Role of Doctoral Studies on the Relationships Between Select Doctoral Students and Their Partners: A Collective Case Study

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Students who enter post-baccalaureate studies face numerable challenges during their tenure in graduate school. Although researchers have studied these inherent challenges, a gap exists in the literature concerning doctoral students and the impact of their studies on their personal relationships. As such, the purpose of this collective case study was to examine the effect that doctoral studies have on the relationships between select doctoral students and their partners. Semi-structured interviews of six participants, selected via convenience sampling (i.e., current doctoral students who have been in relationships during their doctoral studies), generated data concerning challenges, coping mechanisms, personal emotions, and relationship concerns. These findings provided a composite understanding of the potential inherent struggles of doctoral students and the corresponding role that their doctoral studies have on the relationships of these specific doctoral students and their partners that matched much of the findings noted in the literature. It is the researchers' hope that the results will help guide future researchers but urge caution concerning the generalizability of the information gained from this study due to its small sample size.

Keywords: doctoral studies, doctoral students, relationships of doctoral students, partners of doctoral students, collective case study

INTRODUCTION

There has been an increase in the number of doctoral students graduating worldwide, with vast numbers coming from growing nations such as China, Brazil, and Malaysia (Maslan, 2013). Although the United States ranks second in the number of degrees granted at the doctoral level behind China (Maslan, 2013), the United States has been experiencing a series of ups and downs with regard to graduate school and doctoral program enrollment (Council of Graduate Schools, 2013, 2019; Kent, 2013). Specifically, although there has been an increase in enrollment in both 2008 and 2009 (Council of Graduate Schools, 2013; Rampell, 2012), enrollment in 2010 and 2011 decreased, and this decrease was countered partially by a modest boost to enrollment in 2012 due to an influx of international students (Council of Graduate Schools, 2013, 2019; Kent, 2013; Patton, 2013).

The authors of a U.S. Bureau of Labor Statistics report announced a projected 22% increase in jobs requiring a master's degree and a 20% increase in jobs requiring a doctorate by 2020 (Patton, 2013). Unfortunately, this increase in demand already has been met and surpassed on the global level by the dramatic increase in the number of doctoral degrees being granted internationally (Maslan, 2013). This influx of foreign degree-holding individuals into the United States has created an increasingly competitive and stressful environment for both doctorate holders (e.g., Ph.D., Ed.D, Psy.D) and current students in doctoral programs (Kent, 2013; Maslan, 2013).

Many researchers have examined the doctoral studies process and its inherent challenges, looking for ways to improve students' experiences and retention rates, and have identified an abundance of pitfalls and obstacles to the completion of doctoral degrees (Byers et al., 2014, 2015; Gardner, 2009a, 2009b; Hunter & Devine, 2016; Lovitts, 2001; Myers, 1999; Park et al., 2021; Schlemper, 2011). Additionally, many researchers have examined the reasons that lead to doctoral student attrition, and they have identified common issues, including the lack of adequate social support systems, work conflict, time management, stress, anxiety, burnout, and depression (Gardner, 2009b; Hunter & Devine, 2016; Liu et al., 2019; Lovitts, 2001; Myers, 1999; Park et al., 2021; Schlemper, 2011; Waheed, 2021). Researchers also have identified methods by which students cope with the rigors of doctoral work (e.g., Ali & Kohun, 2006, 2007; Cantu, 2022; Heiss, 1970; Lovitts, 2001; Spaulding & Rockinson-Szapkiw, 2012). Doctoral students often cite the existence of positive social support structures (e.g., family, friends, partners) as a central reason for their perseverance in their doctoral work (Boes et al., 1999; Cantu, 2022; Daniel et al., 1999); however, these social support structures often consist of individuals outside the world of higher education who serve as financial, social, and emotional anchors for the doctoral student (Rogers, 2006).

A key component of many students' support structures has been the relationship between an individual and his/her partner (Culpepper et al., 2020; Ross et al., 1999; Smith et al., 2006). These intimate

relationships, although sometimes cited as a source of comfort and support (Rogers, 2006), are likely to be a source of stress and anxiety (Labosier & Labosier, 2011; Ross et al., 1999; Smith et al., 2006). Some researchers have conducted studies concerning doctoral work and marriages; however, these articles tended to focus solely on marriages, relied on surveys and standardized assessments, and are several years old (e.g., Brannock et al., 2000; Ross, et al., 1999; Smith, et al., 2006). Furthermore, the authors of the present article did not identify any research that examined the overall role of doctoral studies on students and their partners. As such, the authors of this study hoped to fill this void by conducting interviews with select doctoral students to gain more information by addressing the following research question: What is the role that doctoral studies have on the relationships between select doctoral students and their partners? Although the information gathered from this research should not be used to generalize to the larger population due to its small sample size, it is hoped that the information gathered will be used as a guide for future research.

LITERATURE REVIEW

Common Stressors in Doctoral Studies

The multitude of issues with which doctoral students must cope creates a daunting environment (Council of Graduate Schools, 2019; Spaulding & Rockinson-Szapkiw, 2012). Although researchers differ in their findings, the general range for attrition rates lies between 33% and 70% (Gardner & Gopaul, 2012; Ivankova & Stick, 2007; Nettles & Millet, 2006; Rigler et al., 2017), with the majority of attrition rates lying around 50% (Cassuto, 2013; Council of Graduate Schools, 2013; Ivankova & Stick, 2007). This high level of attrition can be attributed to a number of issues, including financial/work issues, pressure to *publish or perish*, a sense of isolation, and the lack of adequate social support systems (Ali & Kohun, 2007; Gardner, 2009b; Lovitts, 2001; Myers, 1999; Schlemper, 2011; Spaulding & Rockinson-Szapkiw, 2012).

Doctoral programs are expensive, and their cost can increase the already large educational debt of students (Callender & Jackson, 2005; Ehrenberg et al., 2007; Hira et al., 2000). Further, doctoral programs are time consuming, and some people have argued that some fields (e.g., history, English) have limited application outside the realm of academe (Bérubé, 2013). Furthermore, the unpredictability of modern job markets can compound with the increasing educational debt to create a sense of uncertainty for post-baccalaureate students (Ampaw & Jaeger, 2011).

Writing and research is another common stressor in doctoral studies (Ali & Kohun, 2006; Jones, 2013). Although the old adage of "publish or perish" first appeared in a non-academic context (Coolidge & Lord, 1932), it has since evolved to become an unofficial motto of educational institutions and academicians everywhere (Garfield, 1996; Lei & Chuang, 2009). The last decade has seen a constant increase in the demands for not only credentialed faculty members to publish, but also for graduate and doctoral students to publish (Jones, 2013; Lei & Chuang, 2009). Although this push towards writing and research (e.g., journal articles, conference presentations, dissertations) and the subsequent expectation for publication is not a new phenomenon (Bowen & Rudenstein, 1992; Heiss, 1970), it has become a greater source of stress and a point of contention for many students seeking post-baccalaureate degrees (Ali & Kohun, 2006; Jones, 2013)—one for which many doctoral students might not be adequately prepared (Lovitts, 2005).

Although doctoral students spend their time in class with their cohorts and fellow classmates, much of the doctoral program is spent in relative isolation (Ali & Kohun, 2006; Delamont et al., 1997; Jones, 2013). This isolation can lead to feelings of loneliness and alienation (Jones, 2013; Middleton, 2001), and several researchers have argued that isolation is one of the major factors for doctoral student attrition (Ali & Kohun, 2006). Although many researchers have identified isolation as a problem for doctoral students, few researchers have provided methods by which it can be combated (Ali & Kohun, 2006, 2007).

Social support systems, although often cited as being beneficial (e.g., coping with feelings of isolation), are also cited as being potentially negative (e.g., additional time requirements, emotional stress) to those pursuing their post-baccalaureate studies (Gardner, 2010). The lack of social support (e.g., families, spouses, friends, fellow students) can have a detrimental impact (e.g., increased anxiety, increased stress, increased attrition rates, greater financial difficulties) on students' doctoral studies (Ali & Kohn, 2006; Culpepper et al., 2020; Lovitts, 2001; Ross et al., 1999). Students pursuing advanced degrees are in high-

stress environments. The lack of emotional understanding and financial support from family, friends, advisors, and faculty only heightens an already stressful atmosphere (Culpepper et al., 2020; Labosier & Labosier, 2011; Ross et al., 1999; Smith et al., 2006). However, students also experience stress from within their social support networks (Ali & Kohn, 2006; Culpepper et al., 2020; Gardner, 2010; Lovitts, 2001; Ross et al., 1999). This additional stress is manifested in a variety of forms, including guilt over lack of time with family, anxiety concerning the possibility of failure, and emotional issues arising from the graduate students' attention being placed on their studies rather than on their families and friends (Boes et al., 1999; Gardner, 2010; Lovitts, 2001; Middleton, 2001; Smith et al., 2006).

