to advisors manifests differently for doctoral students in different disciplines, and likewise that the influence of mattering on commitment to completing the PhD varies by the disciplines under investigation for the current study. While this study answers how doctoral students experience mattering to their advisors and

the relationship to their commitment to completing the PhD, additional questions emerged as a result of this study. These questions as well as recommendations for future research will be outlined in this section.

First, due to difficulty in recruiting participants that met the inclusion criteria, this qualitative case study was limited to 10 participants representing two colleges from one institution. All participants in this study held graduate assistantships on campus. Therefore, this study does not account for perceptions of mattering to advisors from doctoral students who are not graduate assistants. Furthermore, with the exception of one student, the participants in this study all identified as White. Future studies should include more underrepresented racial/ethnic participants. More robust participant inclusion will answer if students of color experience mattering to advisors similar to their White peers. Results from Noy and Ray's (2012) research indicate "students of color consistently report that their primary advisor is less respectful of their ideas compared to whites" (p.898). Of additional concern is their finding that women of color are at the greatest disadvantage with advisor support. Future research addressing doctoral student mattering to advisors should seek out the experiences of women of color.

Although findings of not mattering, or marginality, emerged within the COS case and not the COLA case this may be the result of the interview protocol focusing in on the construct of mattering. Future research investigating mattering would be well informed to address this limitation when developing the interview protocol.

While this study provides an initial snapshot of how doctoral students in the COS and COLA cases perceive they matter to their advisors, the question of how these perceptions evolve

over time remains. In fact, as a result of conducting a member check with participants of the current study, one of the participants emailed the following response,

I was hoping you would contact me again for a follow-up because it was actually after I finished my comps that my advisor and I bumped heads on several issues and things weren't as rosy as they were in our initial interview, before I knew my advisor very well.

Future examinations of mattering in the doctoral student/advisor relationship would benefit from a longitudinal design to determine if and how these perceptions change through different stages of the doctoral program, and subsequently if mattering affects commitment to degree completion to a greater degree over time. Lastly, future research should quantitatively examine the components of mattering for doctoral students to determine if the findings in this study hold up for a larger population. At this time, such quantitative measures have only targeted the mattering perceptions of undergraduate students (Elliot, Kao & Grant, 2004; France & Finney, 2009; Tovar, Simon & Lee, 2009).

Conclusion

Scholars agree that the advisor-student relationship is an important aspect of doctoral education (Bair & Haworth, 2004; Barnes et al., 2012; Lovitts, 2001; Nettles & Millett, 2006). The two cases examined in this study reveal the impact of the discipline on the advisor-student relationship, particularly in how mattering is experienced and the influence on students' commitment to complete the PhD. Three components of mattering were examined: attention, importance and dependence. Within the construct of mattering, a new form of attention emerged from both cases. Students in both the COS and COLA cases experienced conditional attention, although different conditions predicating attention emerged for each case. Students in the COS

case primarily experienced mattering to their advisors through conditional attention, followed by importance and dependence. Students in the COLA case experienced mattering to their advisors through attention, conditional attention, and importance. The findings for COLA students' perceptions of their advisors' dependence on them did not reach saturation. Finally, findings from this study revealed COLA students felt their relationships with their advisors confirmed their commitment, while findings from the COS did not reach saturation to make the same conclusion.

This chapter described the most salient findings for the research questions addressed in this study. Findings for how students experienced mattering to their advisors were presented followed by findings regarding how mattering influenced doctoral students' commitment to complete their PhD. The chapter concluded with a discussion of practical and research recommendations.

APPENDIX A: Interview Instrument

I. Background

1. Gender identity – how do you identify male or female or both
2. Age
3. Race/ethnicity
4. Approximate range of family income
5. Marital status
6. Dependents
7. Parent's education: less than college degree, college degree, advanced degree
8. Previous educational experiences
 - a. Undergraduate institution attended
 - b. approximate undergraduate GPA
 - c. Master's degree prior to entering doctoral program
9. Current educational status
 - a. Part-time/Full-time
10. Career goal
 - a. faculty/academia
 - b. industry
 - c. other, please describe
11. Financial Resources – please note all that apply
 - a. Work Full-time/Part-time: on or off-campus
 - b. Graduate assistantship: GA, RA, or TA
 - c. receiving grant/scholarship/fellowship
 - d. student loans

II. Relationship to the Doctoral Advisor

So let's talk a bit about your relationship with your advisor.

1. Attention

a. Please talk a bit about how much you feel your advisor pays attention to you? In what ways does he/she demonstrate this?

