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Recommended Citation

Dickerson, Shirley H.; Byers, Valerie Tharp; Smith, Rachel N.; Hwang, Eunjin; Angrove, Kay E.; Chandler, Jason I.; Christian, Kelsey M.; McAlister-Shields, Leah; Thompson, Stephen P.; Denhem, Magdalena A.; and Onwuegbuzie, Anthony J., "Survival Strategies: Doctoral Students' Perceptions of Challenges and Coping Methods" (2014). *Library Faculty and Staff Publications*. Paper 15.
<http://scholarworks.sfasu.edu/libfacpub/15>

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Cite as: Byers, V. T. et al. (2014). Survival strategies: Doctoral students' perceptions of challenges and coping methods. *International Journal of Doctoral Studies*, 9, 109-136. Retrieved from <http://ijds.org/Volume9/IJDSv9p109-136Byers0384.pdf>

Survival Strategies: Doctoral Students' Perceptions of Challenges and Coping Methods

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Abstract

The purpose of this collective case study was to use a critical dialectical pluralistic (CDP) philosophical lens to investigate select doctoral students' perceptions about the challenges that they encountered while in a doctorate program and the coping strategies that they found effective in mitigating these challenges. A major goal of CDP is to empower research participants maximally by giving them the role of participant-researchers. Participants were 10 doctoral students enrolled at a Tier-II university in the United States, who were selected via convenience sampling. Each student participated in a face-to-face interview with a member of the research team—consistent with a CDP approach. A qualitative-dominant crossover mixed analysis was used wherein both quantitative and qualitative analyses were used to analyze the qualitative data, with the qualitative analysis phase being dominant. The qualitative analyses (e.g., constant comparison analysis, classical content analysis) revealed the following five themes: compartmentalization of life, outside support systems, justification for participation in program, emotional status, and structure of program. These themes indicated that although challenges are plentiful, particularly in terms of balancing one's academic life with other obligations, participants found support and encouragement from family, friends, and other doctoral students to be the most beneficial coping strategy. These findings have important implications for the structuring of doctoral programs.

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Keywords: doctoral student, challenges, coping, doctoral students' perspectives, doctoral programs

Introduction

By design, earning a doctorate degree is not a quick or easy process; otherwise, the educational value of the graduate school's terminal degree would be diminished. As noted by M. Jones (2013), attrition rates for doctoral students range from 33% to 70% (cf. Gardner & Gopaul, 2012; Ivankova & Stick, 2007; Jiranek, 2010; Kim & Otts, 2010). Further, a 2008 study conducted by the Council of Graduate Schools (CGS; Sowell, 2008) revealed that only 57% of doctoral students completed their degree programs within 10 years. The researchers in this CGS study examined 330 doctoral programs representing various disciplines over a 12-year period (Sowell, 2008). In a separate study of attrition rates at the doctoral level, Lovitts (2001) found that attrition rates can range from 30% to 50% depending on field of study, consistent with the CGS findings (Sowell, 2008). These and other studies (cf. M. Jones, 2013) provide evidence that time management and persistence have been challenges to success at the doctoral level. There are other obstacles to overcome as well. The first-year experience is a daunting one for doctoral students because many have to become re-acclimated to the learning environment after years in the workplace, in addition to adapting to the rigors of a doctoral research program (Wao & Onwuegbuzie, 2011; Witte & James, 1998). Numerous factors have been identified that can hinder a student's doctoral experience, such as financial and resource issues, difficult disciplines, accessibility of information, and progress monitoring (Neumann, 2012; Wao & Onwuegbuzie, 2011), as well as isolation (Ali & Kohun, 2006, 2007; Kohun & Ali, 2005; Lovitts, 2001).

The first-year doctoral experience often leads to students questioning whether they made the correct decision to pursue a doctorate degree (Witte & James, 1998), leading to high attrition rates at this early stage of these students' doctoral programs (Jairam & Kahl Jr., 2012; Lott, Gardner, & Powers, 2010). Indeed, as noted by Ali and Kohun (2006), in the first year of their doctoral programs, students experience difficulties in adjusting to their new life of doctoral studies. Moreover, typically, the first year of the doctoral program yields the most difficult adjustment (Hockey, 1994). This adjustment likely is even more difficult for first-generation doctoral students (Gardner & Holley, 2011; Holley & Gardner, 2012). Beeler (1991) identified four stages wherein the actual adjustment occurs for new graduate students: *unconscious incompetence* (i.e., occurring upon entering the doctoral program wherein students have a limited idea about what is involved in the program either academically or socially), *conscious incompetence* (i.e., occurring after the students gain knowledge about the academic requirements during which time they become aware of their academic deficits), *unconscious competence* (i.e., occurs when students believe that they have acquired some competence in their fields of study but are mostly unaware of their competence, thereby leading them to feel competent unconsciously), and *conscious competence* (i.e., occurs when students have accumulated sufficient knowledge that they become aware of what they know). According to Beeler (1991), this adjustment process places a psychological burden that overwhelms some students. And students who are unable to cope with this psychological adjustment might fall behind relative to other students in their program, which might lead to them dropping out of the program. With the vast differences in attrition rates of doctoral students being 33% to 70% (cf. Gardner & Gopaul, 2012; Ivankova & Stick, 2007; Jiranek, 2010; Kim & Otts, 2010), researchers, through this collective case study, sought to determine the common experiences of select doctoral students and what motivated their persistence through their doctoral degree programs.

No matter the rigor of the doctoral program, research has indicated that peripheral factors can have just as much impact on the attrition of doctoral programs as can the difficulty of the coursework. Factors from marital discord to financial burdens to the relationship with the student's ad-

visor all can have significantly detrimental effects on educational success at the doctoral level (Maher, Ford, & Thompson, 2004). Students who contend with family issues during their doctoral programs often experience “considerable additional duress” (Maher et al., 2004, p. 388). Maher et al. (2004) noted that women are most often distracted from their academic endeavors by their maternal responsibilities, the emotional toll of a divorce or death, and the financial security associated with success. These diversions, more often than not, lead doctoral students to exhibit concerns regarding stress, time strain, one’s emotional and psychological well-being, and lack of support from family members and friends (Moyer, Salovey, & Casey-Cannon, 1999).

Pyhältö, Toom, Stubb, and Lonka (2012) investigated the problems confronted by doctoral candidates during their doctoral programs and their well-being with respect to their studying engagement. Participants involved 669 doctoral students from the Faculties of Arts, Medicine, and Behavioural Sciences, who were administered a survey. Pyhältö et al. (2012) documented that the doctoral students’ perceptions of the problems that they experienced during their studies varied. In particular, these problems were related to general working processes (31%), domain-specific expertise (29%), supervision and the scholarly community (21%), and resources (19%). Nearly one half (i.e., 43%) of the study participants had contemplated withdrawing from their studies. Further, the doctoral students’ well-being varied as a function of whether they had at some point in their studies considered withdrawing from their studies, with those students who had considered withdrawing from their studies reporting more anxiety, higher levels of stress, lower levels of interest in their studies, and more exhaustion than did students who had not considered withdrawing from their studies.