Gender Differences

According to the U.S. Bureau of Census (2013), fewer women hold doctoral degrees (i.e., 1.2%) than do men (i.e., 2.2%). However, since 2008-2009, this gap has been narrowing, with women earning a greater percentage of master's degrees (i.e., 60%) and doctoral degrees (i.e., 52%) in the United States than do men (Aude et al., 2011; see also England et al., 2020). However, despite the greater attainment of post-baccalaureate degrees, women have been found to have lower degree completion rates than do men (White, 2004). Researchers have shown that women doctoral students also are older and have started their programs later in life than have men because of their domestic responsibilities (Brown & Watson, 2010; White, 2004). Further, women historically tend to take longer to complete degrees then do men and also represent less of the total doctorate recipients awarded, with the exception of individuals over the age of 45 (Hoffer et al., 2001).

After degree completion, women who are married and women who have young children are less likely to obtain tenure-track positions and are likely to hold fewer senior-level positions within higher education (Mason et al., 2013; Wolfinger et al., 2008). Conversely, women who neither are married nor have children have obtained more tenure-track positions in higher education than have their male colleagues (Wolfinger et al., 2008). White (2004), who examined the barriers for women being able to access and to progress within higher education, referred to the lack of women advancing in higher education as the *leaking pipeline.* Although White's (2004) research focused on two universities within Australia, the findings were consistent with research centered on degree completion at universities within the United States (Onwuegbuzie et al., 2014) and England (Brown & Watson, 2010).

In a qualitative research study, Brown and Watson (2010) explored the experiences of eight doctoral students in England to understand better the gender impact of pursuing a doctoral degree. These authors indicated that being a mother had major implications on degree completion, likely contributing to the reason why women pursue doctoral programs later in life than do men. Balancing work and domestic responsibilities increased the stress of women and contributed to role conflict between the role of being a wife and a mother (Brown & Watson, 2010). In contrast, researchers have indicated that women who experienced academic success attributed their husband's support as being a main factor (Castro et al., 2011; Vaccaro & Lovell, 2010).

Similar to Brown and Watson (2010), Onwuegbuzie et al. (2014) indicated that role conflict existed for married, divorced, and single women pursuing doctoral degrees. Women commonly experienced dual-role conflict (e.g., mother, student), and occasionally triple-role conflict (i.e., mother, wife, student), during their doctoral studies (Onwuegbuzie et al., 2014). Moreover, Maher et al. (2004) indicated that one of the obstacles reported by women who were late in finishing their degrees was either divorce or marital problems, thereby leading credence to the crucial role of social support for doctoral students' success.

Social Support

Students in higher education have been found to require a variety of support structures to advance their learning goals and "sense of confidence, identity, and life world as a learner" (Kasworm et al., 2000, p. 457). Moreover, students entering doctoral programs have faced the challenges of meeting and interacting with new peers, demonstrating their capabilities to faculty, and discovering competence in their subject matters (Gardner, 2009b). Furthermore, doctoral students have juggled these issues while being plagued by loneliness, confusion, excessive workloads, and tight finances (Cantor, 2020; Lovitts & Nelson, 2000;

Middleton, 2001; Sudol & Hall, 1991; Weidman et al., 2001). As such, both new students entering graduate programs and students already in graduate education are confronted with numerous difficulties and problems, which many researchers believed is countered by the development of social relationships and social support (Ali & Kohun, 2007; Hortulanus et al., 2006; Sala-Bubaré & Castelló, 2017; Thoits, 1986).

The quest to complete a doctoral degree is an emotional experience that requires academic resilience (Chamadia & Qureshi, 2021; Roberts & Plakhotnik, 2009), the capacity to cope effectively with stress (McAlpine & Norton, 2006), and access to necessary resources such as money, time, and support systems (Roberts & Plakhotnik, 2009). Social relationships with other students and faculty members can serve as opportunities to express and to understand the emotional highs and lows of higher education as well as provide the mechanisms by which students may learn to cope with the difficulties inherent in the pursuit of graduate degrees (Roberts & Plakhotnik, 2009). The university's academic program, the higher education environment, and social support networks constitute three additional support systems that can aid students in coping with stress (Roberts & Plakhotnik, 2009; Schmidt & Hansson, 2018).

Family

Although personal relationships (or the lack thereof) with significant others and family obligations during a student's doctoral program can be a source of generalized anxiety, stress, and tension (Cantu, 2022; Ross et al., 1999), they can also serve as foundations of emotional, financial, and social support (Rogers, 2006). Additionally, significant others and family members often act as confidants and provide healthy distractions (i.e., social engagements) to keep students in balance (Rogers, 2006). However, as well meaning as these people might be, the majority of them are outsiders to academe and, thus, are unable fully to comprehend the emotional toll of pursuing a doctoral degree (Roberts & Plakhotnik, 2009). As a result, doctoral students, as noted previously, might find themselves feeling lonely and isolated (Ali & Kohun, 2006, 2007; Middleton, 2001; Waight & Giordano, 2018).

Additionally, time management often has been listed as a major challenge for doctoral students (Kumar & Coe, 2017; Schlemper, 2011), particularly for those involved in an intimate relationship (Smith et al., 2006). Time management and its related challenges particularly are strenuous to married students who face the dual weight of academic demands and being a spouse or being a parent with children serving as the sole source of financial support for the household (Labosier & Labosier, 2011; Saunders & Balinsky, 1993). Washburn-Moses (2008) reported that "doctoral students felt least satisfied with their ability to juggle work and family with their overall workload" (p. 265). Individuals who decided to enter graduate studies have had to adjust their priorities concerning families, time, energy, and finances (Gerstein & Russell, 1990; McLaughlin, 1985; Sori et al., 1996). As married students attempt to balance the limited amount of available time for family and school, they are confronted with feelings of anxiety, guilt, and worry, and they must cope with the hurt feelings and anger of others (Boes et al., 1999; Lovitts, 2001; Middleton, 2001; Smith et al., 2006).

Conversely, taking on the doctoral program might threaten the stability of the family if the student is perceived as abandoning the household for the sake of personal educational dreams (Norton et al., 1998; Pearlin & Turner, 1987; Scheinkman, 1988; Schmidt & Hansson, 2018). A review of the research on this phenomenon cited a wealth of pessimistic research regarding the disruptive impact of graduate studies on family health (Gold, 2006). Additionally, Brannock et al. (2000) reported that when only one spouse participated in graduate school, there was a decline in the level of marital satisfaction. This might explain why there have been fewer applications to graduate programs from those who are married as opposed to those who are single (Lovik, 2004). Additionally, some single students have felt under pressure to find a life partner during, or soon after completing, their doctoral studies (Brannock et al., 2000; Yoon & Kim, 2019). This fear could be intensified for both men and women if the student believed that an additional degree or level of education might limit available partners (Brannock et al., 2000; Chiappori et al., 2009).

Mentoring

Students entering doctoral programs typically have little knowledge of the difficulties inherent in doctoral studies and often lack adequate role models (Rockinson-Szapkiw et al., 2017; Roberts &

Plakhotnik, 2009). However, students who succeeded in graduate programs frequently received guidance and support from a mentor (Casto et al., 2005; Kumar & Johnson, 2017; Roberts & Plakhotnick, 2009; Spaulding & Rockinson-Szapkiw, 2012). Mentoring has been a cornerstone of the most effective practices to ensure successful student outcomes (Baird, 1995; Council of Graduate Schools, 2010; Golde & Dore, 2001; Paglis et al., 2006). The mentoring experience has presented the prospect of sharing information and fosters a sense of camaraderie and inclusion that often has led to higher completion rates in doctoral programs (Holley & Caldwell, 2012; Kumar & Johnson, 2017).

According to Tenenbaum et al. (2001), mentors have aided students instrumentally (e.g., exposure to academic life), psychosocially (e.g., role-modeling, empathy), and professionally (e.g., networking). Additionally, Miller and Irby (1999) suggested matching new students with more advanced peers, organizing social/professional events, and making some graduate students share office spaces were distinctive aspects of programs with low attrition. However, the importance of mentoring has varied by individual; for example, older students have found mentoring less important, whereas women actively have sought mentors for their professional and personal insights (Anekstein & Vereen, 2018; Rose, 2005).

In addition to faculty mentors, doctoral students have relied on peer relationships as a critical resource to enable them to cope with stress; to balance their school, jobs, and personal lives; and to stay focused and to persevere in their studies (Roberts & Plakhotnik, 2009). Additionally, these relationships contributed to a sense of belonging within the doctoral program, thereby decreasing feelings of isolation, and, in many cases, producing lifelong friendships (Schlemper, 2011). Furthermore, fellow doctoral students also have been an integral part of building a student's knowledge base (Brown et al., 1989). By developing relationships with peers as well as socializing and networking at both program events and conferences, doctoral students can increase their social capital and academic success (Brown et al., 1989; Smith et al., 2006).