(Possible prompts: would your advisor notice if you are absent? In what ways does your advisor show interest in you?)

b. Please talk about how interested your advisor is in what you have to say? Can you provide an example(s) of this?

2. Importance

a. Please talk about how important you feel you are to your advisor? Can you share an experience that highlights this?

(Possible prompt: How does your advisor express they value you?)

b. Please talk about how your advisor reacts to your successes or accomplishments? How about your failures? Can you share an experience that demonstrates this?

3. Dependence

a. Please talk about how you think your advisor is dependent upon you? Please provide or share an example.

(possible prompt: responsibilities or commitments?)

III. Other

1. How have your interactions with your advisor either confirmed or led you to question your commitment to completing your PhD?

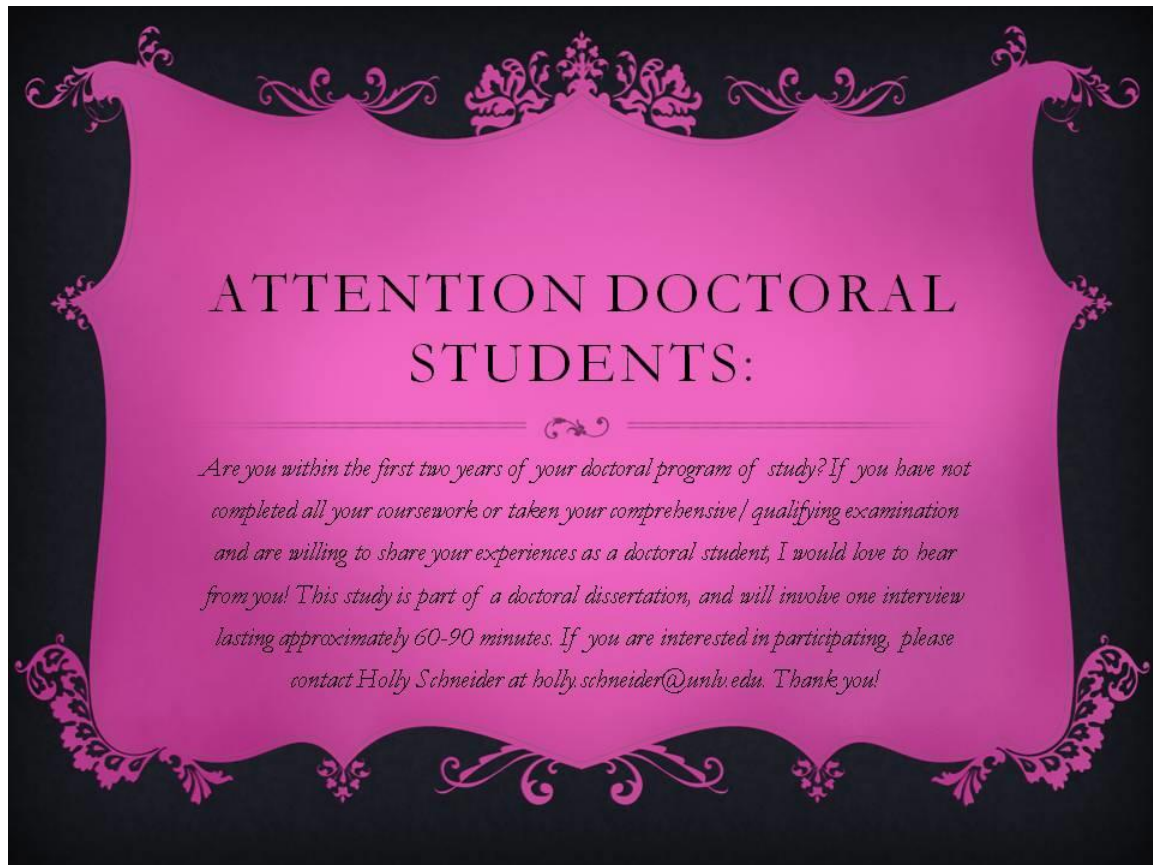
(Possible prompt: So all in all, how would you characterize your interactions with your advisor?)

2. Are there any other significant people that have influenced your commitment to completing your PhD?

3. Is there anything else you would like to share about your relationship with your advisor?

4. Is there anything else you would like to share that would be important to understanding your experience in the doctoral program?

APPENDIX B: Recruitment Flyer



APPENDIX C: Informed Consent



INFORMED CONSENT

Department of Educational Psychology and Higher Education

TITLE OF STUDY: Perceptions of mattering in the doctoral student and advisor relationship.