Even with these challenges, the number of doctorates awarded each year in the United States has an average annual growth of 3.4%, demonstrating an upward trend over time (National Science Foundation, National Center for Science and Engineering Statistics [NSF, NCSES], 2012). The persistence and determination of students’ progression through their doctoral studies are highly correlated with students’ motives for seeking such a degree (Geraniou, 2010). Morton and Thornley (2001) acknowledged two common motives for pursuing a doctoral degree among both male and female students: that of an individual’s interest in the subject matter and that of an individual’s personal satisfaction of pursuing a graduate degree. Similarly, Leonard, Becker, and Coate (2005) concluded that most students acknowledged personal development (e.g., increased confidence, self-fulfillment) and development of research skills (e.g., becoming more reflective and analytic, improving writing ability) as being the motivating factors leading to the determination of completing a doctoral degree while overcoming adversities. Furthermore, emotional support from family members often is cited as “critical to those in the throes of the doctoral process, providing them with the encouragement needed to persist and succeed” (Maher et al., 2004, p. 388).

Although several quantitative research studies in the area of graduate student stress and coping have been conducted (El-Ghoroury, Galper, Sawaqdeh, & Bufka, 2012; Holahan, 1979; Mechanic, 1962), there is a lack of in-depth qualitative research on the subject in the field of education. At the time Mechanic’s (1962) study was conducted, few social psychologists and virtually no sociologists had conducted studies about stress (Glassner, 1979). Mechanic’s (1962) study involved 23 sociology graduate students preparing for their doctoral examinations and focused on the psychological stress and coping strategies. Unlike the present study, the participants in Mechanic’s (1962) study were not part of a cohort structure, but rather were in a competitive environment. A principle revelation from Mechanic’s (1962) study was that a student’s reaction to stress depended on the resources or coping mechanisms that the student possessed and where they were in the social network. Mechanic (1978) argued that “The ability to cope with the environment depends on the efficacy of the solutions to which one has been exposed” (pp. x-xi).

Mechanic's (1962, 1978) study on stress in graduate students involved a relatively small sample of participants from a single department, whereas Holahan's (1979) study expanded the sample size as well as emotional stress as an interactive function of department type and personal need for support. Holahan's (1979) study involved 377 female graduate students from various disciplines, divided into three groups based on the representation of female students in their departments. The hypothesis of the study was that the environments would be less supportive in disciplines that were considered nontraditional for females, thereby displaying the strongest relationship between stress and need for support among this group. The findings from Holahan's (1979) study suggested that females in minority departments (i.e., nontraditional for females) showed the strongest relationship between stress and the need for support.

The most recent, randomized, and comprehensive study was conducted by El-Ghoroury et al. (2012). Underwritten by the American Psychology Association (APA), the randomized survey study conducted by El-Ghoroury et al. (2012) assessed a national sample of 387 students in a wide range of psychology fields to examine stressors, coping strategies, and barriers that interfered with their optimal functioning. The study comprised students at the graduate level of whom 54% were doctoral students. Univariate and multivariate tests were conducted and the results revealed that 70.5% respondents experienced stress related mostly to (a) academic responsibilities and pressures, (b) finances or debt, (c) anxiety, and (d) poor work/school life balance. The major coping strategies discerned were (a) friends' support, (b) family support, (c) talking to a classmate, (d) regular exercise, and (e) hobbies. Moreover, major barriers to coping were reported to stem from lack of time and financial constraints. El-Ghoroury et al. (2012) purported that their quantitative research study was the first simultaneously to measure stress, coping strategies, and barriers to coping among graduate students. However, they also noted that the design did not allow for specific and individualized matching of stressors, coping, and barriers to coping. Moreover, the sample consisted of graduate master-level and doctoral-level students from a variety of psychology disciplines. The authors admitted that stressors such as financial burdens differed among students at different stages of their graduate journeys. Therefore, the present qualitative research study sought to assess specific and individual challenges and coping mechanisms among selected doctoral students only. Indeed, even though El-Ghoroury et al. (2012) listed social support from friends, family, and classmates as a most frequent strategy used by graduate psychology students to manage stress, it is unclear whether similar strategies applied to doctoral students in education. Collegial actions, that is, seeking friends' support (74.4%) and talking to a classmate (62.8%), were cited as the predominant stress coping mechanisms by the majority of respondents in El-Ghoroury et al.'s (2012) research study.

Ultimately, the purpose of the current qualitative research study was to explore the experiences of a select group of doctoral students, namely, students representing a whole cohort. Specifically, we investigated their challenges and coping strategies that these cohort members utilized to overcome their challenges in the doctoral program. We hoped to share the common experiences of a cohort of doctoral students in terms of their challenges and coping strategies, assuming that many doctoral students face common challenges in completing their doctoral degrees regardless of the field of study or other factors (e.g., gender, age). Furthermore, it was hoped that the knowledge from this study could help administrators of doctoral students, advisors/supervisors, and mentors to understand factors that contribute to the attrition and retention of doctoral students by identifying possible challenges and coping strategies that can be utilized to overcome the challenges, respectively.

This study was framed within a critical dialectical pluralism philosophical lens (Onwuegbuzie & Frels, 2013). According to Onwuegbuzie and Frels (2013), a major goal of critical dialectical pluralism is to empower research participants maximally by giving them the role of participant-researchers. As such, all participants in this qualitative research study served as research partici-

pants, who maintained an active role at every stage of the research process. It was hoped that findings from this collective case study would increase our understanding of how these doctoral students perceived these issues, thereby yielding insights into their particular educational, social, and familial processes and practices.

Qualitative Research Questions

The following qualitative research questions were addressed in this study:

1. What types of challenges do select doctoral students face during their participation in a doctoral program?
2. What do select doctoral students perceive as being characteristics of effective coping strategies when facing challenges associated with their doctoral programs?

Methodological Framework

The methodological framework for this study was based on Leech and Onwuegbuzie's (2013) 13-step qualitative research process, illustrated in Figure 1.

Following the 13-step qualitative research process allowed the participant-researchers to conduct a study and to write a report that was both *warranted* (i.e., provided adequate evidence to justify the results and conclusions) and *transparent* (i.e., makes “explicit the logic of inquiry and activities that led from the development of the initial interest, topic, problem, or research question; through the definition, collection, and analysis of data or empirical evidence; to the articulated outcomes of the study”)—as specified in the seminal document developed by the Task Force on Reporting of Research Methods in American Educational Research Association (AERA) Publications entitled *Standards for Reporting on Empirical Social Science Research in AERA Publications* (AERA, 2006, p. 2).

Method

Participants

As posited by Miles and Huberman (1994), qualitative research often involves small samples of people nested in context, with a tendency to be purposively selected. To obtain our sample, we utilized a convenience sampling method consisting of the two selection criteria that were based on the following elements: (a) participant selection into a higher education administration doctoral program and (b) particular enrollment in a doctoral qualitative research methodology course. Ten participants met the criterion used to generate the sample. Each of the participants was a second-year higher education doctoral student, enrolled in a qualitative research methodology course at a public university in Southeast Texas. This course was conducted concurrently at a satellite campus of the university by use of Interactive Television (ITV). ITV classes were transmitted live over the university's video network and allowed students and instructors to interact between classrooms through automated zoom cameras and microphones located on podiums and desks in each of the two classrooms. Students in each classroom viewed their linked counterparts via large television screens and data projectors. Participants were evenly split between the two locations based on their location preference.