Marriage

Marital relationships can have either a negative or a positive effect on graduate students (Brannock et al., 2000; Gold, 2006). According to Brooks (1988), married people who pursued graduate degrees were at a disadvantage—especially those who were recently married and only one spouse was enrolled as a full-time graduate student. Non-student spouses cited increased financial burdens and household duties as common issues, whereas the student spouses commonly mentioned feeling increasingly more resentful towards their non-student spouses because they did not appreciate the time or rigors of graduate study (Brooks, 1988). In addition, due to the time conflicts between spouses and schoolwork, married students took longer to complete their coursework and dissertations (Brannock et al., 2000). As such, the ability to balance family and studies has been one of the core challenges for married graduate students (Brannock et al., 2000; Byers et al., 2014, 2015; Gardner, 2009a).

Despite this added difficulty, spousal support has been cited as being one of the most important success factors for graduate students (Brannock et al., 2000; Norton et al., 1998; Price, 2006; Waite, 1995). In particular, married men (Price, 2005, 2006) have been found to have been more productive and to have stayed in both better physical health and mental health than have their single counterparts (Waite, 1995). Furthermore, married men have been found to have lower attrition rates and higher graduation rates than did unmarried men (Theisen et al., 2018), which was attributed to their spouses who were working and earning money, thereby allowing the married men to work fewer hours in an outside job, to spend more time on their studies, and to accept low-paying, high-prestige scholarships and/or fellowships (Price, 2005, 2006). Additionally, some studies have led to the attribution of the success of women in graduate programs to many of the same factors, with married women accrediting their spouses for the emotional, physical, and financial support that they needed to survive and to thrive within the rigors of graduate and doctoral studies (Castro et al., 2011; Vaccaro & Lovell, 2010).

Relationships

The word *relationship* is an ambiguous term with myriad human connections (DePaulo, 2010), which has changed meanings since it was introduced in 1741 (Harper, 2010; Relationship, n.d.). Originally, the

term *relationship* was not specifically indicative of romantic or sexual relationships, but, rather, the term was defined originally in terms of familial connection (Harper, 2010). It was not until 1944 that the word relationship was linked with intimacy or romantic affiliation (Harper, 2010). The term relationship is defined as one's connection with friends, parents, children, siblings, other family members, coworkers, and neighbors (Relationship, n.d.). Fingerman and Hay (2002) performed research in an attempt to find the percentage of academic journal articles that include the word relationship as defined as having romantic ties. They focused their research on six different journals over a 6-year span of time and found that 72.6% of academic journal articles were geared towards romantic affiliations (Fingerman & Hay, 2002).

To obtain a better operational definition of the intended purpose of our research, the authors of the study chose similar words and discovered that the term romantic love would be most beneficial because the focus of the study was the relationships of select doctoral student and their partner(s). Hendrick and Hendrick (1992) posited that there was not a single, subjective meaning of romantic love because no one has the same experiences. Additionally, psychologists have created multiple theories concerning what constitutes romantic love but have shown little regard for both historical and cultural perspectives (Burns, 2000). In contrast, sociologists often consider romantic love as representing a learned behavior that has been transmitted culturally from generation to generation through the use of modeling, imitation, and parental instruction (Hendrick & Hendrick, 1992). Biologists take the definition even further and argue that romantic love is an attachment process that has biological underpinnings (Buck & Ginsburg, 1991). For the purposes of this research article, the term "relationship" had an implied understanding that two individuals share a concern for each other's well-being, a need for both their physical presence and emotional support, and intimate physical contact (Rubin, 1973).

METHOD

Participants

We (i.e., the researchers) collected data for this case study from interviews conducted individually with eight participants who were enrolled in a cohort-based educational leadership doctoral program established in 1990s at as a Tier II institution in southern United States with approximately 20,000 students enrolled. The participants were identified via convenience sampling (i.e., we e-mailed all current doctoral students in the educational leadership program), because the participants were both available and willing to participate in the process (Onwuegbuzie & Leech, 2007). There were eight individuals who responded to the e-mail and who volunteered to be interviewed for the study. However, after completing the interviews, the transcriptions, the member checks, and the peer debriefing interviews, we decided that only six of the eight participants fitted the parameters of the study (i.e., doctoral student in a relationship at the time of joining the program). Yet, as demonstrated by Guest et al. (2006), six interviews might be "sufficient to enable development of meaningful themes and useful interpretations" (p. 78). Of these six participants, four were women and two were men, whose ages ranged from 27 to 55 years of age. Additionally, to preserve the anonymity of the participants, pseudonyms were used (Howe & Moses, 1999). Each of the participants was consulted in the selection of her/his pseudonym, thereby enhancing the interconnectivity of the participant with the study (Ogden, 2008), as well as increasing her/his anonymity (Howe & Moses, 1999). For more information concerning the general demographics and pseudonyms of the participants, please see Table 1.

All of the participants and the researchers were enrolled in the same doctoral program in education. Furthermore, the interviews were informal and collaborative because everyone was a member of the same doctoral program. This preexisting relationship, albeit minor, and the corresponding sense of camaraderie from being in the same doctoral program were beneficial during the interview process because it allowed us to capitalize on our social connections (Spradley, 1979). Additionally, this relationship allowed us to use both emic and etic perspectives (Creswell, 2007) in our research study. According to Creswell (2007), an emic perspective is how insiders (e.g., the research participants) interpret their own experiences, thought processes, and external influences. Additionally, Xia (2011) claimed that traditions, meanings, and beliefs can be expressed and explained best by a native (e.g., research participant) of the culture (e.g., experiences)

being explored. In contrast to the "insider perspective" of emic, etic represents the "outsider perspective," which is the viewpoint of an individual who has not had a personal involvement in a particular situation or culture under study (Young, 2005). Currall and Towler (2003) espoused a slightly different definition, arguing that the etic perspective is that of trained observers and their subsequent analysis of raw data (Tashakkori & Teddlie, 2010). However, despite the view that emic and etic perspectives are opposites, they can both be applied when exploring the characteristics of the human element as well as the form and function of group structures (Xia, 2011), thereby yielding what is referred to as an *emtic* perspective (Onwuegbuzie, 2012).

TABLE 1
DEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS

Participants by Pseudonym	Age	Sex	Ethnicity	Religion	Occupation	Length of time in program	Relationship status (number of years together)	Relationship for entire program (yes/no)	Number of children (ages)
Judy	55	F	White	Baptist	Assistant Superintendent (K-12)	2 years	Married (21 years)	Yes	3 (29, 31, 32 years old)
Richard	48	M	Hispanic	Baptist	IT Professional	4 months	Married (23 years)	Yes	2 (16, 22 years old)
Faith	27	F	Hispanic	Baptist	Program Coordinator at Community College	2 years	Married (5 years)	Yes	0
Emma	47	F	White	Christian	High School Principal	4 years	Married; in process of divorce (21 years)	Yes	1 (20 years old)
Frank	37	M	White	Episcopal	Teacher	4 years	Re-married (4 years)	Yes	0
Sarah	32	F	White	Roman Catholic	Stay-at-home-mother	3 years	Married (8 years)	Yes	2 (3, 6 months old)

Instruments

To collect data from each of the participants, a single, in person, one-on-one, semi-structured interview was conducted that met Kvale's (1996) criteria for quality in interviews. The semi-structured nature of the interviews provided us the ability to ask follow-up questions in order to increase the length and richness of the participants' responses (Kvale, 1996). Furthermore, the face-to-face, one-on-one style of interviewing allowed us to observe the participants' nonverbal behavior while we clarified the meaning of the participants' responses, verified our interpretations, and asked pertinent follow-up questions (Kvale, 1996). Moreover, this process allowed both the participants and us to reflect on their responses, which, in turn, allowed us to communicate to the participants that we were attempting to observe the world as they perceived it (Corey, 2008). Although the interviews were informal and social in nature due to our shared experiences within doctoral programs, we kept in mind the constructionist framework and observed how the discourse was co-constructed (Roulston, 2010).

Each interview consisted of a single screening question: Are you, or have you ever been, in a relationship during the course of your doctoral studies? After each interviewee answered this question, we asked the following eight open-ended questions: (a) How do you define the term relationship?; (b) Please describe the nature, number, and length of your relationship(s) while in your doctoral studies; (c) Has your relationship(s) changed, and, if so, can you tell me how?; (d) How have you balanced the requirements of doctoral studies with your relationship(s)?; (e) Have you experienced any challenges with your partner while going through the doctoral program? If so, can you describe some of the challenges that you and your partner(s) have faced during the program?; (f) How often do you and your partner(s) spend time together: Before the program, during the program, and what are the challenges in finding time?; (g) What strategies/methods have you and/or your partner used, plan to use, or are using to cope with these challenges?; and (h) Have the frequency and intensity of arguments changed and, if so, how? These questions were co-constructed by all of the researchers. These questions consisted of multiple question formats, including experience/example, comparison/contrast, and basic description (Janesick, 2004).

Authenticity is crucial in conducting qualitative research (Guba & Lincoln, 1989; Nolan et al., 2003). As such, after participating in a debriefing following the interview with the participants, we evaluated the initial interview questions for tactical authenticity, ontological authenticity, catalytic authenticity, educative authenticity, and fairness (Guba & Lincoln, 1989). Definitions of these terms and the results of this evaluation are illustrated in Table 2.