INVESTIGATOR(S): Doris L. Watson and Holly A. Schneider

For questions or concerns about the study, you may contact **Doris L. Watson at 702-895-5085.**

For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted, contact **the UNLV Office of Research Integrity – Human Subjects at 702-895-2794, toll free at 877-895-2794 or via email at IRB@unlv.edu.**

Purpose of the Study

You are invited to participate in a research study. The purpose of this study is to examine doctoral students' perceptions of the student advisor relationship and its contribution to persistence and commitment to degree completion.

Participants

You are being asked to participate in the study because you fit this criteria: You are 22 years of age or older, are currently enrolled in a doctoral program in one of the following colleges: Science, Engineering, or Liberal Arts, are near the end of your first year of doctoral study and have not completed coursework or taken the comprehensive or qualifying examination.

Procedures

If you volunteer to participate in this study, you will be asked to do the following: Participate in a single, one-on-one interview for approximately 60-90 minutes. The interview will take place on one day only, and will be audio recorded and transcribed for accuracy. In addition to the interview, you will be provided the opportunity to review a draft

of the written report which may take 30 minutes or more of your time. The time spent on reviewing the draft is flexible, however, depending upon how much time you wish to commit to it.

In addition to conducting interviews, the researcher will also observe events taking place in your department such as dissertation defenses, brown bag presentations or other open events involving doctoral students and faculty. For the final report, no reference will be made to specific titles or content of these events, nor will reference be made to the names of participants in attendance. The purpose of the observations is to observe the interactions between faculty and students that are present, and get a sense of the overall climate. Also, documents will be collected for analysis such as department handbooks, and program requirements. To ensure confidentiality the documents gathered for analysis will not contain any personal identifiers; documents will be analyzed to provide a better understanding of the context of the department and their procedures (e.g. indication of when/how advisors are chosen/assigned by that department); a pseudonym will be used to protect your identity; no reference will be made to your specific department, rather the general name of the college in which your

program of study is housed will be used; and descriptions that could lead others to personally identify you (e.g. demographic characteristics or reference to your specific research/dissertation topic) will be excluded from the final report.

Benefits of Participation

You may not receive any direct benefits by participating in the research; however the study may contribute to the higher education literature. An additional benefit that may result from the study is that faculty serving in advising roles to doctoral students may be informed on doctoral student perceptions of mattering.

Risks of Participation

There are risks involved in all research studies. This study may include only minimal risks. As a result of participating in this study you may be exposed to psychological risks including discomfort with sharing personal information about your relationship with your advisor. You may also experience the social risk of fear of reprisal from your advisor for sharing information about your relationship. It is likely that discomfort sharing personal information may occur if you are engaged in a hostile relationship with your advisor, or if you are engaged in a romantic relationship with your advisor. The severity of the discomfort experienced will likely vary depending upon your perception of the relationship.

Cost /Compensation

There may not be financial cost to you to participate in this study. The study will take approximately 60 to 90 minutes of your time. The interview will be conducted on one day. A draft of the written report will also be provided to you for your review, which may take 30 minutes or more of your time. You will not be compensated for your time.

Confidentiality

All information gathered in this study will be kept as confidential as possible. No reference will be made in written or oral materials that could link you to this study. All records will be stored in a locked facility at UNLV for 3 years after completion of the study. After the storage time the information gathered will be deleted and/or shredded.

Voluntary Participation

Your participation in this study is voluntary. You may refuse to participate in this study or in any part of this study. You may withdraw at any time without prejudice to your relations with UNLV. You are encouraged to ask questions about this study at the beginning or any time during the research study.

Participant Consent:

I have read the above information and agree to participate in this study. I have been able to ask questions about the research study. I am at least 18 years of age. A copy of this form has been given to me.

Signature of Participant

Date

Participant Name (Please Print)

Audio Taping:

I agree to be audio taped for the purpose of this research study.

Signature of Participant

Date

Participant Name (Please Print)