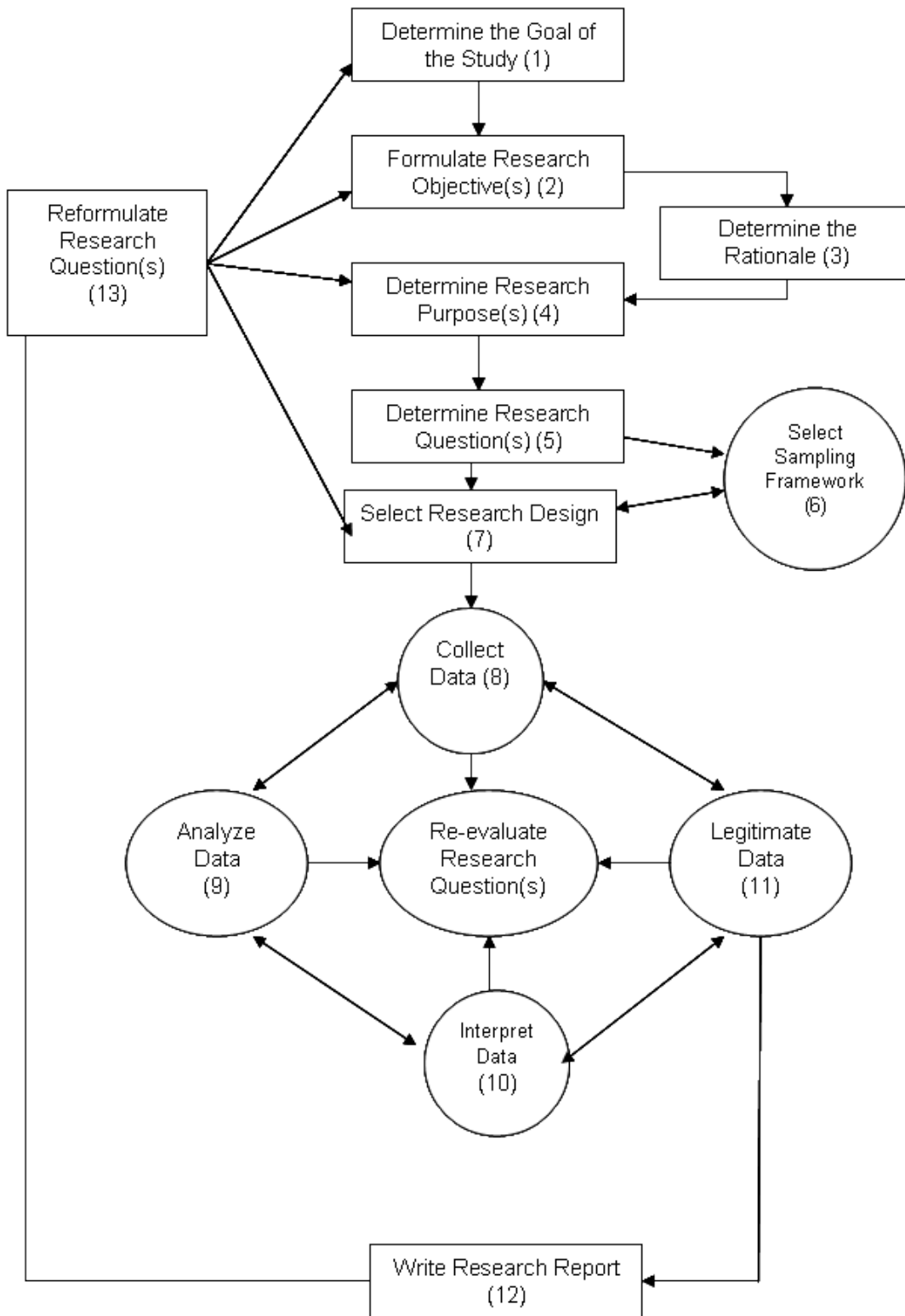


Figure 1. Qualitative methodological framework guiding the inquiry.
Adapted from Leech & Onwuegbuzie, 2013

At the time the study was conducted, all participants resided in Texas. In addition, each of the participants had experience in a higher education setting. Participant roles ranged from faculty members to higher education executives. Further, all participants had obtained master's degrees before beginning the doctoral program. With regard to race and ethnicity, seven out of 10 participants were White, two were African American, and one participant was Asian. The participants' ages ranged from 30 to 59 years ($M = 39.9$, $SD = 10.75$), and, women were in the majority, consisting of eight out of the 10 participants interviewed for the study. For the purposes of this study, we will refer to the students collectively as the *participants* and individually by their pseudonyms: April, Brenda, Carl, Cassandra, Darcy, Deidre, Hillary, Marcy, Sally, and Travis. Table 1 displays the participants' demographic information in more detail.

Table 1. Demographic Information of Participants

Alias	Gender	Race	Age	Profession
April	Female	White	57	Director of First-Year Experience
Brenda	Female	White	30	Adjunct Professor
Carl	Male	White	30	Assistant Athletic Director
Cassandra	Female	White	31	Director of Corporate & Foundation Relations
Darcy	Female	Black	59	Library Director
Deidre	Female	White	45	Manager of Professional Development Programs
Hillary	Female	Asian	37	Doctoral Research Assistant
Marcy	Female	Black	33	Academic Program Manager
Sally	Female	White	36	Professor
Travis	Male	White	42	Associate Director of Recreational Sports

Procedure

Philosophical assumptions and stance

The research philosophical stance for our study was what Onwuegbuzie and Frels (2013) refer to as a critical dialectical pluralistic stance, which operates under the assumption that, at the macro level, social injustices are ingrained in every society. Moreover, the premise behind critical dialectical pluralism is that wide power differentials prevail in research because the researchers exercise control over decisions made at all stages of the research process, especially with respect to research dissemination and utilization. Thus, the major goal of critical dialectical pluralism—which is a social justice paradigm—is to give voice and to empower under-represented, under-served, marginalized, and oppressed peoples and groups by maximally involving participants as researchers throughout the research process, especially with respect to the dissemination and utilization of the findings. To this end, the participants in this inquiry were empowered by assuming the role of participant-researchers (Onwuegbuzie & Frels, 2013).

Instrument

Creswell (2009) indicated that qualitative researchers gather information in the natural setting through multiple sources of data such as interviews, observations, and documents. For this study, interviewing was more beneficial in that it allowed us to pursue in-depth information on each participant's unique experience by actively asking questions and co-creating meanings, and not by passively observing or reading an account. Through the interviews, the unique perspective of each participant about his/her experience while being in his/her particular doctoral program was obtained.

According to Creswell (2009), qualitative interviews are conducted in various ways such as face-to-face interviews with participants, interviews with participants in a focus group, telephone in-

interviews, and virtual (e.g., E-mail/Internet) interviews. In this study, a face-to-face interview was utilized because all participants attended, in a face-to-face format, a qualitative research methodology course as a doctoral student and/or a co-instructor. Further, for our context, we deemed that a face-to-face interview might be more beneficial than might other types of interviews in that it allowed us to obtain rich data through observing non-verbal expressions such as facial expressions and gestures that might convey significant meanings along with narratives (Denham & Onwuegbuzie, 2013).