TABLE 2
GUBA AND LINCOLN'S (1989) AUTHENTICITY CRITERIA APPLIED TO THE CURRENT STUDY

Authenticity Criterion	Definition	Application to Study
Fairness	Viewpoints are represented candidly	The participants' views were theirs and the interviewer acknowledged and accepted them.
Ontological authenticity	Participation in the research allowed participants better to understand their circumstances	Discussing their experiences enabled the participants to reflect on their situation and gain insight.
Educative authenticity	Participation in the research allowed participants to become more informed about the situations of others	Although focused on their experiences, the interview enabled the participants to discuss and to reflect on the situations of those around them.

Catalytic authenticity	Participation in the research stimulated and facilitated participants to take actions	Talking about their experiences allowed the participants to reflect on their relationships and the challenges of their doctoral work.
Tactical authenticity	Participation in the research empowered the participant to action	Reflecting on their experiences, especially their coping skills, increased the participants' self-awareness and awareness of the effect of their doctoral work on their relationship.

Note. Table adapted from Nolan et al. (2003).

Procedure

Data Collection

The researchers fully explained the intentions of the study to the participants as well as the method by which data would be collected prior to and during the interview. All participants were provided with a copy of the questions at least 1 week in advance of the interview, as well as an additional physical copy of the questions immediately before the interview. Informed consent was obtained, no deception was used, and no risks of harm towards the participants were identified (Kelman, 1967). Additionally, the participants gave us permission to use handwritten notes and to audio-record them during the interview.

Four of the six interviews were conducted in a conference room located in a satellite campus that turned out to be to be easier for all of the participants to access. The walls were bare in the room and painted a neutral taupe color. Very little existed in the room aside from a long table, several chairs stationed strategically around the table, and a small desk upon which rested a computer and a remote that controlled the screen and projector. The room was quiet, and a few people were walking in the halls. There were no noticeable odors and only the sound of the air conditioner could be heard in the background. The temperature in the room was set at the building's standard of 74 degrees Fahrenheit. We interviewed the participants individually in a face-to-face interview and they were allowed to choose their own seat at the table in an attempt to avoid any perception of pre-set notions of power and social placement (Elwood & Martin, 2000). Audio recorders and facial tissues also were present and located between the participant and the interviewer. This signified the joint nature of the interview and functioned as a physical expression of our concern for the participants and as an acknowledgement that the questions that we asked were about a personal, and potentially emotional, topic. This allowed us to dissolve some of the social anxiety that might have existed before the interview began (Elwood & Martin, 2000).

Two of the interviews deviated from this scenario: one out of necessity (i.e., Frank) and the other due to unforeseeable circumstances (i.e., Faith). We originally arranged to interview Frank digitally through Skype Version 6.3, a software designed to facilitate video and audio communication through the Internet (Microsoft, 2014), because he was working on his dissertation and no longer attended classes anywhere near the university's campuses. Because this interview was digital, we could not control the physical location, thereby increasing both the metaphorical and the literal distance between Frank and his interviewer (Elwood & Martin, 2000). Moreover, there were some technical difficulties (i.e., the cameras ceased to function) during the interview, which led to the interview being conducted entirely by audio. As such, we could collect neither kinesic nor proxemic nonverbal data from Frank, thereby decreasing our ability to corroborate his speech narrative or to capture some of the underlying meanings (e.g., subtext) to his verbal statements (Denham & Onwuegbuzie, 2013; Onwuegbuzie & Abrams, 2021, in press).

The interview with Faith suffered from a different set of difficulties, primarily in the form of several interruptions. The first occurred when a professor walked into the room and explained that he had moved his class into the room but failed to inform the building supervisor. He left to "sort things out," but interrupted the interview a second time to usher both the researcher and Faith to another space. This space was a duplicate conference room, but interruptions during an interview can cause issues with information processing and data collection (Adamczyk & Bailey, 2004); however, in this instance, the interview was unaffected by the interruptions.

The audio recording was transcribed within 24 hours of the interview. Approximately one week after the interview, the participants were contacted by e-mail and asked to member check their respective transcripts, which allowed them to check the authenticity of the data collected during the interview (Lincoln & Guba, 1985; Manning, 1997). The participants took anywhere from 24 hours to 1 week to member check their own transcripts. The majority of the participants approved their transcript without any changes, but not all. Emma asked that two statements where she referenced other people besides herself and her husband to be removed to avoid any potential breach of anonymity. We complied with her request and reassured her that we would treat her information ethically in order to prevent a breach in confidentiality and anonymity. We also thanked all of the participants for their time and reassured them that their information would remain private.

In addition to having the transcripts member checked, we engaged in peer debriefing. Peer debriefing is a procedure by which a researcher gains an external evaluation of their research processes (Leech & Onwuegbuzie, 2008a; Lincoln & Guba, 1985; Maxwell, 1992, 2005; Merriam, 1988). For this study, a fellow researcher who was unable to conduct interviews facilitated the debriefing for four of the authors, interviewing us concerning our research, thereby providing each of us the opportunity to reflect on the participants' interviews (Frels & Onwuegbuzie, 2012; Onwuegbuzie et al., 2008). Moreover, a group debriefing was conducted after the final interview to allow for greater reflection for the entire research team (Spall, 1998). The debriefings ranged in length from 6 minutes to 20 minutes. Seeking additional feedback, one of the authors also was debriefed by a professor who specialized in qualitative and mixed methods research, thereby reducing her researcher bias and interpretive bias as well as reducing the threat to voluptuous legitimation even further (Onwuegbuzie & Leech, 2007). The debriefing questions, based on Onwuegbuzie et al.'s (2008) suggested questions, were as follows: (a) How would you characterize your training and experience while you were conducing your interviews?; (b) What findings surprised you?; (c) To what degree were the findings similar or dissimilar to your thoughts prior to conducting the interview(s)?; (d) What other background variables may have influenced how the participant reacted?; and (e) At what point did an issue or situation arise in the study that you were not expecting and how did you respond? Due to the semi-structured format of the interview, the person who debriefed us asked for elaboration on several of the responses to help us expand our reflection. After we reviewed the transcripts of all of the interviews as well as our own debriefings, we were ready to begin the data analysis.

Research Paradigm

The present study was a collective case study focused on the participants' views, experiences, and social interactions (i.e., marriage) within a specific setting (i.e., doctoral studies) with the intent of gaining an expansive appreciation for the subjects within the context of the study (Goddard, 2010); reflecting this, we adopted a social constructionist research paradigm (Berger & Luckmann, 1967; Roulston, 2010). Social constructionism concentrates on social processes and interactions with emphasis placed on individuals' interpretations of events and situations; however, people do not live in a vacuum; therefore, an individual's perceptions are based upon the collective shared experience of all those involved (Berger & Luckmann, 1967; Schwandt, 2003). For this study, the participants' experiences were influenced by our shared interpretations and experiences with qualitative research. Additionally, social constructionism supports the validity of multiple realities born from the individual interpretation of events (Berger & Luckmann, 1967; Schwandt, 2003; Young & Collin, 2004). However, making external or naturalistic generalizations based upon these individual perceptions is undesirable because the information collected is based on singular unique interpretations of reality (Onwuegbuzie, Johnson, et al., 2009). According to this paradigm, the participants' points of view are theirs alone and should not be used to make external statistical or naturalistic generalizations to the experiences of other doctoral students but could be used to make a case-to-case transfer or analytic generalization (Onwuegbuzie, Slate, et al., 2009).

Research Design

We used a collective case study design for this study. A collective case study is exploratory in nature and meant to improve one's understanding of a particular phenomenon (Stake, 2005). The purpose of this

study was to learn about the participants' relationships with their partners and how their experiences in their doctoral program affected their relationships; therefore, a collective case study was an appropriate design.

Verification

In order to verify the accuracy of the transcription and the information therein, each of the participants were given a copy of the transcript. Then, they conducted a member check on the transcript, a process by which participants review their transcripts for accuracy, validating the transcripts' accuracy, and returned them to the researchers (Guba & Lincoln, 1989; Manning, 1997). This technique increases credibility of the findings because participants can verify that the information and sentiments are portrayed accurately and adequately in the data (Guba & Lincoln, 1989; Manning, 1997).

Legitimation

Threats to External Credibility

External credibility (i.e., transferability; Guba & Lincoln, 1989) refers to the degree that findings can be generalized to alternate individuals, settings, and/or contexts (Onwuegbuzie & Leech, 2007). Due to the small sample size (i.e., eight), the findings of this study were not used to generalize to other people or places (Berger & Luckmann, 1967; Schwandt, 2003; Young & Collin, 2004). All data and findings were applicable only to the participants. However, we took into consideration the interpretive validity of the data in addition to how the data could possibly affect the research community (i.e., catalytic validity), because we were the agents assigning meanings to the data (Onwuegbuzie & Leech, 2007).