References

- Ampaw, F. D. & Jaeger, A. J. (2012). Completing the three stages of doctoral education: An event history analysis. *Research in Higher Education*, 53, 640-660. doi: 10.1007/s11162-011-9250-3.
- Astin, A. W. (1975). *Preventing students from dropping out*. San Francisco, CA: Jossey- Bass.
- Aud, S., Hussar, W., Johnson, F., Kena, G., Roth, E. Manning, E. Wang, X., & Zhang, J. (2012). *The condition of education 2012* (NCES 2012-045) U.S. Department of Education, National Center for Education Statistics. Washington, DC. Retrieved from, <http://nces.ed.gov/pubsearch>
- Austin, A. E. (2002). Preparing the next generation of faculty: Graduate school as socialization to the academic career. *The Journal of Higher Education*, 73(1), 94-122.
- Austin, A. E., & McDaniel, M. (2006). Preparing the professoriate of the future: Graduate student socialization for faculty roles. In J. C. Smart (Ed), *Higher Education: Handbook of Theory and Research Vol. XXL*, 397-456. Netherlands: Kluwer Academic Publishers.
- Bair, C. R., & Haworth, J. G. (2004). Doctoral student attrition and persistence: A meta-synthesis of research. In J. C. Smart (Ed), *Higher Education: Handbook of Theory and Research Vol. XIX*, 481-533. Netherlands: Kluwer Academic Publishers.
- Barnes, B. J., Williams, E. A., & Stassen, M. L.A. (2012). Dissecting doctoral advising: A comparison of students' experiences across disciplines. *Journal of Further and Higher Education*, 36(3), 309-331. DOI: 10.1080/0309877X.2011.614933.

- Bean, J. P., & Metzner, B. S. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research*, 55(4), 485-540. DOI: 10.3102/00346543055004485
- Bensimon, E. M. (2007). The underestimated significance of practitioner knowledge in the scholarship on student success. *Review of Higher Education*, 30(4), 441-469.
- Berelson, B. (1960). *Graduate education in the United States*. New York, NY: McGraw Hill [Digital Version]. Retrieved from, <http://hdl.handle.net/2027/mdp.39015002576620>
- Bernard, H. R., & Ryan, G. W. (2010). *Analyzing qualitative data: Systematic approaches*. Thousand Oaks, CA: Sage Publications.
- Bogdan, R., & Biklen, S. K. (2007). *Qualitative research for education: An introduction to theories and methods* (5th ed.). Pearson A & B.
- Bowen, W. G., & Rudenstine, N. L. (1992). *In pursuit of the Ph.D.* Princeton, NJ: Princeton University Press.
- Braxton, J. M. (2000). *Reworking the Student Departure Puzzle*. Nashville, TN: Vanderbilt University Press.
- Brim, O. G., Jr. (1966). Socialization through the life cycle. In O. G. Brim, Jr. & S. Wheeler (Eds.), *Socialization after childhood: Two essays* (pp. 1-49). New York, NY: Wiley.
- Cabrera, A. F., Nora, A., & Castañeda, M. B. (1992). The role of finances in the persistence process: A structural model. *Research in Higher Education*, 33(5), 571-593.

- Carnevale, A.P., Strohl, J., & Melton, M. (2011). *What's it worth? The economic value of college majors*. Georgetown University Center On Education And The Workforce, 1-183.
Retrieved from, cew.georgetown.edu/whatsitworth
- College Board. (2008). *Trends in Student Aid*. New York, NY: Author. Retrieved from, <http://trends.collegeboard.org/student-aid>
- College Board. (2012). *Trends in Student Aid*. New York, NY: Author. Retrieved from, <http://trends.collegeboard.org/student-aid>
- Council of Graduate Schools (2007). *Graduate education: The backbone of American competitiveness and innovation*. Washington, DC: Author. Retrieved from, <http://www.cgsnet.org/>
- Council of Graduate Schools (2008). *Ph.D. completion and attrition: Analysis of baseline demographic data from the Ph.D. completion project*. Washington, D.C.: Author.
Retrieved from, <http://www.cgsnet.org/>
- Council of Graduate Schools. (2009). *Ph.D. completion and attrition: Findings from exit surveys of Ph.D. completers*. Washington, DC: Author. Retrieved from, <http://www.cgsnet.org/>
- Creighton, L., Creighton, T., & Parks, D. (2010). Mentoring to degree completion: Expanding the horizons of doctoral protégés. *Mentoring & Tutoring: Partnership in Learning*, 18(1), 39-52, DOI: 10.1080/13611260903448342
- Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage Publications.