Additionally, we utilized the interviews that were semi-structured with open-ended questions. The questions were initially co-constructed by students and co-instructors for the purpose of eliciting a unique perspective from each participant. Specifically, one of the co-instructors typed up the questions in a Word document as they were co-constructed by the participant-researchers, which she then displayed such that everyone present in the same room and those present remotely (i.e., via videoconference) could see the questions in digital form, which aided the question-editing process. Through brainstorming, each research question was discussed. The revision of each question occurred with the goal of clarifying the question and promoting meaning making. The co-constructed interview questions were as follows: (a) What influenced your choice of this particular education leadership program?; (b) What challenges, if any, have you experienced since beginning your doctoral program?; (c) What strategies, if any, have you used to address these challenges?; and (d) What benefits or rewards, if any, have you experienced as a result of being enrolled in your doctoral program? Then, via interviewing, additional follow-up questions were interactively created to obtain more in-depth information or to discover new information relevant to the topic. Using Roulston's (2010) conceptualization, these interviews were structured based on a social constructionist conception, which primarily involves the assumptions that knowledge is co-constructed by the interviewer and interviewee to "generate situated accountings and possible ways of talking about research topics" (p. 218).

Each interview was informally conducted in the classrooms either at the university itself or at the satellite campus of the university, depending upon which location the students had registered to take the class. The interview settings were selected by considering various factors that might hinder communication between the interviewers and interviewees such as noise, smell, lighting, or any other distraction. All interviewers and interviewees were seated close enough to facilitate interactions throughout the interviews, and each interview lasted between 30 minutes and 60 minutes.

Data collection

A single, informal interview for each participant was the primary method used to collect data for the research study. At the beginning of the academic semester, the doctoral students enrolled in the qualitative research methodology course prepared four guiding questions for the interview, which were directly related to the objective of the interview. The students were paired off, and the course instructor granted a 75-minute period during the class period in which the dyad-based interviews were administered. Each interview was audio recorded and transcribed by the researchers, then member-checked (Lincoln & Guba, 1985), which constituted the first round of data collection for the research study. Member-checking was performed to affirm the accuracy and intent of the interview transcriptions (Huberman & Miles, 1985). Further, data were collected via a debriefing process, wherein each interviewer was interviewed by another member of the class as a means of creating an audit trail (Onwuegbuzie, Leech, & Collins, 2008). Debriefing transcriptions were prepared and added to the interview and member-checking data.

Research design

For the current study, each doctoral student's perspective served as the unit of analysis—namely, the case—yielding multiple cases. Because we utilized several cases to understand a general perspective of the selected doctoral students, a collective case study design was justified for the current study (Stake, 2005).

Legitimation

As conceptualized in their *Qualitative Legitimation Model*, Onwuegbuzie and Leech (2007) suggested checking for threats to internal credibility (i.e., the legitimation of interpretations and conclusions of qualitative research data; Onwuegbuzie & Leech, 2007) within the research design/data collection, data analysis, and data interpretation phases of these research process categories. In the present study, we addressed each of these internal threats. Strategies used to ensure internal credibility included the following: (a) use of peer debriefing, (b) triangulation, and (c) member checks (Anfara, Brown, & Mangione, 2002). The major threats that we addressed are summarized in Table 2.

Table 2. Threats to Internal and External Credibility, Manifestations in Current Study, and Method of Increasing Credibility

Type of Threat	Stage of Design/ Legitimation	Description	Method of Increasing Credibility
Internal Credibility	<i>Research design and data collection phase:</i>		
	Ironic legitimation	Identification of multiple realities of the same experience occurring among research participants	Increased due to the practice of co-constructing the research questions and allowing each doctoral student to serve in the dual and reciprocal roles of researcher and participant (Onwuegbuzie & Frels, 2013); therefore, each researcher maintained an “emtic” perspective, which Onwuegbuzie (2012, p. 205) coined to refer to the place where emic (i.e., insider) and etic (i.e., outsider) viewpoints are maximally interactive. This emtic perspective assisted us in gaining deeper insights into each participant's responses and in the subsequent significance of researcher interpretations.
	Paralogical legitimation	Represents that aspect of legitimation that reveals paradoxes	Increased by conducting debriefing interviews, wherein each participant-researcher was interviewed by another participant-researcher as a means of creating an audit trail (Onwuegbuzie, Leech, & Collins, 2008).

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Type of Threat	Stage of Design/ Legitimation	Description	Method of Increasing Credibility
	Embodied legitimation	Assessment of the researchers' knowledge base vs. the level of expertise in interpreting the data	Increased by including the two qualitative research instructors as part of the research team.
	Structural corroboration	Use of multiple types of data to validate support of or to negate the interpretation of the data	Use of verbal and non-verbal data collection served to provide stronger evidence of structural corroboration in data interpretation.
	Observational bias	Inadequate amount of observational data collected	Increased via all researchers serving in dual roles (i.e., as both researchers and participants) in the initial interviews, in the debriefing interviews, and in the member checking interview.
	Reactivity	Possible change in participants' natural or true responses due to knowing they are participating in a study	Increased via all researchers serving in dual roles (i.e., as both researchers and participants) in the initial interviews, in the debriefing interviews, and in the member checking interview.
	<i>Data analysis phase:</i>		
	Descriptive validity	Accuracy of researcher documentation (cf. Maxwell, 1992)	Increased via use of both formal and informal member checking techniques.
	Interpretive validity	Extent to which a researcher's interpretation of an account represents an understanding of the perspective of the group under study and the meanings attached to their words and actions (cf. Maxwell, 1992)	Increased via use of both formal and informal member checking techniques.
	Observational bias	Inadequate amount of data analyzed	Increased via the use of peer debriefing techniques, which provided for the revelation of previously uninvestigated data assumptions.

Type of Threat	Stage of Design/ Legitimation	Description	Method of Increasing Credibility
	Researcher bias	Researcher-based passive personal bias such as personality, gender, ethnicity; and active personal bias such as researcher mannerisms or actions that may influence the participants' behaviors	Increased via the use of peer debriefing techniques, which allowed for thick and rich meaning of the data and provided for a reflection of possible threats of bias by the researcher.
	<i>Data interpretation phase:</i>		
	Confirmation bias	Existence of a possible alternative explanation of new data when there might be a tendency to base interpretations of these new data on prior hypotheses	Increased via a series of individual debriefing interviews of all the participants, as well as a focus group debriefing interview involving most of the participants.
	Illusory correlation	Tendency to identify a relationship among entities when no such relationship exists	Increased via a series of individual debriefing interviews of all the participants, as well as a focus group debriefing interview involving most of the participants.
	Causal error	Erroneously concluding causality without verification of this interpretation	Increased via a series of individual debriefing interviews of all the participants, as well as a focus group debriefing interview involving most of the participants.
	Effect size	Use of qualitative categorizations to interpret the meaning of observed behavior and word patterns	Increased via a series of individual debriefing interviews of all the participants, as well as a focus group debriefing interview involving most of the participants.

Analysis

We entered the interview transcriptions as separate cases—but one project—into a qualitative data software program, namely, QDA Miner Version 4.0.3 (Provalis Research, 2011), to facilitate a constant comparison analysis (Glaser & Strauss, 1967). When conducting constant comparison analysis, we hoped to generate a theory or a set of themes (Leech & Onwuegbuzie, 2008). During the constant comparison analysis, multiple readings of each transcription were necessary in order to generate codes that were descriptive of the data and to reach a level of saturation that would allow the theory to emerge. According to Glaser (1965), constant comparison analysis is conducted to generate theory by using a more systematic and exhaustive process. Additionally, we chose to use constant comparison analysis due to the depth and flexibility provided in the

analysis of qualitative data (Glaser, 1965). As outlined by Leech and Onwuegbuzie (2008), this approach may be applied within a single study to analyze qualitative-based sources of data comprising observations, interviews, documents, and images. Furthermore, we employed the use of Strauss and Corbin's (1998) approach to examine each set of interview responses by undergoing the following three analytical stages, namely: open coding, axial coding, and selective coding. In the open coding stage, 43 codes were created and added during the second and third readings of the interviews within QDA Miner. These coding choices were determined from our interpretations of the data (Carley, 1993). Further, we used classical content analysis (Berelson, 1952) to determine the frequencies of the themes extracted via the constant comparison analysis—consistent with Leech and Onwuegbuzie's (2007) call for using multiple qualitative data analysis techniques whenever appropriate and possible.