Threats to Internal Credibility

In contrast to external credibility, internal credibility is focused on the synthesis of viewpoints and conclusions based on data (Onwuegbuzie & Leech, 2007). According to Onwuegbuzie and Leech (2007), there are at least 14 distinct threats to internal credibility. Of those 14, 9 applied to our study and are described below.

Interpretive Validity. The faithful representation of the participant's voice is the purview of interpretive validity. Specifically, the main concern of interpretive validity is the accuracy with which the researcher has interpreted the perceptions, intentions, and meanings of the participant's responses during the course of the study (Maxwell, 1992). For this study, we analyzed direct excerpts from the participants' interviews to corroborate our interpretations of the participants' views, thereby increasing the interpretive validity of the findings. Additionally, the debriefing procedure that we went through increased our reflexivity during the research process (Onwuegbuzie et al., 2008).

We all performed dual roles, both functional and operational, in the research setting due to the nature of our relationships with the participants (i.e., fellow doctoral students in education); as such, our roles in the research were that of active members (Adler & Adler, 1987). Being active members increased the participants' ability to identify with us while simultaneously enabling us to identify with them. It also aided us by increasing the participants' levels of trust and acceptance. To help maintain the active member role, we practiced role awareness, self-reflexivity, and withdrew periodically from the research environment (Adler & Adler, 1987).

Descriptive Validity. Descriptive validity refers to how accurately the documented interview (e.g., transcription) reflects the actual interview (Maxwell, 1992). To increase descriptive validity, the recorded interview was transcribed within 24 hours and the researchers took hand-written notes. Additionally, the transcript was member checked by the participants to decrease the likelihood of errors (Manning, 1997).

Observational Bias. If the amount of data collected from an interviewee is deficient, then analysis will both lack depth in addition to being incomplete (Onwuegbuzie, 2003). In order to counter this bias, the interviewers asked follow-up questions. These questions and their answers enhanced the relevancy of the data, to obtain greater insight into the participants' experiences, and to communicate to the participants that their meanings were being accurately understood (Corey, 2008).

Researcher Bias. A common concern for research is how a researcher's pre-existing ideas and behaviors might influence participants, thereby causing them to alter their responses, often in alignment

with the researchers' own assumptions and views (Onwuegbuzie, 2003). In an attempt to reduce this bias, we avoided making any a priori hypotheses or assumptions concerning potential themes from their interview responses. However, both the participants and the researchers were a part of the same doctoral program, thereby increasing the possibility of researcher bias. To mitigate this threat, we underwent a debriefing process that allowed us to reflect on the interviewing process and the data collected (Onwuegbuzie et al., 2008), thereby enhancing objectivity and reducing researcher bias (Leech & Onwuegbuzie, 2008a; Lincoln & Guba, 1985; Maxwell, 1992, 2005; Merriam, 1988).

Confirmation Bias. Confirmation bias occurs when conclusions are excessively coordinated with the interviewers' prior assumptions (Greenwald et al., 1986; Nickerson, 1998) and can occur deliberately and/or spontaneously (Nickerson, 1998). To avoid confirmation bias, we refrained from making assumptions concerning potential themes both before conducting the interview as well as during the interview. Instead, themes were identified a posteriori.

Reactivity. Reactivity bias occurs when the research participant's behavior and/or responses are changed by the actual process of participating in the research (Lietz & Zayas, 2010; Onwuegbuzie, 2003). The participants were assured of their anonymities before the research process began. Subsequently, this assurance of anonymity likely reduced reactivity and allowed the participants to respond to the interview questions honestly.

Order Bias. If rearranging the order of questions during an interview changes the participant's responses and the corresponding data, then order bias is a concern (Onwuegbuzie & Leech, 2007). To guard against this, the participants were invited to participate in the study by means of an e-mail that outlined the purpose of the study. Additionally, they were given a list of the questions in advance of the interview to make them aware of all topics that would be discussed. Moreover, follow-up questions were asked allowing the participants to clarify their statements, thereby increasing the authenticity of their responses. Furthermore, in the course of the interview, they were given the opportunity to ask questions of the interviewers, thereby decreasing the chances for misrepresentation and further increasing the authenticity of the information (Kvale & Brinkmann, 2008).

Paralogical Legitimation. This internal threat occurs when paradoxes are found in the research (Onwuegbuzie & Leech, 2007). This study was based on several interviews from different people, which leads to this potential issue. However, follow-up questions were asked in order to clarify statements and to reduce potential paradoxes.

Voluptuous Legitimation. This form of legitimation involves researchers and their interpretation of the data; specifically whether they have the expertise and knowledge to interpret the data accurately (Onwuegbuzie & Leech, 2007). We employed several safeguards against this problem. First, we were undergoing training, via doctoral studies, in qualitative research methods. Additionally, in order to remain reflexive and analytic concerning our interpretations of the data, we engaged in peer debriefing as a reflection exercise. Finally, we have sought out and received both expert advice concerning qualitative research methods as well as progressive feedback on our study that we then incorporated into our analysis.

Addressing legitimation and creditability is a critical and necessary step for researchers to take in order to ensure success. Table 3 illustrates the threats to our findings and/or interpretations. Within the table, we listed and defined each threat as well as the method by which we addressed them.

TABLE 3
AN EXAMINATION OF INTERNAL THREATS TO CREDIBILITY IN TERMS OF THE CURRENT RESEARCH

Threat	Description	Attempts to Mitigate
Interpretive validity	Assesses the accuracy with which the researcher has interpreted the perceptions, intentions, and meanings of the participant's responses during the course of the study	We focused our analysis on the participants' responses and employed self-reflexivity, role awareness, and periodic withdrawal from the study setting to report accurately the data.
Descriptive validity	Assesses how accurately and adequately the documented interview reflects the actual interview	We audio recorded the interview, took notes, and employed member checking.
Observational bias	Occurs when researchers have not obtained a sufficient amount of sampling behaviors from participants for analysis	Interview questions were co-constructed and follow-up questions allowed us to gain further data regarding the participants' unique experiences.
Researcher bias	Occurs when researcher's personal biases or pre-existing ideas and behaviors influence participants to alter responses, often in alignment with the researcher's own assumptions and views	We used individual and group peer debriefings after the interviews, allowing us to be reflexive concerning the data collection process and mitigated prior assumptions.
Confirmation bias	Occurs when conclusions are excessively coordinated with the interviewers' assumptions	We avoided generating inferences before data collection, instead allowing themes to emerge a posteriori from the data analysis.
Reactivity	Assesses changes in participants' responses as a result of participation in the study	We assured anonymity/confidentiality for the participants, which decreased the chance of retaliation due to their responses, thereby promoting honesty in their replies.
Order bias	Occurs when the order of the questions changes the participant's responses and the corresponding data	We followed an organic approach to the questions, allowing the participants to develop and to elaborate on their ideas.

Threat	Description	Attempts to Mitigate
Paralogical legitimation	Occurs when paradoxes are found in the data	We asked follow-up questions to clarify responses, thereby avoiding possibly paradoxes.
Voluptuous legitimation	Assesses the extent to which the researchers' level of interpretation exceeds their expertise and knowledge base originating from data	We had received training in the field and constantly adapted our methods based on both the peer debriefings as well as feedback from our doctoral program.

Note. Table adapted from Onwuegbuzie and Byers (2014).

Analysis

Given that little research has been conducted on the relationship between doctoral studies and doctoral students' partners, the researchers avoided forming a priori hypotheses, instead using data collected after the research to form potential future research questions (i.e., exploratory research; Shields & Rangarjan, 2013). Additionally, given the small size of the sample and the exploratory nature of the research, a case-oriented approach was undertaken (Tashakkori & Teddlie, 2010). Given the nature of the subject matter, an ethnographic analysis was conducted.

The overall goal of ethnographic analysis is to collect a global picture that encompasses all of the data (Spradley, 1979). Leech and Onwuegbuzie (2008b, p. 596) stated that researchers should conduct at least two separate kinds of analysis because they "can be compared to ascertain the extent to which findings from one analysis stage confirms those arising from another stage." Therefore, in order to increase the "rigor and trustworthiness of the findings" (Leech & Onwuegbuzie, 2007, p. 575), three forms of ethnographic analyses were conducted: (a) domain analysis, (b) taxonomic analysis, and (c) componential analysis. Additionally, using these three different types of analyses allowed for triangulation, which is a critical process that enables the telling of a credible story while informing the audience that the compilation of data and subsequent analysis were conducted in a thorough manner (Maggs-Rapport, 2000).