- Dixon, S. K. & Robinson Kurpius, S. E. (2008). Depression and college stress among university undergraduates: Do mattering and self-esteem make a difference? *Journal of College Student Development*, 49(5), 412-424. doi: 10.1353/csd.0.0024.
- Dixon, A. L., Scheidegger, C. & McWhirter, J. J. (2009). The adolescent mattering experience: Gender variations in perceived mattering, anxiety, and depression. *Journal of Counseling & Development*, 87, 302-310.
- Dixon-Rayle, A., & Chung, K. (2007). Revisiting first-year college students' mattering: Social support, academic stress, and the mattering experience. *Journal of College Student Retention*, 9(1), 21-37.
- Ehrenberg, R. G., Jakubson, G. H., Groen, J. A., So, E. & Price, J. (2007). Inside the black box of doctoral education: What program characteristics influence doctoral students' attrition and graduation probabilities? *Educational Evaluation and Policy Analysis*, 29(2), 134-150.
- Elliott, G. C., Cunningham, S. M., Becker, L., Reuland, T. & Gelles, R. J. (2008). *Mattering and subjective life expectancy of adolescents*. Paper presented at the Annual Meeting of the American Sociological Association, Boston, MA.
- Elliott, G. C., Cunningham, S. M., Colangelo, M., & Gelles, R. J. (2005). *Mattering to the family and violence within the family by adolescents*. Paper presented at the Annual Meeting of the American Sociological Association, Philadelphia, PA.

- Elliott, G. C., Cunningham, S. M., Cowhig, F., Horton, D. & Gelles, R. J. (2009). *Perceived mattering to family and marijuana use among adolescents*. Paper presented at the Annual Meeting of the American Sociological Association, San Francisco, CA.
- Elliot, G. C., Kao, S., & Grant, A. (2004). Mattering: Empirical validation of a social-psychological concept. *Self and Identity*, 3, 339-354.
- Evans, N. J., Forney, D. S., Guido, F. M., Patton, L. D., & Renn, K. A. (2010). *Student development in college. theory, research and practice*. (2nd ed.) San Francisco, CA: Jossey-Bass.
- France, M. K., & Finney, S. J. (2009). What matters in the measurement of mattering? A construct validity study. *Measurement and Evaluation in Counseling and Development*, 42(2), 104-120.
- Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction* (8th ed.). Boston, MA: Pearson Education, Inc.
- Gardner, S. K. (2009a). Student and faculty attributions of attrition in high and low-completing doctoral programs in the United States. *Higher Education*, 58, 97-112.
DOI: 10.1007/s10734-008-91847.
- Gardner, S. K. (2009b). Special Issue: The Development of Doctoral Students--Phases of Challenge and Support. *ASHE Higher Education Report*, 34(6), 1-127.
- Gardner, S. K., & Barnes, B. J. (2007). Graduate student involvement: Socialization for the professional role. *Journal of College Student Development*, 48(4), 1-19.

- Golde, C. M. (2000). "Should I Stay or Should I Go? Student Descriptions of the Doctoral Attrition Process." *Review of Higher Education*, 23(2), 199–227.
- Golde, C. M. (2005). The role of the department and discipline in doctoral student attrition: Lessons from four departments. *The Journal of Higher Education*, 76(6), 669-700.
- Golde, C. M. (2010). Entering different worlds: Socialization into disciplinary communities. In S. K. Gardner & P. Mendoza (Eds.), *On becoming a scholar: Socialization and development in doctoral education* (pp. 79-95). Sterling, VA: Stylus Publishing.
- Golde, C. M., & Dore, T. M. (2001). *At cross purposes: What the experiences of doctoral students reveal about doctoral education*. Philadelphia, PA: A report for The Pew Charitable Trusts.
- Golde, C. M., & Dore, T. M. (2004). The survey of doctoral education and career preparation: The importance of disciplinary contexts. In D. H. Wulff & A. E. Austin (Eds.), *Paths to the professoriate: Strategies for enriching the preparation of future faculty* (pp. 19-45). San Francisco, CA: Jossey-Bass.
- Golde, C. M., & Walker, G. E. (Eds.). (2006). *Envisioning the future of doctoral education: Preparing stewards of the discipline. Carnegie essays on the doctorate*. San Francisco, CA: Jossey-Bass.
- Gossett, B. J., Cuyjex, M. J., & Cockriel, I. (1996). African Americans' and non-African Americans' sense of mattering and marginality at public, predominantly white

