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Exploring graduate student parent experiences: How to better support and reduce attrition in an underserved population

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Exploring Graduate Student Parent Experiences:

How to Better Support and Reduce Attrition in an Underserved Population

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Dedication

To my beautiful, sweet son, Gabe; may you one day recognize that my endeavor and struggle to earn this Master's degree was in large part for you. I hope you grow into a man who appreciates the value of education; regardless, your mommy is, and will always be, so proud of her "little man."

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Mom—I can never thank you enough for the support you have provided to me by caring for Gabe during many of my long student sessions; you have truly helped me to achieve my academic goals. You also were the first to model success as a single parent to me.

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Abstract

Changes in the global economy, employer expectations, and cultural norms are causing a shift in the demographics of post-baccalaureate students. Out of necessity to support oneself in an increasingly demanding job market, female graduate student enrollment has been on the rise for a number of years. This, in combination with a general increase in the number of individuals enrolling in graduate degree programs while trying to balance the responsibility of raising children presents a growing problem for institutions of higher education. Graduate student parents are a population that requires additional and varying support services than those of the traditional graduate student. The unique challenges faced by this population can prove to be overwhelming at best, and this struggle can lead to attrition in many cases. There is a not only an absence of information regarding the best way in which to support graduate student parents, but some institutions seem to be largely unaware of the problem. James Madison University exhibits a complete lack of demographic information on its own graduate parent population, as well as a gap in an understanding of the ways in which these students could be better supported, thus reducing their risk of attrition. A mixed-methods research design that relies on survey questions addressing the experiences, perceptions, and unmet needs of graduate parents at JMU provides some of this preliminary information. Future research is needed to further qualify the services that could be provided to these students that would hold the most value for graduate parents, but survey results revealed a number of themes regarding the experiences, satisfaction, and needed support services within the population of JMU graduate student parents.

Keywords: graduate student parent, family-friendly, mixed-methods, thematic analysis, adult learners, support services

Chapter 1: Introduction

As advances in technology and rapid globalization fuel the next revolutionary shift in America's economy, it is not surprising to see increasing enrollment in higher education, including graduate school. Higher employer expectations result from the need for a broader skill set to do the jobs of the modern world (Galardi, 2012; Hart Research Associates, 2009), and these skills are often acquired by developing one's education. As Galardi (2012) writes, "increasing postsecondary attainment was an urgent national priority for ensuring economic growth and prosperity in the US" (p.14). The factors mentioned above logically lead to an increase in the number of people who will pursue advanced degrees. This would presumably increase the number of graduate student parents, as academic and career aspirations challenge the customary route towards growing one's own family.

Changing cultural and social norms have also fueled this change in the demographics of the graduate student population. Fewer traditional, or nuclear, families is likely to result in more single parents pursuing degrees as they strive to support one or more children as the sole provider. Declines in sexism and increased opportunities for women might explain the disproportional growth of female enrollment in graduate school; an analysis released by the Council of Graduate Schools (Allum, 2014) reports a trend of stronger growth for women than for men out of total graduate enrollment in the decade between 2003 and 2013.

Not surprisingly, the demands placed on graduate student parents produces high levels of stress, which is reasonable to assume is a factor in attrition rates in this population. Combined with the increasing number of females entering graduate school and the cultural expectations on

mothers, women are especially at risk for leaving school before completion of their degree. Based on 2005 estimates from the National Center for Education Statistics, Lynch asserts that "the rise of attrition rates for graduate student mothers is one of the most serious problems in the American system of higher education today" (Lynch, 2008, p. 585). Eversole, Harvey, and Zimmerman (2007) affirm that this "gender inequality in academia" results from "the high cost to individuals of trying to combine families with academic careers" (p. 1). Numerous authors argue that this inequality results from biased expectations for mothers in comparison to fathers, which becomes particularly significant when combined with the additional work required of a graduate student (Eversole, Harvey, & Zimmerman, 2007; Lynch, 2008; Mason, Goulden, & Frasch, 2009; Springer, Parker, & Leviten-Reid, 2009; Vancour, 2009).

Despite the available numbers, institutions have not kept up with these changing demographics, and the evidence strongly suggests that there are not enough resources available to parents pursuing graduate degrees (Lynch, 2008). Whether this is due to ignorance or a lack of appreciation for the conflict that results from such competing dual roles, numerous authors cite the seemingly insurmountable struggles involved in this student parent scenario (Dev Regmi, 2011; Eversole, Harvey, & Zimmerman, 2007; Grady, La Touche, Oslawski-Lopez, Powers, & Simacek, 2014; Lynch, 2008; Mason, Goulden, & Frasch, 2009; Parè, 2009; Park & Nolen-Hoeksema, 2004; Springer, Parker, & Leviten-Reid, 2009; Vancour, 2009). Park & Nolen-Hoeksema (2004) write:

> Being an academic means the work is never done; being conscientious means being chronically haunted by the fact that the work is never done. When you add in a partner

> and children into the brew, the line between a multi-faceted life and a fragmented, unbelievably stressed out existence becomes very thin (p. 320).

The importance of addressing the challenges inherent in the graduate student parent role is not just important because of the high stress levels experienced by these students. The federal government should take note of the statistics that highlight the significance of higher education on America as a whole entity. According to Pandey, Zhan, & Kim (2006), the likelihood of living in poverty is significantly reduced for both single and married mothers on the basis of having a college degree. It is quite possible that institutions have been slow to implement supportive policies because there is a lack of information on the graduate student parent population and how to help it succeed in educational pursuits, but since over 627,000 graduate degrees were awarded in the academic year between 2012 and 2013 (Allum, 2014), the time has come to turn our full attention to this matter.

Problem Statement

Numerous authors have cited gaps in the literature base regarding the student parent population in higher education (Eversole et al., 2007; Lynch, 2008; Marquez, 2011; Pare, 2009; Sabourin & Irwin, 2008; Springer et al., 2009). Pare (2009) laments that there is not enough information on the thoughts and experiences of this population, as much previous research has been less qualitative in nature and more outcome-focused. The beliefs, concerns, and motivations of student parents are vital to providing supportive services (Wilson, 2011).

Lynch (2008) argues that even more specific data are needed that addresses how graduate student mothers combine their dual roles and how this challenge affects attrition, and

Springer et al. (2009) describe how knowledge regarding support services for graduate student parents would address the way in which "work-family issues of graduate students are nearly invisible" (p. 426). In addition to identifying ways in which formal services can better support graduate student parents, more comprehensive information on the ways in which these students succeed or fail in their educational endeavors (Pare, 2009) as well as exploration of "strategies for success that do not sacrifice family or career" (Eversole, Harvey, & Zimmerman, 2007) will further benefit this situation.

Purpose of the Study

The purpose of this study is to explore the experiences of an underserved and underrepresented population in higher education. At many of these institutions, JMU included, there is a clear lack of data regarding even the most basic demographic information on graduate student parents. One of the key objectives of this study is to answer the following demographic questions: How many currently active graduate students at JMU are parents? How many of these students are single versus co-parents? What is the average number of children reported by graduate student parent at JMU? What is the average age of the children of graduate student parents at JMU?

This research will also address the issue of reducing attrition among this population, for which data from the above questions will be relevant. The institution should be aware of the size of the graduate student parent population, which is arguably at a particularly higher risk of attrition; this may prompt officials to revise current practices and offer additional resources. This, in turn, would improve the experiences of graduate student parents, thus reducing their risk of attrition. Some of the major factors identified in this study as being related to the likelihood of

graduate student parent retention or attrition are depicted in Figure 1. Although the significance of these factors varies for each individual, the more an institution can do to reduce the impact of those in the "attrition" column and increase those in the "retention" column, the better the chance that a student can overcome the challenges inherent to being a parent in graduate school. These factors will be explored in greater depth in Chapter two.