The first method of ethnographic analysis that we conducted was that of domain analysis. Every culture develops and uses its own symbols to represent concepts, objects, and institutions (Geertz, 1973; Goldman, 2014). Spradley (1979) identified these larger elements of cultural knowledge as domains (i.e., cover terms) and believed that these unique cultural symbols were crucial to communicating and interpreting meaning within the culture. Researchers can use domain analysis to explore the symbols and language that are unique to each culture (Spradley, 1979). Spradley (1979) elaborated further by positing that each symbol had three unique elements: (a) the symbol itself (i.e., cover term), (b) one or more referents (i.e., what the symbol refers to), and (c) the relationship between the symbol and the referent (i.e., cover and included terms). Moreover, Spradley (1979) identified nine primary semantic relationships within domain analysis that assist the ethnographer with identifying meaning within the domains: (a) strict inclusion, (b) spatial, (c) cause-effect, (d) rationale, (e) location for action, (f) function, (g) means-end, (h) sequence, and (i) attribution. For further explanation and examples of these nine semantic relationships, see Table 4.

TABLE 4
AN OUTLINE OF SPRADLEY'S (1979) NINE SEMANTIC RELATIONSHIPS

Semantic Relationships	Meaning	Example
Strict inclusion	X is a kind of Y	a crow is a kind of bird
Spatial	X is a place in Y & X is a part of Y	Dallas is a place in Texas
Cause-effect	X is a result of Y & X is a cause of Y	a baby is a result of having intercourse
Rationale	X is a reason for doing Y	fire is a reason for exiting the building
Location for action	X is a place for doing Y	the lake is a place for fishing
Function	X is used for Y	a hammer is used for pounding nails
Means-end	X is a way to do Y	highways make for faster travel
Sequence	X is a step or stage in Y	dying is a stage of living
Attribution	X is an attribute/characteristic of Y	Stink is an attribute of this skunk

Note. Domains were annotated and generated by the researchers manually via the transcripts.

Spradley (1979) established a six-step procedure to facilitate the identification of domains. Following this process, we (a) selected a single semantic relationship, (b) prepared a domain analysis worksheet, (c) selected a sample of participant statements, (d) searched for possible cover terms and included terms that fit the semantic relationship, and (e) formulated structural questions for the domain. We repeated this process to identify and to classify each domain. Spradley (1979) required an additional follow-up step, (f) make a list of all hypothetical domains, which we did. By conducting this analysis, we were able to understand the relationships and connections among concepts (e.g., domains, symbols, categories) based on the participants' experiences.

Constas (1992) posited that creating categories is a necessary procedure for ethnographic analysis and that it is a rigorous process. Moreover, Constas (1992) argued that, for categorization to be taken seriously, the categorization process should follow three procedures: (a) origination, (b) verification, and (c) nomination. Origination of categories can occur via a number of procedures/methods (e.g., research participants, programmatic language, review of literature, interpretation of the data, investigation; Constas, 1992). For this study, we manually (i.e., without the use of computer software) developed the categories by means of investigating the transcripts of the participants' interviews. The categories for this study were verified, the procedure by which researchers logically substantiate the categories by means of existing research (Constas, 1992), by reviewing relevant research literature for similarities and dissimilarities. Many of the codes and categories that we noted were consistent with those found in the literature. The final procedure (i.e., nomination) is concerned with both the names given to the categories as well as the neutrality in which they are described (Constas, 1992). For this study, instead of naming the categories

(e.g., cover terms, domains) before the analysis (i.e., a priori coding), the participants' responses and word choices were used to determine the categories names (i.e., a posteriori coding; Shields & Rangarjan, 2013).

In order to understand how the participants used specific words, we employed taxonomic analysis as the next ethnographic analysis. Spradley (1979) outlined an eight-step process for the taxonomic analysis, which he envisioned as a system of domain classification that depicts the relationships among all of the terms in the domains. To create this taxonomy, we followed Spradley's (1979) eight steps: (a) select a domain for taxonomic analysis, (b) identify the appropriate substitution frame for analysis (e.g., "stress is an effect of the program"), (c) search for possible subsets among the included terms, (d) search for more inclusive domains that could include the subset being analyzed, (e) construct a tentative taxonomy, (f) formulate structural questions to confirm the taxonomic relationship, (g) conduct additional structural interviews, and (h) construct a completed taxonomy.

The final step to our ethnographic analysis was a componential analysis. Spradley (1979) believed that componential analysis assists researchers in identifying the relationships that exist among words in an attempt to portray the participant's reality as completely as possible. In order to conduct a componential analysis, we followed Spradley's (1979) eight-step process: (a) select a contrast set for analysis, (b) inventory all contrasts previously discovered, (c) prepare a paradigm worksheet, (d) identify dimensions of contrast which have binary values, (e) combine closely related dimensions of contrast into ones that have multiple values, (f) prepare and contrast questions to elicit missing attributes and new dimensions of contrast, (g) conduct an interview to elicit needed data, and (h) prepare a completed paradigm.

RESULTS

The findings stemming from the three analyses (i.e., domain analysis, taxonomic analysis, componential analysis) are presented in the following sections.

Domain Analysis
There were two types of universal semantic relationships (Spradley, 1979) that were identified as related to the participants' responses in this collective case study: strict inclusion (i.e., X is a kind of Y) and means-end (i.e., X is a way to do Y). The semantic relationships were identified because of the ways in which the participants described their relationship experiences with their significant others when dealing with the demands of the doctoral program. More specifically, we were able to identify four cover terms by conducting a domain analysis worksheet that attributed to the participant's relationship experiences while they were in the doctoral program: (a) challenges, (b) coping strategies, (c) personal emotions, and (d) relationship satisfaction (Spradley, 1979). After the cover terms had been identified for each domain, we reviewed the transcripts for each of the six participants to identify statements that supported each domain. Examples of the included terms that were identified for strict inclusion-based semantic relationships (i.e., challenges, coping strategies, personal emotions) can be viewed in detail in Tables 5, 6, and 7. Examples of the terms for means-end semantic relationship (i.e., relationship satisfaction) can be viewed in Table 8.

TABLE 5
EXAMPLES OF SPRADLEY'S (1979) SEMANTIC RELATIONSHIP: STRICT INCLUSION
FOR CHALLENGES (I.E., X IS KIND OF Y)

Included terms	Semantic relationship	Cover term
Moving		
Getting a new job		
Being ill		
Balancing life		
Having quality time (lack of)		
Expecting things on time	is a kind of	Challenge
Having financial issues		
Having health issues		
Having an end goal		
Advancing your career		
Pacing yourself		
Stressing		

Note. Domains were annotated and generated by the researchers manually via the six transcripts.

TABLE 6
EXAMPLES OF SPRADLEY'S (1979) SEMANTIC RELATIONSHIP: STRICT INCLUSION
FOR COPING STRATEGIES (I.E., X IS KIND OF Y)

Included terms	Semantic relationship	Cover term
Watching TV		
Going to dinner		
Scheduling		
Developing a routine		
Setting expectations		
Organizing	Is a kind of	Coping strategy
Keeping a datebook	→	→
Providing emotional support		
Going out on date nights		
Watch a movie		
Being intimate		
Counseling		

Note. Domains were annotated and generated by the researchers manually via the transcripts.

TABLE 7
EXAMPLES OF SPRADLEY'S (1979) SEMANTIC RELATIONSHIP: STRICT INCLUSION FOR EMOTIONS (I.E., X IS KIND OF Y)

Included terms	Semantic relationship	Cover term
Feeling closer		
Feeling ignored		
Hurt feelings		
Sacrifice		
Heartache	Is a kind of	Emotion
Rough patches		
Frustrated		
Feeling Loved		
Empathetic		
Love		
Being emotional		

Note. Domains were annotated and generated by the researchers manually via the transcripts.

TABLE 8
EXAMPLES OF SPRADLEY'S (1979) SEMANTIC RELATIONSHIP: MEANS-END FOR RELATIONSHIP SATISFACTION (I.E., X IS A WAY TO Y)

Included terms	Semantic relationship	Cover term
Communicating		
Giving to each other		
Spending time together		
Appreciating each other		
Being friends		
Understanding each other		
Encouraging each other	Is a way to	Relationship satisfaction
Respecting each other	→	→
Investing in each other		
Being supported		
Being emotional		
Being intimate		
Encouraging each other		
Celebrating together		

Lastly, we created structural questions (i.e., questions that allow researchers to find out how participants organize their information; Spradley, 1979) to categorize each domain to understand better the universal semantic relationships that we had identified. We created the following structural questions: (a) What were the kinds of challenges the doctoral student experienced with their partner while in the program?, (b) What kinds of coping strategies have they used as a couple to manage these challenges?, (c) What kinds of personal emotions have the doctoral students experienced related to their relationship as a result of the program?, and (d) What were the ways the couples have managed their relationship satisfaction while in the doctoral program? Each of these domains will be discussed in the following paragraphs.