After the themes had been extracted via constant comparison analysis, they were subjected to a correspondence analysis, which is a multivariate analysis and graphical technique that allows researchers to conduct a cross-case analysis of emergent themes. Specifically, a correspondence analysis is an exploratory multivariate technique that involves factoring categorical (i.e., nominal level) variables and graphing them (i.e., mapping them) in a property space that displays their associations in multiple (i.e., two or more) dimensions (Michailidis, 2007). The QDA Miner 4.0.3 software program (Provalis Research, 2011) was used to conduct the correspondence analysis. This analysis represented what Onwuegbuzie and Combs (2010) referred to as a *crossover mixed analysis*, whereby the analysis types associated with one tradition (i.e., quantitative analysis: correspondence analysis) were used to analyze data associated with a different tradition (i.e., qualitative data: emergent themes)—thereby being consistent with our critical dialectical pluralist stance (Onwuegbuzie & Frels, 2013). Specifically, we utilized a qualitative-dominant crossover mixed analysis wherein the qualitative analysis was dominant, while, simultaneously, we deemed the addition of quantitative analysis as being helpful in providing richer data and interpretations (Onwuegbuzie & Combs, 2010). Moreover, conducting a correspondence analysis ensured that we did not engage in what Bazeley (2009) refers to as a *superficial reporting of themes* in which “qualitative researchers rely on the presentation of key themes supported by quotes from participants’ text as the primary form of analysis and reporting of their data” (p. 6).

As part of the data analysis, we analyzed each interview with respect to the nonverbal behaviors exhibited by participants. Specifically, we analyzed these nonverbal data via Gorden's (1980) four basic nonverbal modes of communication, Ekman's (1999) *Neurocultural Model of Facial Expression* for observing innate facial expressions, and McNeill's (1992) classification scheme of gestures. Examining the nonverbal cues of all the participants provided a more in-depth understanding of the participants' experiences.

Results

Constant Comparison Analysis

A constant comparison analysis was performed on the data. This method involved reading through each transcript and identifying any significant motifs communicated. These motifs were coded and examined for any idea patterns, or themes (Straus & Corbin, 1998). This analysis revealed 43 codes that were organized into five major themes: (a) compartmentalization of life, (b) outside support systems, (c) justification for participation in program, (d) emotional status, and (e) structure of program. The organization of these codes into themes can be viewed in Table 3.

Classical Content Analysis

The classical content analysis followed the constant comparison analysis. Based on coding frequency, the participants placed the most emphasis on the codes *confidence*, *children*, *doctoral program*, *cohort structure*, *employment*, and *proximity*. The 43 codes were assigned to approximately 730 different chunks of data within the 10 transcribed interviews. Overall, the codes associated with the theme *compartmentalization of life* occurred most frequently, as compared to codes associated with other themes. Table 4 displays the frequency for the prominent code within each theme.

Table 3. Constant Comparison Analysis: Themes and Their Codes

Theme	Codes Used
Compartmentalizing Life	Driving, eating, exercise, faith family obligations, social life, studying, travel, employment, organization, relationships, time management
Outside Support Systems	Children, parents, spouse
Justifications for Participation in Program	Background, courses, department of education, doctoral program, educational leadership, K-12, master's program, public school, research interest, opportunities – athletics, opportunities – professional, opportunities – teaching
Emotional Status	Complaining, confidence, guilt, happy, procrastinating, rejection, worry, emotional crisis
Structure of Doctoral Program	Proximity – home, international students, proximity – university, proximity – satellite university center, tuition, references to cohort, skills gained – reading/writing, time to obtain degree

Table 4. Classical Content Analysis: Prominent Code within Each Theme and Their Frequencies

Prominent Code	Category/Theme	Frequency of Code	Frequency of All Codes Within Respective Theme	% Code Used Within Theme
Employment	Compartmentalizing Life	48	247	19.43
Doctoral program	Justification for Participation in Program	46	207	22.22
Reference to cohort	Structure of Doctoral Program	33	152	21.71
Children	Outside Support Systems	40	89	44.94
Confidence	Emotional Status	19	41	46.34

NOTE: Obtained using QDA Miner Version 4.0.3.

The most dominant theme, compartmentalization of life, permeated the experiences of all participants. Each individual discussed how her/his doctoral program experience caused her/him to feel

as if she/he was separating her/his identity. The participants discussed *family obligations, relationships, work, and studying* as taking up a great deal of their time. One of the participants, April, explained, “The biggest challenge obviously is time management and juggling a full time job, a full time life that we all have, and a full time program.” Another participant, Brenda, discussed the difficulties of being in the program while still taking care of her young son:

And just arranging my life around school, at that time part-time adjunct work, and my son who at 6 months was still nursing and still very dependent on me being at home with him and taking care of him, was very overwhelming.

Several participants also reflected on how to incorporate *social lives, travel, and exercise* into their busy lives, thereby adding more responsibilities to an already full schedule. Darcy referenced her *faith* as being both key to her identity and to her overall well-being while being involved in the program, stating “The foundation with coping with all of my challenges: I am a woman of faith.” Further, because of these multiple roles, *time management* and *organization* were mentioned as skills to master in order to achieve success in all roles:

I would say...time management. I've always been one where I pride myself on being organized and think that is totally challenging. It has helped me a great deal and then at the same time, I find myself having to make serious, serious decisions and choices around what's a priority and I have to seriously prioritize you know, work, life, school, and things that that I thought were extremely important to me.

Perhaps because of the toll that the multiple roles were taking upon the doctoral students, they seemed to feel the need to justify their participation in the program with mentions of their *academic backgrounds, qualifications, and future goals*. This justification became the second most common emergent theme. The idea of the doctoral program being the next logical step following their previous educational and employment experiences permeated the transcripts, exemplified by Marcy's statement, “When I was an undergrad, I knew at that point and time that I wanted to go into graduate school and that I wanted to pursue a doctorate.” Furthermore, many of the discussions of the challenges the program presented were tempered with discussion of the *opportunities* that would be afforded them upon completion of the degree. Travis explained:

I thought that would be that would be great if could do that here because I mean that opens a lot of doors for me, it opens the possibility of either going into teaching which I could love to do, directing a large academic outdoor program which I would love to do, um, or going into administration of some capacity whether that be as a dean or vice president or president you never know.

The third most common theme that emerged centered on the program structure itself. This theme included mentions of the *cohort structure*, the *proximity* of the institution, and the *skills gained* as a result of the program. The *cohort structure* was mentioned with particular importance. Participants deemed it a positive support system that provided the empathy and encouragement necessary to continue on in the program. Sally explained:

The thing that I've enjoyed most about the program has probably been the camaraderie of the cohort. I have met friends, made friends, met people, totally different walks of life. Um, got to know them, not only on a student-cohort type relationship, but also personal relationships with some, and to know that they are going through the st- [sic] same struggles, if you will, that I am facing, it makes me feel not so alone.