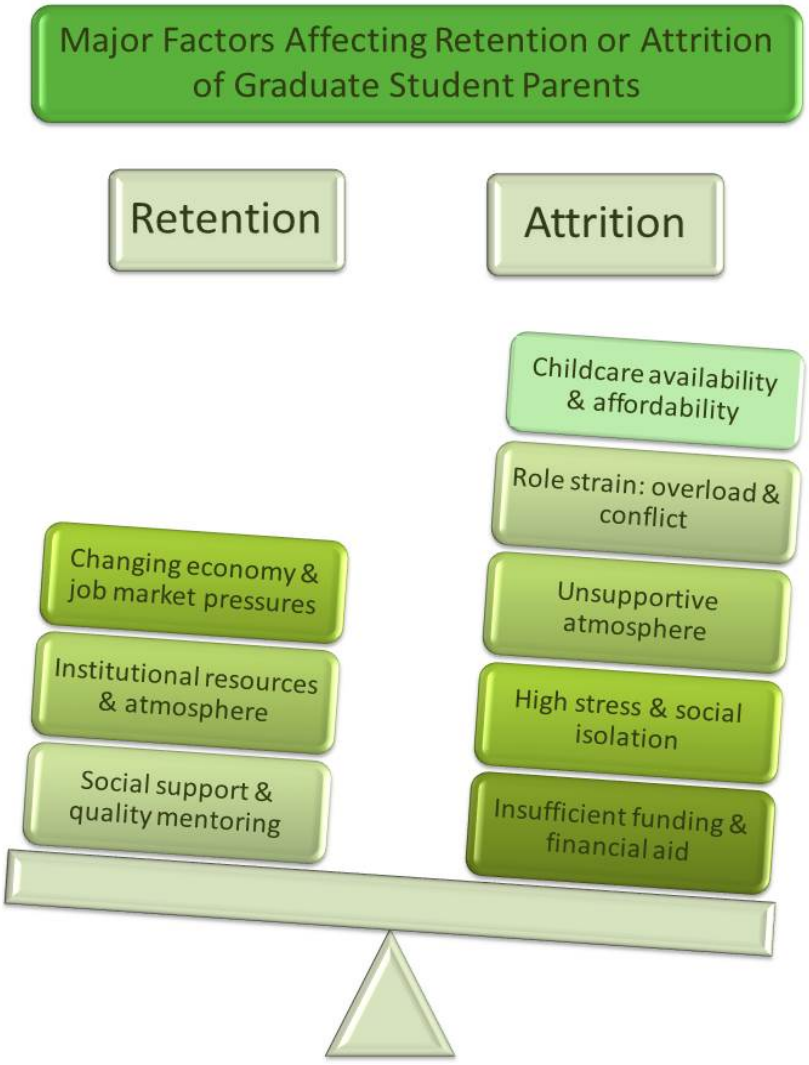

Figure 1: Significant Factors Affecting Attrition among Graduate Student Parents

In addition to exploring these factors in the context of JMU, this study contributes to the literature base and increases awareness of the graduate student parent population. In a later section within this chapter, I will outline the specific research questions that are explored in this study.

Justification

This research can be best understood—especially from the perspective of a student completing a Master's program in Human Resource Development (HRD)—as a combination of a needs assessment and a program evaluation. These topics in the HRD field align with the problem and purpose that I described above; further elaboration on the specific relationship between the research and these aspects are described in the following paragraphs.

Program evaluation. Although the university setting is obviously focused on a larger scope than an individual program, this research in essence evaluates JMU's success as an institution to provide the resources necessary for its students to succeed. Clearly, it is not succeeding if students quit degree programs before completion of the desired outcome: earning the degree. JMU should be concerned about this because it impacts the welfare of its clients, and attrition reflects badly on the institution in general. On a level more typically associated with program evaluation, questions addressing respondent satisfaction with current resources are a way to evaluate the effectiveness of specific policies and services. Again, in this context, which focuses on an overall evaluation of the support system provided by the university, these smaller components reflect on the institution as a whole. As evaluation researchers McDavid, Huse, & Hawthorn (2013) state, "evaluations are one source of information in policy decision making.

Depending on the context, evaluation evidence may be a key part of decision making, or may be one of a number of factors that are taken into account" (p. 39).

Needs assessment. The other component of this research includes a needs assessment to determine how JMU can fill the gaps between what it could (or should) offer as support to its clients (the students) and what these clients perceive as lacking services. This process is about finding "gaps, either in services that are needed or in the state of an individual or group in terms of health, education, and so on" (McDavid, Huse, & Hawthorn, 2013) as well as prioritizing needs and developing strategies to address these needs (McDavid, Huse, & Hawthorn, 2013). Questions addressing available resources will help university officials to know what they are already doing well and what services students value the most. Questions regarding the resources that could be provided, according to models from other institutions, can help JMU assess whether new policies and services are worth implementing in this context. Furthermore, asking open-ended questions that encourage respondents to list resources that they personally would benefit from allows ideas to emerge that I, as the researcher, had not previously considered. Finally, although it is a more implicit method of addressing the above question, asking respondents to describe their experiences—particularly the challenges—can help to identify other resources that neither researchers nor university officials had previously considered.

Research Questions

The qualitative, quantitative and mixed methods research questions for this study are as follows:

Quantitative:

1. What are the basic demographics of graduate student parents at JMU?
2. Does the age or number of children reported by graduate student parents affect average estimated stress levels?
3. Does single versus co-parent status have an effect on the degree of satisfaction that graduate student parents report in regard to available resources?
4. Is there a correlation between parenting status and stress level?

Qualitative:

5. What are the supports and constraints experienced by graduate student parents?
6. What resources or strategies could improve the graduate student parent experience and contribute to reduced attrition rates among this population?

Mixed Methods:

7. How does the inclusion of qualitative and quantitative data contribute to a more full understanding of the graduate student parent experience?

Basic demographic information is lacking for JMU, as evidenced by reviewing the university website and discussing the matter with relevant parties, such as the director and dean of the Graduate School. Data collected in this study include: the proportion of parents in the graduate student population; the proportion of parents who are single parents; the average number of children for graduate parents, and the average age of these children. In addition, analysis focuses on differences in graduate student parent experiences and satisfaction by gender

and parenting status. Both of the questions support the implicit belief that positive experiences and satisfaction will be lower for single female parents, partially because statistics show that single parents are more likely to be female (Vespa, Lewis, & Kreider, 2013). In addition, overwhelming evidence corroborates the idea that female graduate students experience more role conflict because of cultural norms and expectations (Lynch, 2008; Parè, 2009; Springer et al., 2009; Vancour, 2009; Wilson & Cox, 2011). The last quantitative research question aims to further explore the impact that parenting status has on stress levels, which are likely to affect experiences and reported satisfaction.

Resources and constraints are to be identified at the institutional, departmental, and personal levels, as there are a multitude of factors involved, such as finances, time-management, childcare, social support, psychological health, etc. Coping strategies and social support are considered to be part of the personal level of support systems. Each of these themes will be addressed by a self-created survey that involves both multiple choice and open-text entry questions. A thorough discussion of these ideas with focus group sessions was built into the research design in order to explore these topics in greater depth than generally allowed by a web-based survey, but survey participants failed to indicate interest in this component of the research design. The literature base would benefit from future research that utilizes this technique.

Hypotheses and Assumptions

Although no formal hypotheses will be proposed here, there are a number of assumptions that were influential in the formulation of the research and instrument questions. The broadest framework under which this study was conducted is based on the idea that parenting during graduate school is particularly strenuous. Thus, it could be argued that graduate student parent

experiences are more challenging than that of the traditional graduate student (Grady et al., 2014; Sabourin & Irwin, 2008; Springer, Parker, & Leviten-Reid, 2009). The challenge may be particularly significant for female student parents because of gender stereotypes, cultural norms, and ingrained inequality in policy or practice (Lynch, 2008; Parè, 2009; Springer et al., 2009; Vancour, 2009; Wilson & Cox, 2011).

Survey data also indicate a slightly higher proportion of female versus male graduate students (Allum, 2014). Combined with the implicit cultural norm presuming that parenting responsibility should fall onto the mother first, data analysis was expected to show that a majority of graduate student single parents are female. It is also likely that single parenting inherently demands more work from the single primary caregiver, which would presumably yield higher stress reports and dissatisfaction. Therefore, given that females are predicted to be single parents more often than males, a correlation should exist between gender and reported stress level.