- institutions. *Equity & Excellence in Education*, 29(3), 37-42. doi:
10.1080/1066568960290306.
- Gumport, P. J. (1993). Graduate education and organized research in the United States. In
Clark, B. R. (Ed.), *The research foundations of graduate education: Germany,
Britain, France, United States, Japan*. Berkeley, CA: University of California Press.
- Gururaj, S., Vasquez Heilig, J. & Somers, P. (2010). Graduate student persistence:
Evidence from three decades. *Journal of Student Financial Aid*, 40(1), 31-46.
- Hammond, R. (Ed.). (2013). Almanac of higher education 2013-14. *The Chronicle of Higher
Education*, LIX(46).
- Kena, G., Musu-Gillette, L., Robinson, J., Wang, X., Rathbun, A., Zhang, J., Wilkinson-
Flicker, S., Barmer, A., and Dunlop Velez, E. (2015). *The Condition of Education
2015* (NCES 2015-144). U.S. Department of Education, National Center for
Education Statistics. Washington, DC. Retrieved October 14, 2015 from
<http://nces.ed.gov/pubsearch>.
- Lewin, K. (1936). *Principles of topological psychology*. New York, NY: McGraw-Hill.
- Lincoln, Y.S. & Guba, E. G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage Publications
- Lovitts, B. E. (2001). *Leaving the ivory tower. The causes and consequences of departure
from doctoral study*. Lanham, Maryland: Rowman & Littlefield Publishers, Inc.
- Lunsford, L. (2012). Doctoral advising or mentoring? Effects on student outcomes,
Mentoring & Tutoring: Partnership for Learning, 20(2), 251-270, DOI:
10.1080/13611267.2012.678974

- Marshall, S. K., Liu, Y., Wu, A., Berzonsky, M., & Adams, G. R. (2010). Perceived mattering to parents and friends for university students: A longitudinal study. *Journal of Adolescence*, 33, 367-375. doi: 10.1016/j.adolescence.2009.09.003.
- Marshall, C., & Rossman, G. B. (2006). *Designing qualitative research* (4th ed.). Thousand Oaks, CA: Sage Publications.
- Mendoza, P. & Gardner, S. K. (2010) The Ph.D. in the United States. In S. K. Gardner & P. Mendoza (Eds.), *On becoming a scholar: Socialization and development in graduate education*. Sterling, VA: Stylus Publishing.
- Merton, R.K. (1957). *Social Theory and Social Structure*. Glencoe, IL: The Free Press.
- Nerad, M., & Cerny, J. (1993). From facts to action: Expanding the graduate division's educational role. *New Directions for Institutional Research*, 80, 27-39. DOI: 10.1002/ir.37019938005
- Nerad, M., & Miller, D. S. (1996). Increasing student retention in graduate and professional programs. In J. G. Haworth (Ed.), *Assessing graduate and professional education: Current realities, future prospects* (pp. 61-76). San Francisco, CA: Jossey-Bass.
- Nettles, M., & Millett, M. (2006). *Three magic letters: Getting to the PhD*. Baltimore, MD: John Hopkins University Press.
- Nevill, S. C. & Chen, X. (2007). *The path through graduate school: A longitudinal examination 10 years after bachelor's degree* (NCES 2007-162). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

- Nora, A. (1987) Determinants of retention among Chicano college students: A structural model. *Research in Higher Education*, 26(1), 31-59.
- Noy, S., & Ray, R. (2012). Graduate student's perceptions of their advisors: Is there systematic disadvantage in mentorship? *The Journal of Higher Education*, 83(6), 876-914.
- O'Meara, K.A., Knudsen, K., & Jones, J. (2013). The role of emotional competencies in faculty-doctoral student relationships. *The Review of Higher Education*, 36(3), 315-347.
- Raque-Bogdan, T. L., Ericson, S. K., Jackson, J., Martin, H. M., & Bryan, N. A. (2011). Attachment and mental and physical health: Self-compassion and mattering as mediators. *Journal of Counseling Psychology*, 58(2), 272-278. doi: 10.1037/a0023041.
- Rosenberg, M. & McCullough, B. C. (1981). Mattering: Inferred significance and mental health among adolescents. *Research in Community and Mental Health*, 2, 163-182.
- Saldaña, J. (2009). *The coding manual for qualitative researchers*. Los Angeles, CA: SAGE.
- Sanford, N. (1966). *Self and society: Social change and individual development*. New York: Atherton Press.
- Schlossberg, N. K. (1989). "Marginality and mattering: Key issues in building community." In D. C. Roberts (ed.) *Designing Campus Activities to Foster a Sense of Community*. New Directions for Student Services, No 48. San Francisco: Jossey-Bass.
- Schlossberg, N. K., Lasalle, A., & Golec, R. (1990). The Mattering Scales for Adult Students in Postsecondary Education. Washington, DC: American Council on