Challenges

In reviewing the transcripts of the six participants, we identified several relationships challenges that the doctoral students experienced with their significant others while in their programs: (a) lack of time and attention for their partners, (b) managing domestic responsibilities with their spouses, (c) coping with a sick spouse, and (d) deciding when to start a family. More specifically, four of the six participants discussed the lack of time and attention for their partners; Richard stated, "What we face now, under this program is now really a lot of alone time on her [Richard's wife] part. And I don't think we really discussed that at length…" Frank discussing his wife's feelings is another example of the lack of time for his partner:

I think, the one challenge we all face at some point in time is how much time we spend with our mate or partner … she [Frank's wife] feels like I am never available, and there are some weeks I am not available. And sometimes the comment, it's not really an argument, but more of a discussion would come up, "you don't have enough time for me, or enough, don't have enough time to finish X, Y, or Z" and then it, the discussion comes back to, uh, I am trying to finish my dissertation, so I will have more time for us.

After reviewing the relationship challenges of all six participants, we would expand our initial structural question to ask: (a) What were the different kinds of relationship challenges experienced by each of the participants?, and (b) Were there differences based on the participants' age, gender, relationship status, number of years together, or whether they had children? For example, Judy referred to her husband's retirement and his desire to spend more time with her at this stage of life, but she was still working full-time and working on her dissertation. Judy's challenges were different from those of Sarah, who was a stay-at-home mother with two young children. Sarah focused more on the domestic challenges between she and her husband and the struggle to find time, not only to work on schoolwork, but also to spend time with her husband.

Coping

The next domain that we explored were the coping strategies used by the doctoral students and their partners to manage the challenges that they faced as couples. In reviewing the transcripts of the six participants, we discovered many different kinds of coping strategies such as scheduling date nights, staying connected through technology (e.g., Skype), providing emotional support, and, in one case, seeking support from a professional relationship counselor (i.e., Frank). Feeling connected to their spouses during the program was an important form of emotional support mentioned by several of the participants. The following quotation by Judy referring to her husband is an example of this important connection:

So, we text a lot, and we never did that before. And, sometimes we'll, he'll send a text saying "hey, just thinking about you" or he'll do the same for me. And, and, just those little things like that. And, so we'll phone call, we'll text, umm, even when we've had some email conversations just short conversations, and that's not us, we typically don't do that. We like face-to-face, but we've had to change our communication strategies.

In contrast, both Frank and Faith discussed having a designated date night as a way to manage the challenges that they faced as couples during the doctoral program. In the statement below, Faith talks about having a date night once a week with her partner:

Some of the things that we were going to stick with through the doctoral program and one of those was we take one night a week and that is our night. We don't do homework, we don't answer phones, we just sit and veg on the couch.

After thoroughly reviewing the details of this domain, we would reexamine the structural question to account for the different kinds of coping strategies used by the participants. This new structural question was: What were the different kinds of coping strategies used by the couples to manage their relationship challenges? In reviewing the transcripts, we realized there were more similarities than there were differences. Moreover, many participants referred to the importance of having a date night or designated time for them to spend together as couples (i.e., Faith, Frank and Judy). Additionally, two of them referred to having lunch together as an alternative way of finding time to spend together (i.e., Judy and Sarah).

Personal Emotions

In reviewing the relationship challenges and coping strategies of the participants, we discovered the different forms of personal emotions that were shared within the interviews. The emotions included feelings

of loneliness, alienation, and frustration in balancing the demands of both the doctoral program and their relationships. There were other forms of personal emotions that included feelings of gratitude towards their significant other for the support that they had received during their studies. The following is an example of a personal emotion regarding the gratitude towards her spouse shared by Sarah:

> I'm still in love with him [appeared to be a stand-still moment where she needed to remind herself] I mean a lot of people, when you get caught up in everything like this you forget to tell your spouse and remind yourself how much you love this person.

The statement below is an example of frustration as a form of personal emotion; Frank describes his wife's frustration with not getting the emotional support that she needs while Frank is in the (doctoral) program:

> I have a feeling that is out of sheer frustration because, you know, she [Frank's wife] was not feeling she was getting support she needed, uh, emotionally, and physically, etc. Uh, and I was trying to provide as much as I could working full time, and going to school, and being a teacher ... we need to make dates to be with each other, we need to carve out this time that the relationship will remain healthy.

To explore in the future the different kinds of personal emotions, we would revise our original structural questions to ask: What were the different kinds of personal emotions that the doctoral student experienced related to her/his relationships because of the program? Although there were several examples of negative personal emotions that were shared, there were an equal number of positive personal emotions. In fact, Emma discussed the personal emotions related to her soon-to-be ex-husband regarding the support that she received from him in the doctoral program and even discussed wanting him at her graduation:

> But I will say that we are probably best friends for each other, and he is extremely supportive of me being in the doctoral program, but it's hurtful at the same time. When I do my dissertation defense in October, I mean, I will invite him to be there. Him, and probably my son, and, I'm sure, my members of my cohort will be there. And, he will be as happy for me as…as anyone. And he will be the natural person that I would want.

Relationship Satisfaction

Although the three other domains were forms of strict inclusions, the participants also described ways of maintaining their relationship satisfaction, which was a better example of the mean-end semantic relationship. More specifically, some of the statements provided by the participants were ways of contributing to or maintaining their relationship satisfaction such as: (a) how they communicated, (b) the emotional support that was provided, and (c) how they maintained their intimacy as a couple. Sarah specifically described how she and her husband strived to maintain their emotional and physical intimacy:

> We do work to make sure that we are physically intimate as well, not just sexually but also emotionally like hand holding, kissing; we do work to have that connection. Because it's both of our belief system, like you raise your kids to grow up and leave, you're with your spouse forever. So. we never want to lose that connection with each other regardless of what challenges; be it school, be it kids, or whatever's in there. We always try to work on that together.

Contrastingly, Judy discussed how her relationship with her partner has strengthened as a result of the program, as a form of relationship satisfaction:

> I can't say that our, our relationship changed, other than it probably solidified more. You know? We've… we've…because, we come much closer because he's seen everything that

I've done, and he's told me many a times "you're crazy, I don't know why you chose to do this." But, umm, (pause) I think it's just gotten stronger if anything."

To explore in the future the ways that each of the participants described how they maintained their relationship satisfaction, we would want to ask, what were the different ways the couples have managed their relationship satisfaction while in the doctoral program? Exploring this domain allowed us to understand better how the participants were able to manage their relationship satisfaction through the challenges that they experienced and what strategies they used to cope. To understand how the domains interacted with each other, a taxonomic analysis was conducted.

Taxonomic Analysis

Our objective in conducting a taxonomic analysis was to develop an in-depth understanding of the relationship experiences that doctoral students have with their partners during their studies. Because the objective was to develop an in-depth understanding, we focused solely on the strict-inclusion domains for this analysis. Focusing on the strict-inclusion domains allowed us to examine the "X is a kind of Y" relationship thoroughly (Spradley, 1979).

In order to understand the relationship experiences of the participants better, subcategories of the cover terms were identified and how the relationships applied to the strict-inclusions domains (Spradley, 1979). We examined the domains separately and identified subcategories of the cover terms; by examining the cover terms for substitutions, we were able to obtain a more extensive view of the doctoral students' experiences with their partners (Spradley, 1979). Because follow-up interviews were not being conducted as part of this study, we created structural questions for future interviews. Taxonomic analysis results for each of the strict inclusion domains will be discussed in the following paragraphs; please refer to Table 9 for the cover terms identified for each domain.

TABLE 9
COVER TERMS FROM TAXONOMIC ANALYSIS WITH SUBSTITUTION FRAME
"IS A KIND OF"

Cover terms	Domains
Lack of time	Relationship challenges
Lack of attention	
Family decisions	
Spouse sacrifices	
Health of student or partner	
Date night	Coping strategies
Emotional support	
Communication	
Positive	Emotions
Negative	

Note. Cover terms were identified by the researchers.

Kinds of Relationship Challenges

For this domain, the included terms described the relationship challenges pertaining to lack of time spent together, lack of attention, decisions that affected the family, partner sacrifices, and the health of the doctoral student or their partners. The substitution frame for each of these subcategories is an example of a strict inclusion semantic relationship challenge (e.g., lack of time spent together "is a kind of" relationship challenge). The categories can be subdivided into challenges that affected the doctoral student (e.g., health of doctoral student) and challenges that affected their partners (e.g., lack of attention). Refer to taxonomy of relationship challenges in Table 10.

TABLE 10
TAXONOMY OF RELATIONSHIP CHALLENGES

	Themes	Sub-themes
Relationship Challenges	Lack of time	Time spent together
		Time spent alone
		Time to connect
		Finish to have more time together
	Pulled in different directions	
	Lack of attention	Lack of time for partner
		Just have one date night
	Family decisions	Finish to start a family
		When to start the program
	Financial support	
	Career decisions for partner	
	Partner sacrifices	Household chores
		Partner taking care of sick family member
		Burden of more responsibilities
		Childcare
	Health of student or partner	Mother was ill
		Cancer scare of partner

Based on this taxonomy, we devised two structural questions to serve as follow-up questions for future interviews: (a) How would you describe the relationship challenges that affected you more than your partner?, and (b) How would you describe the relationship challenges that affected your partner more than you? These questions were created because the participants were not asked to describe the relationship challenges from the two different perspectives.