The expectation of stress-filled responses carries another key assumption: this population—which has managed to survive dual roles thus far—must have developed methods to overcome limited resources. Coping strategies and suggestions for additional resources are shared with a larger audience as a means to improve the current system. Based on numerous reports in the literature, it is clear that many institutions do not provide adequate resources to help graduate student parents succeed (Lynch, 2008; Mamhute, 2011; Mason, Goulden, & Frasch, 2009; O'Connor, 2008; Parè, 2009; Springer et al., 2009; Wilson & Cox, 2011). I will now provide definitions for key terms used in this study.

Key Term Definitions

Term	Definition
Adult learner	Adult learners are typically considered to be age 24 or older and include career changers, individuals who are initially entering or returning to higher education, and most graduate students (Pelletier, 2010) and are enrolled part- or full-time at an institution of higher education (Galardi, 2012). In the context of this research, adult learner generally refers to graduate students.
Attrition	In this study, attrition refers to a lack of completion of the post-baccalaureate program in which the student was at one time enrolled (Lynch, 2008)
Andragogy	Most generally, it is Malcolm Knowles' theory of adult learning, "which purports that adults learn differently than children and prefer to learn by specific methods of instruction" (Galardi, 2012, p. 4-5).
Barrier	In the context of graduate student parents, this is any factor that makes the pursuit of higher education more difficult and increases the risk of attrition (Eversole et al., 2007).
Family-friendly	This term refers to the degree to which an institution recognizes the challenges of the student parent population and makes an effort to meet these needs through supportive policies and cultivation of a supportive

	atmosphere (Eversole et al., 2007).
Graduate student	This description refers to students from all possibilities of post-baccalaureate study: Master's, Doctoral, and certificate programs and are currently enrolled either part- or full-time (Grady et al., 2014). In general, graduate students and graduate student parents will be referenced in relation to status as a parent or non-parent.
Graduate student parent	"Graduate student parent" adheres to the guidelines of "graduate student," described above, in addition to self-identifying as the primary—or one of the primary—caregiver(s) for a child (Grady et al., 2014).
Mentoring	In this context, mentoring only involve persons in the academic world, which could include advisors or other faculty members with whom the student regularly interacts and looks to for support and guidance (Grady et al., 2014).
Nontraditional student	A term that generally refers to students who are enrolled part-time, work a full-time job, are considered financially independent on financial aid applications, chose delayed enrollment in higher education, or if the student is also a parent or single parent (Pelletier, 2010).
Role balance	Role balance, as summarized succinctly by Vancour (2009), is "a cognitive-affective orientation that reflects balance across roles" (p. 154).
Role conflict	A type of chronic role strain, involving the dissonance created by

	incompatible role demands that are not caused solely by time restraints (Grady et al., 2014; Sieber, 1974).
Role overload	A type of chronic role strain characterized by an inability to meet multiple role expectations because of insufficient time (Grady et al., 2014; Sieber, 1974)
Role strain	Includes both interrole and intrarole strain and can be summarized as "ongoing or repetitive difficulties in meeting role(s) expectations—such as role conflict and role overload" (Grady et al., 2014, p. 5).
Interrole strain	Refers to role strain resulting from the conflict of roles among different statuses, such as work and non-work roles (Grady et al., 2014).
Intrarole strain	Refers to role strain resulting from the conflict among roles that are connected to one status, such as simultaneous teacher and student roles (Grady et al., 2014)
Single parent	Single parents will usually be referenced in the context of graduate school, but in a general sense, this term connotes anyone who is the primary caregiver for one or more children and who does not share an agreement of equal parenting responsibilities with another person (Lynch, 2008).
Social support	Expressions of encouragement, understanding, or assistance offered by another person(s), such as a friend, family, or peer at work or school (Pare, 2009).

Traditional student	In most contexts outside of this research, "traditional student" refers to undergraduate students between 18 and 24 years of age who are financially dependent on their parents, in college full-time, and without responsibilities to provide for a dependent (Galardi, 2012; Pelletier, 2013). In this study, the term usually refers to students who are in graduate school and do not have—or care for—a child.

Table 1: Key Term Definitions

Overview of Research

The purpose of this research is to explore the experiences of an underserved and underrepresented population in higher education. At many of these institutions, JMU included, there is a clear lack of data regarding even the most basic demographic information on graduate student parents. Furthermore, according to the literature, there is a significantly higher likelihood of attrition among graduate student parents. The institution should be aware of just how large of a population of graduate students are particularly at risk for dropping out of a program before completion; this may prompt officials to revise current practices and offer additional resources. This, in turn, would improve the experiences of graduate student parents, thus reducing their risk of attrition. The opportunity to improve the experiences of graduate student parents at JMU is considered to be the main motivating factor for graduate students to voluntarily participate in this study.

However, gathering these fundamental statistics on the graduate student population at a mid-sized public university will not only help JMU; it will continue to add to the literature on the

prevalence, perceptions, experiences, and coping strategies among this population at a time when these factors are growing increasingly relevant to institutions of higher education. Furthermore, single parents are of particular interest in this research, a population for which there is even less knowledge and demographic information.

This study qualifies as a two-stage mixed-methods design, in which participants were first identified by voluntary response to a survey sent via bulk email to all graduate students. Student parents were asked to complete the survey for the purpose of potentially improving their experience in higher education. Those who completed the survey were invited to participate in focus groups to further explore the barriers, resources, experiences, and individual coping strategies among graduate student parents.

Since one of the goals of this research involved estimation of the number of graduate students as compared to graduate student parents, students who did not identify as parents were still asked to participate. Initiating the survey and completing the first question, regarding status as a student or a student parent, provided a better picture of this ratio at JMU. In addition to such demographic information, the survey also explored whether there is a significant difference in the experience and satisfaction of graduate parents by gender, a correlation between parenting status and stress level, and whether parenting status has an effect on reported satisfaction with available resources.

Questions regarding the resources and constraints faced by graduate student parents and the support services that could be helpful are also covered in the survey, but these were explored in much greater depth during the focus groups. This qualitative stage of the study provided a more holistic understanding of perceptions and opinions, in which participants were free to make

their own connections between influential factors in their experience of graduate student life as a parent. This type of data collection also allows for analysis of root causes within struggles or successes, as well as identification of extraneous variables that were not covered in this study.

Limitations and Scope

Qualitative research tends to limit the size of the study, because such deep exploration inherently requires more time and individual effort. A smaller number of participants could limit the generalizability of this research to the larger graduate student population at JMU. Although limited time and resources restrict the scope of the study, the specified interest in identifying reportable demographic information and improvement opportunities regarding the population at this particular institution justify the scope.

Aside from generalizability, there are several other potential limitations of these findings. The data collection period was only a few months long; as such, this left a smaller window for survey completion. This, combined with the hectic and haphazard nature of graduate student life, may mean that valuable responses were missed because of time and workload restrictions on students. This challenge might be particularly relevant for graduate student parents because of their multiple roles and responsibilities.

Bias is a largely unavoidable consequence of research that relies on fallible human memory and individual perceptions. Aside from the highly subjective nature of the instrument questions, responses are likely to vary based on a participant's mood, stress level, workload, and other extraneous variables. Social desirability bias, or the tendency for subjects to answer in the way they perceive is expected or acceptable to others (Marlow & Crowne, 1961), is another

threat that can be minimized with careful data collection procedures. Finally, researcher bias could affect the validity and reliability of the study, particularly because self-created instruments were used in data collection. Basing the instruments on a thorough review of the literature was considered the best way to obtain answers to the questions that are specific to this study. In the next section, I will discuss the literature in which this study is grounded.

Chapter 2: Literature Review

This literature review includes a conceptual framework identifying themes within 3 levels of resources and constraints that seem to be commonly experienced by graduate student parents as well as a theoretical framework supporting the formulation of the conceptual framework. It is organized in the order of an overview of the conceptual framework, exploration of the three themes, an overview of theoretical framework, followed by detailed explanation of how theory supports the ideas within the conceptual framework as identified in the literature.