- Education, Center for Adult Learning and Educational Credentials. (ERIC Document Reproductive Service No. ED 341772).
- Stage, F. K. (1989). Motivation, academic and social integration, and the early dropout. *American Educational Research Journal*, 26(3), 385-402.
- Stallone, M. N. (2004). Factors associated with student attrition and retention in an educational leadership doctoral program. *Journal of Teaching & Learning*, 1(6), 17-24.
- Stampen, J. O., & Cabrera, A. F. (1988). The targeting and packaging of student aid and its effect on attrition. *Economics of Education Review*, 7(1), 29-46.
- Strayhorn, T. L. (2010). Money matters: The influence of financial factors on graduate student persistence. *Journal of Student Financial Aid*, 40(3), 4-25.
- Strayhorn, T. L. (2012). *College students' sense of belonging: A key to educational success for all students*. New York, NY: Taylor & Francis.
- Terenzini, P. T., & Pascarella, E. T. (1980). Toward the validation of Tinto's model of college student attrition: A review of recent studies. *Research in Higher Education*, 12(3), 271-282.
- The Carnegie Classification of Institutions of Higher Education (n.d.). About Carnegie Classification. Retrieved October 1, 2015 from <http://carnegieclassifications.iu.edu/>.
- Tierney, W. G. (1997). Organizational socialization in higher education. *The Journal of Higher Education*, 68, 1-16.

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89-125.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago, IL: The University of Chicago Press.

Tovar, E., Simon, M. A., & Lee, H. B. (2009). Development and validation of the college mattering inventory with diverse urban college students. *Measurement and Evaluation in Counseling and Development*, 42(3), 154-178. doi: 10.1177/0748175609344091.

University of the West (2013). 2013 State of the university address. Retrieved from, <http://www.unlv.edu/president/sotu-2013>.

Van Maanen, J. (1976). Breaking in: Socialization to work. In R. Dubin (ed.), *Handbook of Work, Organization, and Society*. Chicago: Rand McNally College Publishing.

Van Maanen, J. (1978). People processing: Strategies of organizational socialization. *Organizational Dynamics*, 7, 19-36.

Vaquera, G. (2008). Testing theories of doctoral student persistence at a Hispanic serving institution. *Journal of College Student Retention*, 9(3), 283-305.

Walker, G. E., Golde, C. M., Jones, L., Bueschel, A. C., & Hutchings, P. (2008). The formation of scholars: Rethinking doctoral education for the 21st century. San Francisco, CA: Jossey-Bass.

Wasburn, M. H. (2002). Rebuilding community; A pilot program for decreasing doctoral student attrition. *College and University*, 78(1), 13-16.

- Weidman, J. C., & Stein, E. L. (2003). Socialization of doctoral students to academic norms. *Research in Higher Education*, 44(6), 641-656.
- Weidman, J. C., Twale, D. J., & Stein, E. L. (2001). *Socialization of graduate and professional students in higher education: A perilous passage?* San Francisco: Jossey-Bass.
- Wendler, C., Bridgeman, B., Markle, R., Cline, F., Bell, N., McAllister, P., & Kent, J. (2012). *Pathways Through Graduate School and Into Careers*. Princeton, NJ: Educational Testing Service.
- White, J., & Nonnamaker, J. (2008). Belonging and mattering: How science doctoral students experience community. *NASPA Journal*, 45(3), 350-372.
- Winkle-Wagner, R., Johnson, S. D., Morelon-Quainoo, C., & Santiago, L. (2010) A Sense of belonging. Socialization factors that influence the transitions of students of color into advanced-degree programs. In S. K. Gardner & P. Mendoza (Eds.), *On becoming a scholar: Socialization and development in doctoral education* (pp. 179-199). Sterling, VA: Stylus Publishing.
- Wolf-Wendel, L., Ward, K., & Kinzie, J. (2009). A tangled web of terms: The overlap and unique contribution of involvement, engagement, and integration to understanding college student success. *Journal of College Student Development*, 50(4), 407-428, DOI: 10.1353/csd.0.0077.
- Wulff, D. H., & Austin, A. E.(2004). *Paths to the Professoriate*. San Francisco, CA: Jossey-Bass.

Yin, R. K. (2013). *Case study research: Design and methods* (5th ed.). Thousand Oaks, CA: Sage Publications.

Zhao, C., Golde, C. M., & McCormick, A. C. (2007). More than a signature: How advisor choice and advisor behaviour affect doctoral student satisfaction. *Journal of Further and Higher Education*, 31(3), 263-281, DOI: 10.1080/03098770701424983

Curriculum Vitae

Holly A. Schneider, Doctoral Candidate

Conference Coordinator, Association for the Study of Higher Education (ASHE)

Department of Educational Psychology and Higher Education

University of Nevada, Las Vegas

Office

4505 Maryland Parkway

Las Vegas, NV 89154-3068

702-895-2737 (office)