The code *proximity* was a key point for the majority of the participants within the program structure theme. As previously mentioned, this particular group of students was divided in a way that allowed each to participate in the program at their preferred location (i.e., the actual university vs. the satellite campus) while being connected through ITV. By being able to take classes at a loca-

tion that was convenient for each of them, each individual was able to take the initiative to apply for the program and, thus, mitigate any challenge of travel. Brenda commented that it was “much easier for me in my current life situation to stay in the town I lived in.”

The participants further put emphasis on the *skills gained* as a result of the program’s structure and requirements. Although some initially complained about the program’s rigorous requirements (e.g., development of reading and writing skills), these exercises were deemed as ultimately beneficial areas of learning: “I am becoming a better student. I’m becoming a better writer. I’m becoming a better analyzer,” explained Brenda. Even though the challenges were numerous, Travis remarked, “I’ve always been big on challenging myself and I have this self-satisfaction of knowing that I’m, ah, I’m doing this.”

Even with acknowledgement that the challenges were beneficial, the participants still felt the strain and stress of the program requirements. Every individual mentioned the creation and use of an outside support system, which was the fourth most common emergent theme. Key support structures included *children, parents, and spouses*. It appeared that many of the participants considered success unattainable if not for the support that they received from these outside systems. Travis summed it up with the statement, “Having an understanding family is a huge help.”

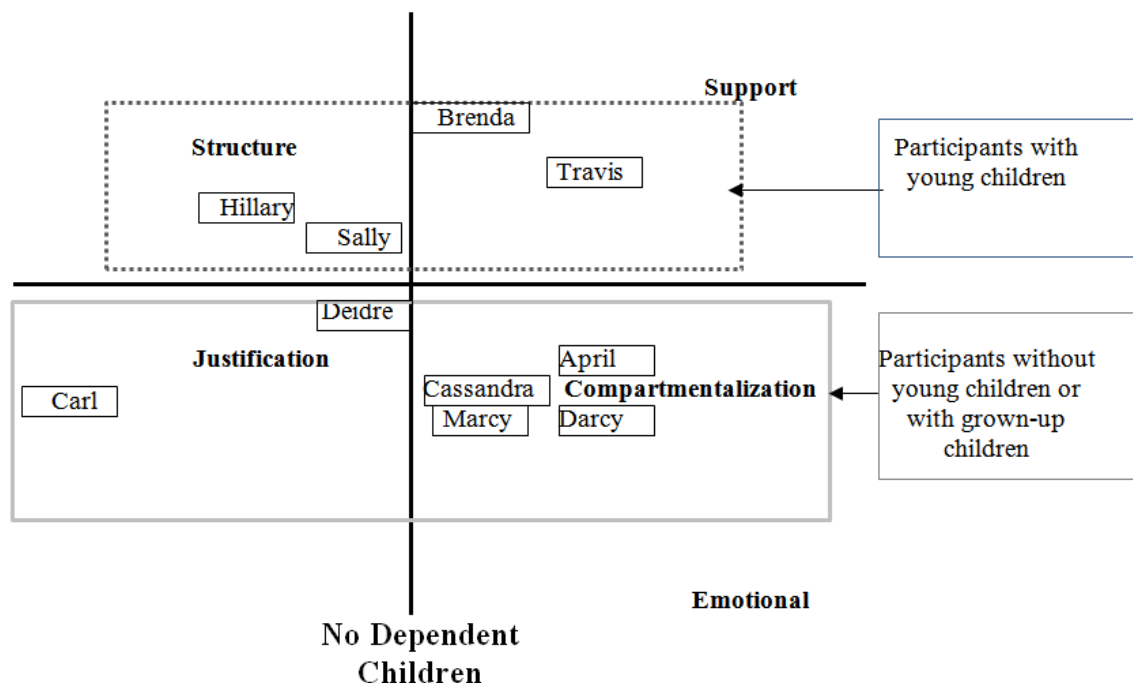
However, even with a support system, the challenge of being a full-time doctoral student was arduous. Because of this challenge, the participants commented often on their emotional status, the fifth most common theme. They often felt *guilt* (i.e., feeling that their studies were taking time away that could be spent with family or friends) and *worry* (i.e., concerned that they might not be able to meet the challenges of the program). These feelings led to mentions of *rejection, complaints, and emotional crises*. April discussed the pressure, revealing that she felt anxiety due to “not meeting those expectations as planned and uh and then, then thinking, you know, re-evaluating, why am I doing this again why am I putting myself through this again?” However, there were also discussions about *happiness and confidence* in regards to experiencing success in the program. Several participants mentioned how much they had grown and learned from their experiences, such as Hillary: “I learned endurance and diligence. Also, the good thing is I learned is that I can do it. I feel confident.” Another student, Brenda, went on to explain, “I’m doing better, I’m reading better, and I’m thinking about things differently.” It was interesting to note that, although each person had a very unique background (e.g., agriculture, criminal justice, psychology, mathematics), they all experienced these similar emotions and concerns.

Correspondence Analysis of Themes

Figure 2 illustrates the 10 participants mapped, via correspondence analysis, onto the space that displays the five emergent themes (i.e., compartmentalization of life, outside support systems, justification for participation in program, emotional status, and structure of program). This figure shows how the participants related to each other in regard to these five themes. In the top left quadrant, it can be seen that Hillary and Sally clustered together nearest to the theme of structure of program and somewhat close to the theme of justification for participation in program. In the top right quadrant, it can be seen that Brenda and Travis clustered together nearest to the theme of outside support systems and somewhat close to the theme of compartmentalization of life. In the bottom right quadrant, it can be seen that April, Cassandra, Marcy, and Darcy clustered together nearest to the theme of compartmentalization of life and somewhat close to the theme of emotional status. Finally, in the bottom left quadrant, it can be seen that Carl was by himself close to the theme of justification for participation in program.

Interestingly, the four participants in the upper (left or right) quadrants represented all four doctoral students who simultaneously were raising one or more young children (i.e., Deidre, Hillary, Sally, Travis), whereas the six participants in the bottom (left or right) quadrants represented

those doctoral students who either had no children at all (i.e. Deidre, Carl, Marcy) or who had offspring who were no longer young children (i.e., Darcy, April). These two clusters provided compelling evidence of what we called a *dependent children* metatheme, wherein, to a significant degree, the participants' doctoral experiences occurred as a function of whether or not they had one or more dependent children while they pursued their doctoral degrees.



Structure = Structure of program

Compartmentalization = Compartmentalization of life

Support = Outside support systems

Justification = Justification for participation in program

Emotional = Emotional status

Figure 2. Correspondence analysis plot of the five emergent themes.

Analysis of Nonverbal Communication Data

Of Ekman's (1999) 15 fundamental emotions that are associated with innate facial expressions and that are all distinguishable from each other (i.e., amusement, anger, contempt, contentment, disgust, embarrassment, excitement, fear, guilt, pride in achievement, relief, sadness/distress, satisfaction, sensory pleasure, shame), the participants displayed between two (Carl) and 11 (April) fundamental emotions. Interestingly, the most dominant emotion exhibited was pride in achievement ($n = 10$; which means that all participants expressed this emotion at some point during the interviews), followed by satisfaction ($n = 8$) and excitement ($n = 7$). In fact, in general, positive emotions were displayed much more than were negative emotions by the participants. The most common negative emotion displayed was guilt ($n = 5$), followed by sadness ($n = 4$) and fear ($n = 3$). All other negative emotions were exhibited by two (embarrassment) or less (anger, contempt, shame yielded $n = 1$; disgust was not exhibited by any participant) participants. Thus, despite the challenges faced by the study participants, consistent with the verbal responses, they were overall positive about their doctoral experiences.