Searching for this information and supporting references focused on the JMU databases, although Google Scholar was used to locate difficult to locate materials. Another useful technique involves examination of the sources cited in relevant articles or books. Database searches focused on key words such as: work-life balance, mothers, mothering, motherhood, parents, graduate students, graduate school, adult learners, support services, gender, gender inequality, academia, role theory, mentoring, social isolation, attrition, single parent, college, stress, higher education, children

Graduate Student Services

To better understand the conceptual framework that was used to analyze graduate student parent support systems, I will first provide an overview of general graduate student services. Basic services at most universities include a campus bookstore, parking and transportation services, financial aid and scholarship opportunities, on-campus dining facilities, academic advising, one or more recreational centers and libraries, and a student health center (Liller & Spencer, 2013). Sources of university financial aid and funding include Graduate and Teaching Assistantships, Fellowships, Scholarships, and loans; outside employers, family, and individual

savings constitute other main sources of financial support (Liller & Spencer, 2013). Many universities also offer programming tailored to graduate students, such as research and professional development workshops, research showcases, and social events (Liller & Spencer, 2013). On- and off-campus housing, computer labs, and study centers are other services that may be offered specifically to the graduate student population (Liller & Spencer, 2013).

Additional support services are designed to help graduate students deal with stress, transition into new roles and responsibilities, and increase the social support that can buffer a student's mental health against these variables. For instance, Polson (2003) emphasizes the need to develop orientation programs (or "graduate fests") to assist in the academic and social transition process; she also argues that expanding such orientation programs to "include information about child- or elder-care services, disability support services, leadership and community service opportunities, security services, psychological and learning services, and marriage and family counseling services" (p. 61) enhances the effectiveness. Workshops within learning-assistance or career-transition programs can increase students' self-efficacy and confidence by polishing "rusty" study skills and preparing candidates for applications, interviews, and the development of resumés and curricula vitae (Polson, 2003). Negative effects of stress and mental health issues are supported by counseling services, and offering seminars through university counseling services can increase feelings of social support by encouraging communication among graduate students (Polson, 2003).

Conceptual Framework

To appreciate the unique experiences of graduate student parents from a holistic perspective, resources and constraints will be explored at three different levels, as indicated in

Figure 1. At the institutional and departmental levels, the aim is to identify what resources student parents find to be available, what they perceive to be constraints (or a lack of resources), and how the experiences of these students could be improved with adequate support. The third level focuses on support systems and obstacles and is considered the personal, or psychological, level.

This framework was used to explore existing systems of support and identification of strategies that student parents use to overcome their unique challenges. In addition, qualitative data lend themselves to a discussion of the emotional and psychological effects of the graduate student parent situation. Such discussions may enable discovery of relevant factors influencing the patterns of behavior, feelings, and perceptions. This approach will facilitate future improvement of graduate student parent experiences, within higher education in general, and particularly at James Madison University.

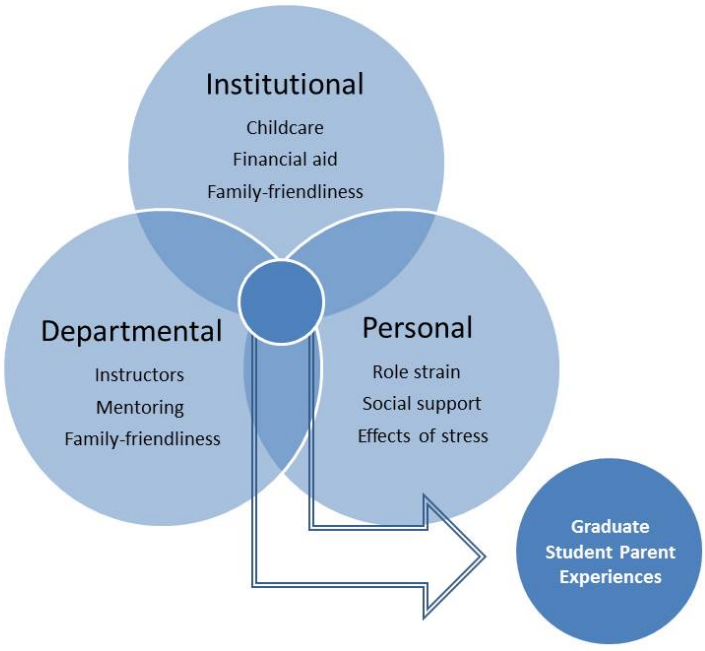

Figure 2: Resources and Constraints for Graduate Student Parents Explored at the Institutional, Departmental, and Personal Levels

Institutional level. At the level of the institution—in this case, a mid-sized public university—the main factors of interest involve availability of on-campus childcare or alternative childcare options, financial aid and funding opportunities, and family-friendly policies and culture. The term "family-friendly" refers to the degree to which the institution recognizes the challenges of this population and makes an effort to meet these needs. More specifically, evaluation of family-friendliness at this level might include scheduling of classes or business hours of student services that suit the hours of a working student parent. Offering options such as health care for dependents, paid parental leave, and part-time degree routes are other examples.

Childcare. Student-parents in higher education deal with childcare challenges in addition to those external pressures related directly to parenting. Perhaps the most prominent of these issues concerns childcare availability and cost. In a study examining the interview responses of 30 women in doctoral programs in the Northeastern United States, Lynch (2008) found that it was "two key areas—Financial Support and Childcare" in which "respondents made the most explicit charges of structural mismatch between their status as student mothers and their positions within academe" (p. 589). Many universities do not offer any sort of on-site childcare options, and even among those that do offer such services, respondents reported that that the prices were "prohibitively expensive" and the hours of the facilities did not suffice to provide childcare during required working hours for these student-mothers (Lynch, 2008, p. 593). These hours were often coverable with a private daycare, but those costs are similarly unrealistic for student-parent budgets (Lynch, 2008).

In response, some students chose to accept part-time status in order to save on childcare costs or to work enough hours to pay the high childcare prices. However, many report that this

caused them to fall behind in academic work or to be viewed as less serious students, both of which negatively affected their chances for funding (Lynch, 2008). In the Lynch (2008) study, most participants "felt that their status as mothers affected their chances for funding" (p. 590) in a negative way. In a related study, Mason, Goulden, & Frasch (2009) reported that both male and female graduate students emphasized high levels of stress, as well as delays or sacrifices in their educational career, in order to be a good parent. The dilemma of managing the price of childcare within a limited budget could be eased if more financial aid was offered to this population, but Lynch (2008) reports that respondents felt that too little aid was offered and what was available was designed for single or childless students.

Funding and financial aid. Financial pressures are undeniably a stressor for most students, and this population is at an added disadvantage because of time restraints and additional obligations. As such, many student parent may opt to take classes part-time, while institutions gear financial aid opportunities to full-time students (Pelletier, 2010). In addition, a full-time job or the financial support of a spouse may disqualify a student from aid opportunities, despite having a legitimate need. Though it is in the context of undergraduate education, Zipkin (2014) notes that, "While colleges say they award aid to those with demonstrated need, older students received a smaller percentage of private scholarships and institutional grants and a greater percentage of federal Pell Grants…" (p. 2). To address this inequality, government policy makers and institutions should allow expansion of financial aid availability to those taking summer or part-time classes and consider creating a specific fund for adults and part-time students. Such efforts could reduce attrition and increase degree attainment by decreasing the powerful financial pressure caused by attending graduate school (Pelletier, 2010).

Family-friendly atmosphere and policies. Throughout the literature, there is the implicit premise that anything an institution can do to reduce external sources of stress could help to reduce the risk of students dropping out prior to completion of a degree because they are overwhelmed. As noted by Pelletier (2010), supporting the needs of student-parents in graduate school and reducing attrition among this population necessitates the development of alternative, outside-the-classroom strategies that work within an institutional setting. Among adult learners, challenges arise because of "the traditional format and structure: length of semesters, parking on the campus, getting to a traditional campus with a traditional schedule from [another] place of work…[and that] student support offices traditionally require patrons to visit an office in person, perhaps between the hours of 9 to 5" (Pelletier, 2010, p. 3). These characteristics may become problematic while trying to manage a full-time job, so Galardi (2012) asserts that foundational support must be made available such that nontraditional students may take advantage of the resources that were designed with traditional students in mind. Expanding the business hours of campus offices, offering off-campus, online, and blended learning environments (Galardi, 2012), and finding other "creative ways to tailor services to accommodate the varied needs of the diverse adult student population" (Pelletier, 2010, p. 4) are strategies universities could use to better serve adult learners.