E-mail: holly.schneider@unlv.edu

Education

University of Nevada, Las Vegas Las Vegas, NV

PhD., Educational Psychology & Higher Education, Higher Education

Expected graduation, December 2015

University of Nevada, Las Vegas Las Vegas, NV

M.S., Sports Education Leadership, Pedagogy

December 2008

California State University, San Bernardino, San Bernardino, CA

Bachelor of Science, Kinesiology with emphasis in Pedagogy

June 2006

Professional Experience

Conference Coordinator, Association for the Study of Higher Education (2014 – Present)

Graduate Assistant, Association for the Study of Higher Education (2012 - 2014)

Research Assistant, University of Nevada, Las Vegas; "Go to College" project (2011)

Part-time Instructor, University of Nevada, Las Vegas; Department of Sports Education Leadership (2010)

Graduate Assistant, University of Nevada, Las Vegas; Department of Sports Education Leadership (2006-2010)

Undergraduate Professional Courses Taught

Methods of Teaching Team Sports, Elementary Teaching Practicum, Secondary Teaching Practicum, Fitness Walking, Introduction to Physical Education (Distance Education Course), Movement Experiences for Children, and Teaching Rhythmical Activities.

Research

Publications

Nehls, K., Smith, B. D., & **Schneider, H. A.** (2015). Video-conferencing interviews in qualitative research. In S. Hai-Jew (Ed.), *Enhancing Qualitative and Mixed Methods Research with Technology*. Pennsylvania: IGI Global.

Schneider, H. & Lounsbery, M. (2008). Setting the stage for lifetime physical activity in early childhood. *Journal of Physical Education, Recreation, and Dance*, 79 (6), 19-23.

Refereed Conference Papers and Presentations

Schneider, H., Watson, D. L., Nehls, K. Perceptions of Mattering in the Doctoral Student and Advisor Relationship, accepted poster presentation. ACPA Convention, March 2016.

Schneider, H. Perceptions of mattering in the doctoral student and advisor relationship, research forum, education platform presentation. 2014 Graduate College and Graduate and Professional Student Association Annual Research Forum, March 29, 2014.

Nehls, K., Smith, B., & **Schneider, H.** Video-conferencing interviews as a data collection method, conference presentation. Ethnographic and Qualitative Research Conference (EQRC), February 11, 2014.

Lourdes, D. A., **Schneider, H. A.**, & Watson, D. L. A Content Analysis of the Experiences of First Generation Graduate Students in Student Affairs, poster presentation. ACPA Convention, March 5, 2013.

Nehls, K., Smith, B. & **Schneider, H.** Video-conferencing interviews for assessment and research in student affairs, conference presentation. ACPA Convention, March 5, 2013.

Schneider, H., Watson, D.L., Lounsbery, M., Landwer, J., & Corkill, A. A descriptive study of physical activity opportunities at child-care centers, poster presentation. SWD/AzAHPERD Convention, January 23, 2009.

Invited Presentations

Schneider, H. Perceptions of mattering in the doctoral student and advisor relationship, Noon Research Talk. Department of Educational Psychology & Higher Education, April 9, 2014.

Additional Scholarship

Schneider, H. A description of physical activity opportunities at child-care centers. *Thesis Defense*, Supervising Professor – Dr. Doris Watson. Graduate Research in Preparation Symposium, March 13, 2009.

Service

University of Nevada, Las Vegas

Fall 2013 – Fall 2014 - Family Advocacy Committee (FAC). Served as a graduate student representative from the College of Education.

Youth Development Programs

Spring 2007 – Dancin’ with the Rebels. Weekly dance after-school program developed and taught for 4th and 5th grade students at Paradise Elementary School, Las Vegas NV

Fall 2004 – Spring 2005- Victorville Youth Soccer Association. Assistant coach for under-14 girls’ soccer team and All-Stars team

Honors & Awards

2014	Awarded 1st Place research presentation in the Education Platform Session A; 2014 Graduate College and Graduate Professional Student Association Research Forum
2007	Accepted to the National Scholars Honor Society, Magna Cum Laude
2006	Graduated with high honors, California State University, San Bernardino
2006	Inducted into the honor society, Phi Kappa Phi

2006	Named Department of Kinesiology's Outstanding Undergraduate of the Year, and nominated for overall College of Natural Sciences Outstanding Undergraduate Student Award
2005	Awarded the Dean's list in the Natural Science department for outstanding academic performance in the fall quarter
2004	Graduated with high honors from Victor Valley Community College
2001-2004	Awarded Honor Roll at Victor Valley Community College
2003-2004	Awarded National Dean's List Award
2002-2003	Awarded National Dean's List Award