Discussion

The pursuit of a doctoral degree has been characterized by high attrition rates that range from 33% to 70% (cf. Gardner & Gopaul, 2012; Ivankova & Stick, 2007; Jiranek, 2010; Kim & Otts, 2010). As concluded by M. Jones (2013) “To ensure greater success in the doctoral graduate process, supervisors and institutions must have an understanding of the issues which arise through this task” (p. 83). Thus, the present study represents an attempt to provide greater understanding of the issues that are most pertinent to doctoral students that threaten the attainment of their doctorate degrees—using qualitative research techniques that have been underutilized by researchers. Indeed, our study is unique in at least five ways. First, it is one of the few studies wherein qualitative research techniques have been used to examine stress and coping of doctoral students from the field of education. Second, this inquiry represents one of the few studies wherein doctoral students representing a whole cohort were examined. Third, this investigation represents one of the only studies in which a critical dialectical pluralism philosophical lens was used to study the underlying phenomena, thereby allowing the participants also to serve as researchers and vice versa. Fourth, this study represents the first study to use mixed analysis techniques (e.g., combining constant comparison analysis with correspondence analysis) to examine doctoral students’ perceptions of challenges and coping methods. Fifth, this investigation represents the first explicitly to incorporate the collection, analysis, and interpretation of nonverbal communication data into the research design to study doctoral student perceptions—with the use of nonverbal communication data being grossly underutilized over the last two decades in qualitative research studies (Denham & Onwuegbuzie, 2013). The use of nonverbal communication data increased the rigor of the present study by allowing the researchers to fulfill one or more of five purposes relative to the verbal communication data collected, either a priori, a posteriori, or iteratively: (a) to *corroborate* speech narrative (i.e., triangulation); (b) to *capture* underlying messages (i.e., complementarity); (c) to *discover* nonverbal behaviors that contradict the verbal communication (i.e., initiation); (d) to *broaden* the scope of the understanding (i.e., expansion); and/or (e) to *create new directions* based on additional insights (i.e., development) (Denham & Onwuegbuzie, 2013).

The findings of this study provide insights into the common experiences of doctoral students, identifying the ways in which doctoral students might be encouraged to persist to degree attainment. In the present investigation, to varying degrees, all four domains of problems among doctoral students emerged that were identified by Pyhältö et al. (2012), namely, general working processes, domain-specific expertise, supervision and the scholarly community, and resources—and illustrating how the first year of the doctoral program represents the most difficult period of adjustment (Hockey, 1994). The interview responses also revealed that the majority of the students were challenged with multiple roles that were simultaneously imposed on each student (i.e., family obligations, social relationship, and work responsibilities) and rigorous program standards that required high levels of academic skills. This finding is consistent with other findings about the personal and academic challenges that might be experienced by doctoral students in pursuing their doctoral degrees (e.g., Gardner, 2009a, 2013; E. A. Jones, 2010; Onwuegbuzie, Rosli, Ingram, & Frels, 2014). This result concerning the challenge to doctoral students who are faced with the task of negotiating multiple roles also is consistent with Maher et al.’s (2004) observation that women most often are distracted from their academic endeavors by their maternal responsibilities. Additionally, incorporating multiple roles and responsibilities into their lives appeared to be associated with negative emotions such as guilt, worry, rejection, and emotional crises. This finding is consistent with Moyer et al. (1999), who documented that diversions—which, in the present inquiry, resulted from the doctoral students’ multiple roles and responsibilities—threatened their emotional and psychological well-being. One of the study participants highlighted the pressures associated with juggling personal and professional responsibilities, and the outcome of such obligations:

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As an administrator, I'm in a constant state of worry as to whether my role as a doctoral student affects my work productivity and vice-versa. As a result, I compartmentalize in order to cope with the demands of work, school, and family.

Other students, particularly those with young children, focused more on how their family lives were impacted by the doctoral program. One participant discussed some of the challenges of caring for a very young child while pursuing a doctoral degree:

One of the first and main challenges is that when I began the program in...January 2011...my son was 6 months old....I had to structure everything around my son during the day, and hope that I could get enough work done and enough sleep to be a functional person the next day as well as keep up with the program. So, really the time commitment in conjunction with being the mother of a very young child, [was] one of the biggest challenges that I faced at the beginning.

These challenges did not abate as the children aged, as evidenced by the statement of another participant:

The 10-year old understands the sacrifice that's being made by the family. Uh, the 3-year old, not so much. The 10-year old is very helpful at home, yet she also demands me time. Uh, the 3-year old is three, obviously, she doesn't, uh, doesn't have the capacity to comprehend Mom has to study or Mom has to read, and she's learning how to sit in my lap and find other ways of self-soothing than mom has to play with me.

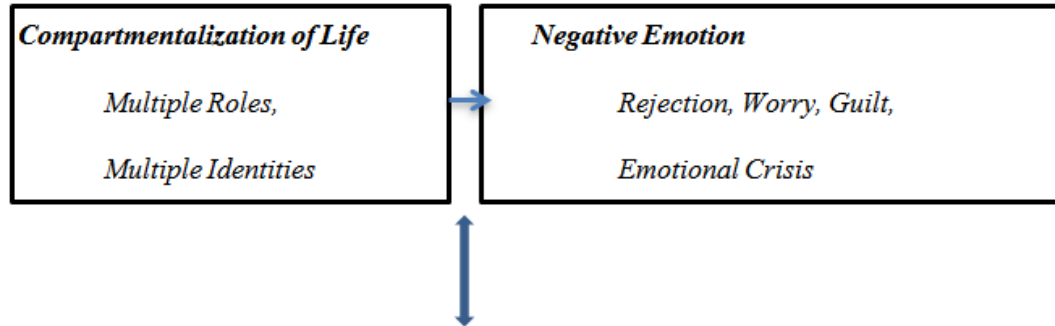
The stories of these participants illustrated that there were special needs not being met for doctoral students who have young children. Many students discussed difficulty not only scheduling time to study or to work outside of class, but also finding time and childcare in order to attend class and other school functions (e.g., conferences, professional development opportunities, graduate student seminars). Also, concerns of missing class or an event due to a sick child or childcare provider were mentioned. In terms of support for these needs, students turned to spouses and other family members, but sometimes these options were not available. This need for childcare and support was a subject of much stress for the students with small children. This finding is consistent with Spaulding and Rockinson-Szapkiw's (2012) finding that having help with childcare is a factor that some doctoral students attribute to their persistence.

In spite of the difficulties that they faced in pursuing their doctoral degrees, as evidenced by both their verbal and nonverbal responses, the participants established a coping mechanism and sought for both outside and inside support (see Figure 3). The support from their families (i.e., children, family, spouse) was revealed to offset their challenges. In addition to family support, the cohort system in the program was a positive factor that helped them continue on with their studies. Butterwick, Cockell, McArthur-Blair, MacIver, and Rodrigues (2012) indicated that shared values established by cohort members in the doctoral program enabled them to increase *connectivity* and *collectivity* and to enhance their learning experiences. As denoted by a study participant, "I have placed my interactions with friends (non-doctoral) and family on the *back burner*. I do however, heavily rely on my cohort mates, and two very close friends who have recently completed doctoral programs at other institutions."