In contrast to what is reported in these reports, some schools are beginning to offer financial aid and other opportunities specifically tailored to this population. In an effort to "think more comprehensively about what was needed" (Millman, 2007, Para 1), Princeton revamped its student-parent support system to include three months of paid leave for new parents in graduate school and availability of need-based childcare grants, care-related travel funds, subsidized backup care, a new mortgage aid program, and free counseling for "work-life collisions" (Para.

4). The comprehensive and varied nature of this effort seems to align with suggestions from the literature; Mason et al. (2009) argue that institutions must offer "a full array of resources…to support academic parents" ("Reenvisioning Acadmia," Para. 2) and combat the stigma that can be associated with balancing a career and familial aspirations. In the case of graduate students, this might involve extending the duration of Teaching Assistant and Graduate Assistant positions, as many students are forced to find new jobs when these institutional positions—which function as both a paycheck and financial aid—end after a predetermined amount of time (Lynch, 2008). Grady et al. (2014) suggest that the entire structure of the program be carefully considered, so that "students [are able] to complete their degree while meeting financial needs and accruing minimal debt" (p. 14).

Departmental level. Golde (1998) argues that the academic success does not depend solely on the student. Acceptance of poor students is not the cause of attrition; Lovitts and Nelson (2000) found that attrition results from poor experiences in academic programs, writing that "Students leave less because of what they bring with them to the university than because of what happens to them after they arrive" (p. 50). Analysis of resources and constraints at the departmental level is increasingly complex, involving the attitudes and strategies of individual instructors, availability of mentoring, and the degree to which the atmosphere and policies can be considered family-friendly. Individual instructors can have a huge impact on the success of a student depending on the appropriateness of the instructional methods used. Just as pedagogy maintains that children learn most effectively through instruction that is tailored to their needs and development, andragogy purports that adults learn better with certain strategies. Family-friendliness at the departmental level involves formalized policies such as faculty training on

sensitivity to family issues or graduate student training on work-life balance as well as the informal attitudes and behaviors of instructors, supervisors, or colleagues in the academic world.

Individual Instructors. One of the most significant components of the potential support within the departmental level includes individual instructors and their teaching styles. Following good practices in adult learning theory and strategies may help student parents to see the value in persevering through difficult circumstances. Significant strategies or themes include increasing learner confidence, ensuring applicability of content and engagement of the students, and maintain students' motivation levels.

Increasing confidence. Multiple authors have cited a lack of self-confidence among adult learners (Galardi, 2012, Pelletier, 2013, Zipkin, 2014), and it is reasonable to believe that this self-doubt could contribute to attrition as students become discouraged and overwhelmed. Galardi (2012) posits that such feelings may arise if adults "underestimate their academic abilities by overemphasizing their previous educational experiences" (p. 18), recalling past experiences in which they felt incompetent. The anxiety that results from such memories, as well as that which stems from concern about "failure, cost and about whether they can balance the other activities in their lives along with academic studies" (Pelletier, 2010, p. 6) can decrease students' motivation by decreasing their confidence. Mentoring and fostering an atmosphere of mutual respect in the classroom are strategies that can help to combat this problem (Galardi, 2012); presumably, students will be more likely to stay in school when they believe in their own ability to be academically successful. This belief, in turn, could facilitate student perception that the stress inherent in earning a graduate degree is worth the effort in the long term.

Mutual respect is particularly important when addressing adult learners because of its relation to individual experiences and the self-worth that becomes intertwined with these (Galardi, 2012). Comments, behaviors, or activities that could be perceived as belittling are deeply damaging for adult students, since, as Galardi (2012) observes, they have "acquired their self-identity from their experiences, and when adults found their experiences being minimized, it was not just their experiences being minimized, but also who they were" (p. 17). She further asserts that "increasing adults' sense of self-worth underlies all facilitation efforts" (Galardi, 2012, p. 21). As such, discussions and debates should be guided with this ideal in mind, and criticism should be kept to a minimum.

Still, the task of nurturing confidence and self-worth extends beyond the realm of individual classrooms; in many successful cases, more individualized support has been made available through mentoring (Galardi, 2012). Grady et al. (2014) found that mentoring had the potential to buffer students from some of the stressors of graduate school, but it also had the ability to add stress if the mentor-mentee relationship was described as negative or "lack[ing]" (p. 10). For this reason, it may be ideal to allow students to choose their own mentor, with whom he or she feels "compatibility both personally and professionally" (Galardi, 2012, p. 26). One of the primary benefits resulting from this mentoring relationship is the feedback a mentee receives from the mentor: according to Grady et al. (2014), mentors can increase a student's confidence by validating his or her success in fulfilling the roles and expectations of the institution, as well as guiding the transition between the student and professional world.

Increasing applicability and engagement. Increasing the applicability of lessons and encouraging student engagement with course content could reduce attrition by virtue of ensuring

that learners recognize the purpose and use of the knowledge they gain in graduate school. Adults generally prefer to take a more active role in their own learning process, thereby requiring an educational environment in which they can be "responsible for their own learning" (Galardi, 2012, p. 26). In such a setting, student participation in the teaching process represents a transactional approach to educational strategy, involving a sort of "pact" between participants that allows for the "continual process of learning occurring between facilitator and student" (Galardi, 2012, p. 22).

This collaborative nature of facilitation versus traditional 'teaching' is supported by the adult learner's propensity to draw upon past experiences as a base from which to relate and discuss new information (Galardi, 2012). Susan C. Aldrige, President of University of Maryland University College—an institution targeting adult learners—observes that adults are "not as tolerant of the lecture-type format…they have experiences and they want to talk about those experiences" (Pelletier, 2010, p. 5). Rather than memorizing seemingly useless material, adult learners naturally seek to integrate new information into the context of their experiences (Pelletier, 2010). Moreover, adults tend to have an experiential focus in the learning environment, evident by a desire to apply new knowledge towards the advancement of a career (Pelletier, 2010). To this end, it would be especially beneficial for this population if institutions took steps to ensure that course content is "tied much more directly to the needs of the labor market" (Pelletier, 2010, p. 6) and that teachers design assignments to build strong student portfolios for future job searching (Pelletier, 2010).

Given these needs, perhaps the most effective way to support adult learners in the achievement of their career goals is through the use of multiple instructional methods, which

might include experiential and problem-based learning, interactive classroom environments, and collaborative facilitation (Galardi, 2012). According to Galardi (2012), a combination of these methods can help adult learners "to connect curricular concepts to useful knowledge and skills" (p. 34). Such methods may be referred to as praxis, or the process of applying and practicing an idea, and praxis is considered by some to be "at the center of effective facilitation" (Galardi, 2012, p. 21). During praxis, educators should keep in mind that learner perception of the applicability of new knowledge affects the likelihood and success of learning transfer (Morrison et al., 2011). Instructional design authors Morrison et al., (2011) stress the importance of "creating an environment that promotes the application of the newly learned knowledge to a diverse range of situations" (p. 68).

Increasing motivation. Morrison et al. (2011) assert that "for many instructors learner motivation is actually considered to be the most important determinant of success" (p. 60). It is assumed that the higher the motivation level, the higher the likelihood that an individual will find a way to deal with the stresses and challenges inherent in completing a degree program, presumably because he or she sees the benefits of the educational endeavor. While they often pursue education for externally rewarding reasons, adults tend to be highly motivated by internal factors (Galardi, 2012). Renowned "father of andragogy" Malcolm Knowles believed that adult learner motivation was largely internal because adults seek "to increase their self-esteem, recognition, self-confidence, and a better quality of life" (Galardi, 2012, p. 18) through education.