Kinds of Relationship Coping Strategies

The participants used terms to describe the coping strategies that were effective in managing their relationships with their partners during their doctoral studies (e.g., dates, emotional support, communication). The substitution frame that we used for this domain was a strict inclusion coping strategy (e.g., date night is a kind of coping strategy). These terms can be divided into three subcategories: (a) dates, (b) emotional support, and (c) communication. For example, meeting for lunch is a kind of date, listening to me complain is kind of emotional support, and planning our schedule is a kind of communication.

Based on this taxonomy, we devised three structural questions to serve as a follow-up for future interviews: (a) What types of dates do you and your partner plan in order to spend time together away from your studies?, (b) Can you describe the emotional support that your partner provides for you related to your doctoral studies?, and (c) What type of communication techniques do you and your partner use as a form of coping strategy that you find effective? The goal of these structural questions was to develop an in-depth understanding of the coping strategies of doctoral students and their partners.

Kinds of Personal Emotions

Lastly, the terms that were used to describe personal emotions could be subdivided into positive or negative emotions; therefore, we examined personal emotions by those two divisions. The substitution frame that we used for this domain was "is a kind of" positive emotion (e.g., feeling loved is a kind of positive emotion) and "is a kind of" negative emotion (e.g., feeling ignored is a kind of negative emotion). Based on this taxonomy, we devised two structural questions to serve as follow-up interview questions: (a) What are the positive emotions that you have experienced with your partner related to your doctoral program? and (b) What are negative emotions that you have experienced related to your partner regarding your doctoral program?

Componential Analysis

After completing a taxonomic analysis, we conducted a componential analysis in order to search for contrasts among the previously identified domains (Spradley, 1979). This analysis consisted of using the relationships (i.e., relationship challenges, coping strategies, emotions, relationship satisfaction) that we identified through domain analysis as contrast sets and we grouped the contrasts together into categories. Using Spradley's (1979) componential analysis as a guide, we then prepared a paradigm worksheet of the participants' relationship experiences to identify contrasts that had multiple meanings and then we combined similar contrasts.

After completing an inventory of the contrast sets, we prepared contrast questions to identify any new characteristics of the participants' relationship experiences. The contrast sets (i.e., relationship challenges, coping strategies, emotions, relationship satisfaction) were examined through the following three questions: (a) Contributed to their ability to manage the demands of doctoral program?; (b) Contributed to their growth as a doctoral student?; and (c) Contributed to continuation in doctoral program? The possible responses to each of the three contrast questions were "Yes," "No," or "Maybe." The contrast questions are displayed in Table 11.

TABLE 11
CONTRAST QUESTIONS FOR COMPONENTIAL ANALYSIS OF THE CURRENT STUDY

Contrast set	Contributed to their ability to manage the demands of doctoral program?	Contributed to their growth as a doctoral student?	Contributed to continuation in doctoral program?
Participant's ability to manage their relationship challenges	-	-	-
Participant's coping strategies for their relationship	-	-	-
Participant's ability to their manage emotions	-	-	-
Participant's relationship satisfaction	-	-	-

Note. Data from contrast questions were not collected during this phase of analysis; thus, the table represents future analysis to be conducted.

Nonverbal Communication

During the interviews, we noted the participants' nonverbal communication. Accounting for nonverbal behavior is a suitable source of information (Bull, 2002; Frels & Onwuegbuzie, 2013) because it aids the researcher by adding depth to the participant's responses as opposed to using only verbal data (Onwuegbuzie & Abrams, 2021, in press; Onwuegbuzie & Byers, 2014). However, many qualitative researchers either ignore nonverbal communication information or only briefly mention it (Denham & Onwuegbuzie, 2013). To avoid this research gap, we used Gorden's (1980) four nonverbal communication typologies: (a) kinesics (i.e., behavior reflected by body movements and posture), (b) proxemics (i.e., behavior revealing a shared relationship between interviewer/interviewee by means of personal space), (c) chronemics (i.e., meanings denoted by speech patterns such as hesitations and silence), and (d) paralinguistics (i.e., meanings derived from vocal changes in pitch, tone, and presence of emotions).

All four of Gorden's (1980) typologies were evident among the participants. Kinesics were evident during the interview for every participant. For some (e.g., Richard), the way they sat, leaning back in the chair with legs casually stretched in front of them, indicated a relaxed state of being. For others (e.g., Judy, Faith), their rigid body posture (i.e., proximity) softened as the interview progressed, indicating that they felt little-to-no threat during the interview. On several occasions they (i.e., Emma, Richard) paused or hesitated (i.e., chronemics) before answering a question, which we understood to be either moments of reflection or clarification. As for emotions, many of the participants portrayed a variety of emotions, ranging from laughter (e.g., Richard, Frank) to crying (e.g., Judy, Sarah). One in particular (Emma) engaged in socially acceptable emotional responses (i.e., laughter), but her affect relayed no hint of emotion. All of the participants exhibited modulations in their vocal pitch and tone (i.e., paralinguistics), with most of them beginning the interview reserved in their speech, but relaxing once they became more comfortable with the situation, which was evidenced by the elevation of both their pitches and tones.

DISCUSSION

This article presented the examination of the role that doctoral studies have on the relationships between select doctoral students and their partners by conducting a domain, taxonomic, and componential analysis in this collective case study. Considering that previous researchers have stated that the relationship between doctoral students and their partners is a key support structure (Culpepper et al., 2020; Ross et al., 1999; Smith et al., 2006), we sought to understand the effects of doctoral studies on the relationship for the doctoral student and their partners during the time period of their studies. Moreover, conducting a domain analysis, taxonomic analysis, and componential analysis allowed us to understand the relationships experiences of the six participants selected for the research with their partners by assigning categories (i.e., cover terms) to each of the described relationship experiences (Spradley, 1979). Although being married was not a criterion for selection, all six participants within this case study were married during their doctoral studies.

The cover terms identified during the domain analysis (i.e., challenges, coping mechanisms, personal emotions, and relationship satisfactions) prompted us to explore these experiences by conducting a taxonomic analysis. More specifically, the taxonomic analysis provided the opportunity to describe the experiences in more detail. For example, by examining the relationship challenges between doctoral students and their partners, we were able to identify four subcategories of challenges: (a) lack of time and attention for their partners, (b) managing domestic responsibilities with their spouses, (c) coping with a sick spouse, and (d) deciding when to start a family. Although the collective case study cannot be generalized externally, these subcategories were consistent with previous research findings relating to time management challenges for students involved in intimate relationships (Smith et al., 2006).

Previous researchers posited that relationships could have positive or negative effects on a students's doctoral studies (Brannock et al., 2000; Culpepper et al., 2020), which we found was consistent with the experiences of our six participants. In fact, both positive and negative emotions were documented; one participant (Emma), who was divorced, described the positive emotions related to the support that she continued to receive from her ex-husband, whereas Faith described a time when she almost left her husband because of the stress of the program and balancing her relationship as a form of negative emotion.

Because much of the literature pertained to doctoral students who were married (e.g., Brannock et al., 2000; Culpepper et al., 2020; Ross, et al., 1999; Smith, et al., 2006), we recommend additional research to examine the differences between couples who are married and couples who are not. Although students who were married tended to take longer to complete their doctoral degrees, researchers have stated that students often cite the support of their spouse as a key component to their academic success (Brannock et al., 2000; Norton et al., 1998; Price, 2006; Waite, 1995). That was also evident within our collective case study; both Judy and Sarah described the support that they received from their spouses. Although both participants were still working on their dissertations at the time of the study, they expressed gratitude and emotion (i.e., crying) when speaking about the support received from their husbands.

Researchers have suggested that relationships with significant others, including the lack thereof, contributed to the stress and tension doctoral students experience during their studies (Culpepper et al., 2020; Ross et al., 1999). Brown and Watson (2010) suggested that higher education program administrators should be more aware of the support needed by women in doctoral programs. Building on this idea, Onwuegbuzie et al. (2014) suggested that those responsible for facilitating doctoral students' progress should be cognizant of the dual and sometimes triple roles that women have while working on their doctoral degrees. These multiple roles were evident among all women (i.e., Faith, Sarah, Emma, Judy) who were interviewed during the study. As such, the findings of this study support both Brown and Watson's (2010) and Onwuegbuzie et al.'s (2014) claims that administrators should be more attentive to women in doctoral programs.

Understanding the effects of social relationships on doctoral students' experiences is crucial to the success of doctoral programs because previous researchers have suggested that developing social relationships and support systems, including intimate relationships, helps minimize social isolation during doctoral studies (Ali & Kohun, 2007; Hortulanus et al., 2006; Thoits, 1986). The findings of this study

helped us understand the role of the relationship, both positive and negative experiences, between the six doctoral students and their partners. Although the sample size was small and, therefore, should not be used to generalize to larger populations (Berger & Luckmann, 1967; Schwandt, 2003; Young & Collin, 2004), the study's implications suggests that future research relating to the role that doctoral studies have on the relationships between doctoral students and their partners should be conducted.

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