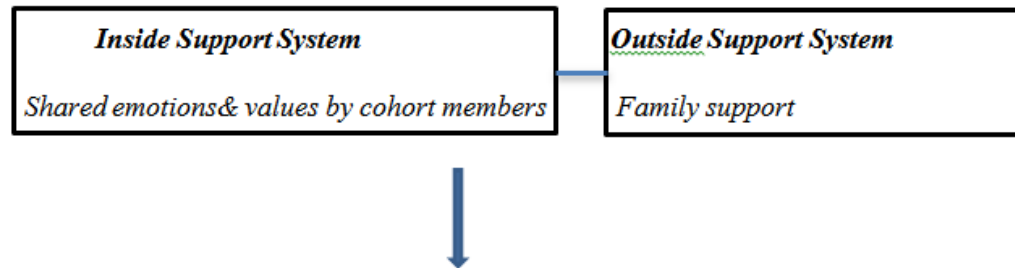
This reliance on cohort members was underscored by the shared experiences, or the feeling that other cohort members "can more closely relate" to one another's experience while in the doctorate program. Additionally, Nimer (2009) posited that participation in a doctoral cohort program was associated with increasing the chance of course completion of all cohort members by facilitating social and emotional support. Consistently, the participants appeared to establish a sense of collectivity and connectivity by sharing empathy and encouragement even though each of them enrolled in the doctoral program had different academic backgrounds and future goals. This find-

ing affirmed the strength of a cohort model in the doctoral program that was discussed in the previous studies (i.e., Butterwick et al., 2012; Nimer, 2009).

Challenges



Coping Mechanism



Accomplishments

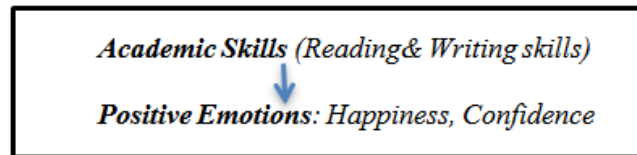


Figure 3. Challenges, coping mechanism, accomplishments of doctoral students

Lastly, the participants described their accomplishments such as gained academic skills (e.g., reading, writing skills). Additionally, when they had successful learning experiences, they had a feeling of happiness and confidence. These feelings seemed to be intrinsic motivators to help their persistence and involvement in their programs. This finding might be insightful for faculty members of these students who were engaged in the curriculum and instruction of the doctoral program. As such, faculty members of the doctoral students in the present study should consider attempting to increase their students' confidence level, so that these students could take ownership of their learning and enhance further their learning abilities and outcomes, as well as helping them reach the stage of *conscious competence* wherein they have accumulated sufficient knowledge such that they are aware of what they know (Beeler, 1991). Indeed, faculty members have been found to play an important role in the socialization process of doctoral students (Gardner, 2007, 2008, 2009b, 2010a, 2010b; M. Jones, 2013; Weidman, & Stein, 2003; Weidman, Twale, & Stein, 2001). In particular, the professional support and emotional support of faculty members are two important components of positive social support (Jairam & Kahl, 2012), and social factors (i.e., support systems and coping mechanisms) have emerged as being important reasons for doctoral student persistence (Martinez, Ordu, Della Sala, & McFarlane, 2013; Spaulding & Rockinson-Szapkiw, 2012).

Conclusions

In conclusion, the present findings indicated common experiences of selected students in the doctoral program including their challenges, coping mechanisms, and accomplishments. These findings were significantly valuable in understanding how select doctoral students were involved in their learning process. To the extent that these findings are generalizable beyond the sample, the shared experiences might provide some ideas for faculty members and doctoral program directors to develop support programs and services that consider the personal as well as the academic well-being of doctoral students. Specifically, (a) offering childcare options for graduate seminars or at conferences would be helpful for students with young children; (b) videotaping each class would provide students who have to miss face-to-face classes unexpectedly (e.g., mothers with sick children) the opportunity to watch the videotaped lesson(s) when available at their convenience; (c) allowing more virtual classes through updated technology (e.g., Skype, FaceTime) would assist students when dealing with illness, employment travel, or childcare issues; and (d) offering classes, seminars, and professional development opportunities at a variety of times would allow for students to have a flexibility of options to meet their busy lifestyles. All of these suggestions likely would help the select doctoral students in the study—if not other doctoral students—in their efforts to achieve success as they pursue degree completions and still maintain a balance among all of their other obligations. Consistent with our assertions, Haynes et al. (2012) highlighted the importance of female doctoral students developing “realistic social, economic, and personal expectations associated with their studies in order to determine the best personal balance of the multiple roles they play” (p. 1).

Our next step in the process of examining these select students’ challenges and coping methods is to document each other’s experiences and perceptions for the remainder of their doctoral programs—yielding a longitudinal qualitative study. Such a study would help to address a question such as “What are the short- and long-term challenges faced by select doctoral students and what coping methods, if any, do they use to address each of them?” Addressing this reformulated question (final step of Leech & Onwuegbuzie’s (2013) 13-step qualitative research process) likely would help us to determine whether a stage theory of challenges and coping can be identified among these doctoral students. Such information would help curriculum developers, advisors/supervisors, mentors, and instructors ascertain an optimal time to implement interventions that could improve the quality of doctoral experience of these students and, hopefully, other students similar to those in the present study.

Contributions to under-examined areas in the extant literature regarding coping strategies of underrepresented populations in doctoral programs were addressed in this study; however, findings were limited to 10 students in one cohort at one institution. Replicating this research study with future doctoral cohorts at one institution, along with employing the same methodological approach, could yield rich data and manifest an understanding of coping strategies that inform the structuring of doctoral programs.

As indicated in Table 2, most of the limitations of the study were addressed to some degree. However, an important limitation that prevailed throughout the study was that we were not sure the extent to which saturation was reached—specifically, data saturation, which occurs when information occurs so repeatedly that the researcher can anticipate it and whereby the collection of more data appears to have no additional interpretive worth (Sandelowski, 2008; Saumure & Given, 2008). Notwithstanding, data collected via the debriefing interviews appeared to suggest that data saturation was reached.

Further, it should be noted that the current study was limited to the doctoral students at the beginning of the second year of their doctoral programs. Therefore, future research following this cohort through the various stages of the doctoral student experience, such as, the Four Stage

Framework developed by Ali and Kohun (2007), should be used in conjunction with the critical dialectical philosophical lens (Onwuegbuzie & Frels, 2013) further to empower participants as researchers. The use of the Four Stage Framework can be used to explore evidence that identified coping strategies result in successful completion of doctoral programs.

Interestingly, observations from this study suggest the emergence of differing experiences based on participant age, and the age of their children. A deeper analysis of the demographic variables of this study are needed as this may provide opportunities for future research. Given the tenets of the critical dialectical pluralism philosophical lens, the role of age (i.e. historical era of opportunity) and socioeconomic status should be examined further. A central tenet of critical dialectical pluralism is that social injustices are ingrained (Onwuegbuzie & Frels, 2013) and may differ from one society to the next. Thus, examining gender- and age-differentiated motivations, career flexibility, coping strategies and the like most likely will provide more in-depth understanding of experiences particular to individual student subgroups within a doctoral program.

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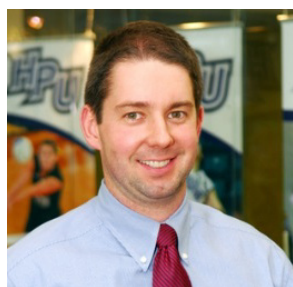
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