This largely internally-driven, or intrinsic, motivation is one of arguably few factors working in the favor of graduate parents pursuing higher education. Researchers in the subject of

motivation have uncovered evidence that intrinsic motivators are often more powerful than extrinsic motivators, thus psychologists, educators, and business managers are increasingly making effort to enhance intrinsic motivation (Pink, 2009). Wlodkowski (1999) identified five core characteristics of motivating instructors which, when viewed as learnable skills, can be increased and encouraged; these characteristics include: expertise, empathy, enthusiasm, clarity, and cultural responsiveness. Still, instructors encounter situations in which the motivation might exist, but an attitude of self-doubt can create a "self-fulfilling prophecy [that] breeds failure by anticipating failure" (Morrison et al., 2011, p. 60). Structuring instruction such that learner confidence is built and developed throughout the lesson can help prevent such negative cycles (Morrison et al., 2011) and maintain the positive effects of motivation.

Although many instructors do not pay appropriate attention to these needs, adult learners may still sustain intrinsic motivation because of their tendency towards self-direction and autonomy in decision-making. Knowles' theory of adult learning was based on several assumptions, two of which are that adults generally are more intrinsically motivated, as well as self-directed in the learning process (Knowles, 1970). They tend to desire some measure of control over the learning process, as well as autonomy to make their own "informed choices among learning formats and how best to achieve their personal learning goals" (Galardi, 2012, p. 16-17). Voluntary participation in an educational program is imperative; encouraging the learner to make his or her own decision to enter the learning environment is one of the "six principles of effective practice in adult education that must be present for the educational experience to be successful" (Galardi, 2012, p. 21), as identified by Brookfield (1986). Ensuring that educational attainments encourage an adult learner's process of "working towards self-direction and empowerment" is another effective practice on Brookfield's list (Galardi, 2012, p. 21).

It also follows that adults would be goal- and relevancy-oriented in their pursuits; in terms of learning, assignments that could provide valuable skill-building towards a present or future workplace are of the particular interest (Galardi, 2012). Cross (1981) argues that adult learners are more aware of what they desire to obtain from their education and thus tend to be more engaged with and challenged by their coursework. Beyond the classroom, the Lumina Foundation for Education reported that addressing adult students' life and career goals, which includes aligning the structure of the program and institutional resources to support the obtainment of these goals, is one of eight principles of best practices for serving adult learners (Galardi, 2012). In support of this principle, Galardi (2012) writes that "adult learners were typically highly motivated, achievement oriented, and relatively independent with special needs for flexible schedules and instructional methods appropriate for their development level." Presumably, with appropriate accommodations for such issues, motivational factors can help adult learners to overcome the challenges of attaining a graduate degree.

Mentoring. Mentoring is one way in which graduate students can learn to successfully navigate pressures resulting from role conflict and role overload (Grady et al., 2014), and this may be particularly influential for graduate student parents, who logically have a greater likelihood of encountering these obstacles because of their additional responsibilities of parenting. Besides these benefits, mentoring can help graduate students make the transition from student to professional life, because a successful working professional models appropriate behavior, provides advice, and gives encouragement when a heavy workload threatens to influence a student to leave a graduate degree program (Grady et al, 2014). Multiple authors have found that mentoring is significant for graduate student well-being, both professionally and personally (Cronan-Hillix, Gensheimer, Cronan-Hillix, & Davidson, 1986; Halleck, 1976).

Researchers have identified at least five essential roles of graduate advisors, which could logically be extended to faculty who embody a mentoring role; these include functioning as a role model, advocate, reliable source of information, and providing support for socializing in a student's academic department or occupational field (Winston & Polkosnik, 1988). Other studies examining advisor relationships asked students to rank their advisor on characteristics such as "expressions of satisfaction with the student's performance; discussion of the strengths and weaknesses of the student's research/coursework; encouragement of intellectual self-confidence; facilitation of collaborations with other faculty members, post-docs, and other researchers; consideration of the student's personal problems; and directing the student to funding sources and current job opportunities" (Hyun, Quinn, Madon, & Lustig, 2006, p. 253).

However, mentoring relationships that a student does not perceive as positive can do more harm than good. The "essential but volatile nature of relationships with faculty" is one complaint identified in needs assessment-oriented studies (Nesheim, Guentzel, Gansemer-Topf, Ross, & Turrentine, 2006, p. 15) that are similar to this research. Dysfunctional mentoring and advisor-advisee relationships have been found to negatively affect the mental health of students (Johnson & Huwe, 2002); therefore, such a support system should be thoughtfully planned and implemented cautiously. Hyun et al. (2006) suggest that universities should offer incentives to increase faculty member motivation to engage in positive mentoring relationships with graduate students, particularly with at-risk populations such as student parents.

Family-friendly atmosphere and policies. When an institution strives to cultivate an atmosphere of support and take steps to implement supportive policies, this can play a significant role in student perceptions of social support versus social isolation (Lynch, 2008). Not only do

explicit policies and support services reduce external pressures on student parents, but an atmosphere that is accepting of this less traditional status as a parent in graduate school can reduce the negative effects of the perception of being "different" (Lynch, 2008).

Polson (2003) asserts that "it is important that institutions not only provide support to offset the external resistance these graduate students may be experiencing but also refrain from adding to this source of stress," (p. 63), and students' perception of faculty support has been shown to affect students both academically and psychologically (Hodgson & Simoni, 1995). Additionally, departments could help students through "an academic environment with improved communication, less bureaucracy, and more respect for their contributions to the university community" (Polson, 2003, p. 39). This includes increased sensitivity to the workloads and challenges of graduate students, communication of clear expectations, less paperwork, and more pronounced appreciation for graduate student contributions (Oswalt & Riddock, 2007). True to Knowles' andragogy—a theory of adult learning principles—Schlossberg & Warren (1985) found that a student are more likely to persist through academic and personal struggles when he or she feel valued. Facilitating students' integration in their academic department might be instrumental in achieving this goal.

Again, the stress of graduate school is particularly significant for females. Malinckrodt and Leong (1992) report that women in their study of graduate student role conflict and social support seemed to value curriculum flexibility and rank this aspect as more deficient than the males surveyed, possibly reflecting the influence of role strain for women. In addition to flexibility and understanding from faculty members, academic departments could implement a relatively easy and low-cost support system for graduate students: a database of resources

tailored to graduate student parents or female graduate student parents. In their review of several studies that examined graduate student support systems and the needs for additional support, Neisheim et al. (2006) write that, “One striking outcome of these studies was the extent to which graduate students lacked awareness of the resources available to them” (p. 14).

Personal level. At the deepest, most personal level, the exploration of role strain and social support lends perspective from a psychologically-based framework. The negative effects of stress are also pertinent to this level, because of the effect it can have on the individual. An overload of responsibilities can lead to decreased mental health and cognitive efficiency (Grady et al., 2014) Both role strain and the impact of consistently high stress levels can be mediated by the social support a person receives from friends, family, and peers at an academic institution or workplace (Grady et al., 2014).

Role strain. Role conflict and role overload are two types of role strain that tend to affect graduate student parents, especially mothers (Lynch, 2008). Graduate student parents necessarily embody multiple roles, which can become overwhelming without proper support (Lynch, 2008). Role conflict results from the disagreement between roles that seem to be mutually exclusive (Grady et al., 2014), such as simultaneously emobdyinga student and parent role. Role overload is similar, but this term refers to the challenge of navigating multiple roles that simply become too much for any one person to manage successfully (Grady et al., 2014).

Nesheim et al. (2006) reported that two of the six major themes they found in an analysis of graduate student needs and experiences are “frustration with, and difficulty in, meeting the various professional and personal demands on their time and energy” and “a lack of accommodation for the multiple roles they filled” (p. 15). Both of these characteristics of role

conflict and overload could be lightened with better support at all three levels identified in this literature review. Echoing this point, Polson (2003) writes that graduate student success "is influenced by a realistic assessment of existing loads…" (p. 63), which can be both external and internal. Internal resources such as "acquired skills, coping ability, and personality" (Polson, 2003, p. 63) vary from individual to individual. She suggests that it is critical to understand the capacity of students to manage these roles and responsibilities in order to prevent attrition (Polson, 2003).

Especially among female graduate students, multiple roles may be increasingly common as the simultaneous desires for a family and a career clash. Multiple roles often supply self-esteem, competence (Gerson, 1985) and social support, which is "crucially important for a sense of life satisfaction and well-being for many women" (Malinckrodt & Leong, 1992, p. 3). However, role strain is arguably more pronounced for females because of expectations for bearing a greater burden of housework and child-rearing duties (Suitor, Mecom, & Feld, 2001), and multiple studies have confirmed that female graduate students experience more stress, role conflict, and psychological distress (Malinckrodt & Leong, 1992; Malinckrodt, 1989; McLaughlin, 1985; Toews et al., 1997). Women also reported more problems balancing time commitments as compared to their male counterparts (Malinckrodt, 1989). Malinckrodt and Leong (1992) argue that, in many instances, women "are expected to accommodate the new role of student or working spouse without a significant lessening of their responsibilities as wife, homemaker, and perhaps, mother" (p. 2). This role overload may result in "superwoman syndrome," which is caused by expectations that are impossible to fulfill, thus contributing to role strain (Gilbert & Holahan, 1982).

In addition to higher stress and overwhelming levels of work, another potentially significant consequence of role strain is guilt over one's chosen priorities, and this may be difficult to overcome without external support services like counseling (Offstein, Larson, McNeil, & Mwale, 2004). Counseling centers report graduate student women requesting services for generalized depression, anxiety, and stress management (Malinckrodt & Leong, 1992). One study found that a significantly lower number of graduate students utilize mental health services than the number who reported mental health needs (Hyun et al., 2006), indicating a need to prioritize mental health education, availability, and affordability.

Social support. The hectic nature of a graduate student's life can leave members of this population feeling isolated from peers and normal adult activities (Grady et al., 2014). When graduate students also accept the responsibility of caring for one or more children, time constraints can lead to an inability to find time for social activities (Lynch, 2008), which are undeniably an important part of mental health. O'Neil, Lancee, & Freeman (1984) found that because of the disconnect from other sources of social support, graduate students are more likely to seek counseling services; however, it could be that time restraints prevent many graduate student parents from using such services. They may also seek other sources of social support such as faculty advisors (Malinckrodt & Leong, 1992), who may well be more available for graduate student parents with already tight schedules, making the availability of quality faculty mentoring even more important.

Because of the increased risk of role strain, high stress levels, and negative mental health, women may be particularly susceptible to feeling a lack of social support (Malinckrodt & Leong, 1992). The amount of stress a woman experiences as a result of role strain may be contingent

upon the acceptance and support she receives for her decisions (Gilbert & Rachlin, 1987). Nesheim et al. (2006) found that both male and female graduate students desired more opportunities to "meet, learn from, and socialize with other graduate students" (p. 15). Lazarus & Folkman (1984) suggest the gathering of "emotion-focused" social support resources as an effective counseling technique. One avenue for such enhanced communication could be counseling centers or psychological health seminars (Polson, 2003).

Effects of stress. Sound instructional strategies should be supported by accepted principles of learning, whether these are theoretical- or brain-based in nature. As Schunk (2012) points out, the brain is complex, and theories of learning have evolved to take these complexities into account. However, it is necessary to think beyond social, cognitive, and motivational theories and take into account the physiological reality of learning in the human brain. The best educators "accept the complexity of school learning environments and investigate ways that the many aspects of environments can be coordinated to improve student learning" (Schunk, 2012, p.64). This approach is particularly relevant to student parents, because this population typically has significant external pressures related to childcare, availability of university resources, and financial pressures. The literature suggests that if these significant stressors are not addressed, they may cause immense levels of stress, which can interfere with learning processes, such as the formation and consolidation of neural networks (Schunk, 2012). Potentially, this could indirectly contribute to attrition.

Numerous sourc cite these significant stress levels for adult learners (Pelletier, 2010; Zipkin, 2014; Galardi, 2012), particularly among those in graduate school (Grady et al., 2014) or with children (Lynch, 2008; Mason et al., 2009). Grady et al. (2014) speculate about the reason

that graduate students reportedly experience more stress than even the infamously overworked medical students, arguing that "the institutional structures and academic cultures of graduate programs shape students' stress by determining the demands graduate students are expected to meet, the mentorship available, and the resources allocated" (p. 5). The situation is worse among those who have or are considering having children: a survey of 19,000 doctoral students at multiple University of California campuses found that nearly all respondents were "somewhat" to "very" concerned about balancing a career and family (Mason, et al., 2009). Among both men and women, the lack of work-life balance was the top reason cited as justification for changing career goals, and "children issues" was a particularly pertinent factor for women, who reportedly spent upwards of 100 hours per week on the combined responsibilities of holding both student and parenting roles (Mason et al., 2009). Hours such as these are a regular occurrence as part of the physically and emotionally draining "second shift" experienced by graduate student-mothers (Lynch, 2008). Understandably, such situations produce high stress levels, which are too often a chronic circumstance for adults who choose to pursue such seemingly incompatible goals.

Chronically high stress will also undoubtedly lead to a tense emotional state, and although researchers agree that emotions have the potential to increase learning in certain circumstances, this effect is limited (Schunk, 2012). The body's stress reactions, including increased blood pressure and a compromised immune system, result from "too much emotion" (Schunk, 2012, p. 61). In addition to these negative physical effects, Schunk (2012) argues that "students in prolonged stressful situations also worry excessively, and the thoughts associated with worry thwart learning" (p. 61). Insecurities and a lack of confidence in one's abilities is a common problem among adult learners that has been the subject of discussion in the andragogical literature (Galardi, 2012), so adding chronic stress will only worsen this effect.

The repercussions of prolonged stress are significantly more harmful to the body, as well as more detrimental to the learning process, largely because of the hormone cortisol. The adrenal gland secretes several hormones in response to stress: epinephrine, norepinephrine, and cortisol (Schunk, 2012); cortisol acts as a "long-lasting backup" (Schunk, 2012, p. 62) for the body after the effects of fast-acting hormones like epinephrine and norepinephrine have faded. This function allows cortisol to accumulate in the body, and high levels of this hormone may, over time, contribute to "deterioration of the hippocampus and a decline in cognitive functioning" (Schunk, 2012, p. 62). Combined with the limited capacity of memory and cognition that naturally occurs with increasing age, learning can become especially difficult for adults. Therefore, institutions of higher education should take steps to reduce the stress levels of student parents in order to reduce attrition and increase academic achievement.

Theoretical Framework

Theoretical support for the above themes is drawn largely from andragogy, social learning theory, motivational theory, and the theory of self-determination.

Andragogy. Educators acknowledge that it is a fundamental principle of teaching to take the characteristics of the learner into account when designing instruction (Morrison, 2011). Despite this, many institutions fail to recognize the complexity and diversity represented by the population of adult learners, particularly student-parents. As Pelletier (2010) points out, "the very label of nontraditional suggests that business as usual might not work in serving this large cohort of current and potential students" (p. 2). Similar ideas have been verified across the literature, even though this trend has been slow to affect institutions and policy; adults are reported to have a significantly greater number of needs, as well as diversity among these needs,

than in those of younger students (Galardi, 2012). Instructional design authors Morrison, Ross, Kalman, & Kemp (2011) argue that the "information about the capabilities, needs, and interests of the learners" (p. 56) is necessary to design instruction that is maximally effective.

Despite this diversity among the population of student-parents in higher education, educators should work to "identify those characteristics most critical to the achievement of the specific training objectives" (Morrison et al., 2011, p. 57). Adult learning theorist Robert Gagné suggested that "the adult educator could not predetermine what would happen in adult learning because each adult learner brought personal and unique experiences to the learning situation" (Galardi, 2012, p. 19). Despite this knowledge, a number of theorists, including Gagné and Malcolm Knowles, laid out general principles of adult learners. These principles, combined with an appreciation of the special needs of the student-parent adult learners, can be used to outline the best practices for most effectively serving this population. Educators should be aware of these principles, so that he or she may apply them "to meet the needs of a particular student body [in] an ongoing process of assessment and change" (Galardi, 2012, p. 22), as constitutes a teacher's role and responsibility.

General instructional strategies to serve the student-parent population include: decreasing external pressures, building learner self-confidence, increasing motivation levels, and maximizing applicability of and engagement with the content. These strategies have the potential to both directly and indirectly increase learning and decrease the risk of attrition among adult learners with children. A variety of solutions can be discussed in this context, because, as Pelletier (2010) phrases it, "nontraditional students need nontraditional approaches from educational institutions: both in and out of the classroom…" (p. 3).

One way to increase the richness of associations is to connect the instruction with experience, further supporting the use of engaging content and activities to promote adult learning. Renowned learning theorist David Kolb proposed four types of experiential learning based on individual learning styles, including active experimentation, or the act of using content and subsequently judging its value, and concrete experience, or an "intuitive preference for learning through direct experience, emphasizing interpersonal relations and feeling as opposed to thinking" (Werner & DeSimone, 2012, p. 90). Adults seem to intuitively know that experience is an effective form of learning and thus justifies the use of simulations, internships, and other experiential techniques for motivating adult students to persevere in higher education.

Social learning theory. With an emphasis on Bandura's triadic reciprocality of behavior, context, and individual factors (Schunk, 2012), social cognitive learning theory provides comprehensive support for the attrition-reduction strategies of increasing confidence, applicability and engagement, and motivation among adults. The social component of the theory creates "frameworks for enhancing student learning through opportunities to observe and interact with others," (Morrison et al., 2011, p. 395) while cognitive principles are predominantly useful in considering the impact of learners' developmental levels and prior knowledge in regard to lesson design (Morrison et al., 2011). Social cognitive learning theory recognizes that the knowledge resulting from prior experiences composes individual mental schemas, which Bandura (1986) summarized as "symbolic representations that serve as guides for action" (p. 51). Much of the information intertwined in these schemas is gleaned from observation of models, including the perceived appropriateness, consequences, and value of a given behavior (Schunk, 2012). This information can have either a positive or negative effect on individual confidence, or self-efficacy, which subsequently increases or decreases learner motivation.

By virtue of its influence on expectations, motivation, and self-efficacy, both vicarious and enactive learning principles can influence attrition. Enactive—or experiential—learning contributes to an individual's mental schema by retaining information on behaviors and contexts that led to favorable or valuable consequences (Schunk, 2012). Therefore, adult learners, who are particularly interested in learning that can be applied towards achieving goals, will benefit from enactive environments that promote active engagement with material that proves useful. Vicarious learning provides information regarding the perceived value and usefulness of information as learners observe the consequences of behaviors performed by mentors and peers (Schunk, 2012). These persons are considered models, and, according to Bandura (1986), they serve the functions of facilitating responses, weakening or strengthening inhibitions, and promoting observational learning. Facilitation of responses and weakening of inhibitions may be particularly influential among adult student-parents, because they may tend to have low self-confidence, as well as anxiety over their conflicting roles.

Models can serve these three functions among adult student parents in various ways, some of which are more effective than others. Processes of observational learning include: attention, retention, production, and motivation (Schunk, 2012). Attention can be increased by using competent models and by "demonstrating usefulness of modeled behaviors" (Schunk, 2012, p. 127), and retention can be increased by drawing on adults' tendency to relate new information to the previous experience stored as schemas (Schunk, 2012). In the production process, "behaviors produced are compared to one's conceptual (mental) representation" (Schunk, 2012, p. 127), and mentors may be especially helpful in providing the feedback necessary to correct deficiencies. Schunk builds on Bandura's observation that this experiential process is important even during observational learning, since "rarely…are complex behaviors

learned solely through observation. Learners often will acquire a rough approximation of a complex skill by observing modeled demonstrations" and then "refine their skills with practice, corrective feedback, and reteaching" (Schunk, 2012, p.128).

Models may be especially important in situations in which learners have low confidence and low self-efficacy. Perceived self-efficacy, defined as "beliefs concerning one's capabilities to organize and implement actions necessary to learn or perform behaviors at designated levels" (Schunk, 2012, p. 119), has the potential to influence attrition through its "influence [on] such achievement behaviors as choice of task, persistence, effort expenditure, and skill acquisition" (Schunk, 2012, p 120). In the case of scenarios that are unfamiliar to the learner, the similarity level of the model can be highly influential for the observer's perceived self-efficacy to perform the same actions successfully (Schunk, 2012). It may well be that "competent models teach skills, but similar models are best for self-efficacy" (Schunk, 2012, p 157). In contrast to competent models such as mentors, similarity between the learner and the model can create an optimal learning situation when the model initially demonstrates low self-efficacy and skill deficiency, but though a process of gradual improvement, illustrates "how determined effort and positive self-thoughts overcome difficulties" (Schunk, 2012, 149). Coping-emotive models are most effective, as they verbalize negative statements, followed by verbalized coping statements, resulting in coping behaviors that achieved the desired result (Schunk, 2012). Therefore, it seems helpful that graduate student-parents should be made aware of the success stories of others in similar positions, in efforts to increase self-efficacy, confidence, and motivation.

Therefore, it has been well-established that the consequences of modeled behaviors serve as motivation for behavior by "creating outcome expectations and raising self-efficacy" (Schunk,

2012, p. 127). Behavior is also influenced by models and the consequences of their actions by building the schema from which the perceived value of a behavior is derived. Schunk (2012) postulates that when values drive a student to set his or her own achievement goals, self-efficacy and learning are enhanced, "perhaps because self-set goals produce high goal commitment" (p. 141). Motivation is often viewed in social cognitive learning theory as a self-regulatory process, in which people "activate and sustain behaviors, cognitions, and affects, which are systematically oriented towards the attainment of goals" (Schunk, 2012, p. 123). Because it is often difficult to judge whether one's own behavior is in accordance with appropriate and valued standards, feedback on progress towards goals can both motivate and raise self-efficacy (Schunk, 2012), a component that is easily addressed by mentors. This feedback can "raise self-efficacy, motivation, and achievement when it informs people that they are competent and can continue to improve by working diligently" (Schunk, 2012, p. 142).

Motivational theory. Since some educators see motivation as the greatest factor affecting the success of learning (Morrison et al., 2011), it is important to understand the components of motivational theory in order to increase and maintain motivation among a population that is already at increased risk of attrition. Motivation is an explanatory concept in the study of behavior, describing the "process of instigating and sustaining goal-directed behavior" (Schunk, 2012, p. 346). Accordingly, motivated students are likely to pay greater attention to instruction, spend time rehearsing information, ask more questions, and strive to relate lessons to previous information (Schunk, 2012). "In short, motivation engages students in activities that facilitate learning" (Schunk, 2012, p. 346), and it follows that such motivation would compel students to overcome difficult material by expending greater effort rather than succumbing to the temptation to quit.

Part of the strength in such motivation derives from the largely intrinsic nature of motivation accompanying pursuits in higher education. Maslow's humanistic theory is built on his hierarchical model of needs; in this model, behavior is motivated towards goal attainment, which necessarily begins with basic needs of living (Maslow, 1970). By studying this model, one can see how it would be beneficial to decrease external pressures which may contribute to unsatisfied physical needs, since it would be unrealistic to expect students to learn well while suffering from physiological or safety deficiencies. Assuming such basic needs are satisfied, the self-directed human strives for self-fulfillment and personal growth in efforts towards achieving self-actualization (Maslow, 1970). Schunk (2012) points out that, "a strong motivation to achieve is another manifestation of self-actualization" (p. 353), which involves a desire to become all that one is capable of being. Engaging in work with a purpose, which is clearly applicable and useful in one's world, is particularly related to this concept. Both Abraham Maslow and his fellow humanistic theorist, Carl Rogers, emphasize the role of the educator to facilitate a climate in which students enjoy personal choice and practice learning content that is meaningful and significant. Rogers laments the tendency for educators to take a more controlling, forceful approach to the learning process, claiming that, "A sad part of most education is that by the time the child has spent a number of years in school this intrinsic motivation is pretty well dampened" (Rogers, 1969, p. 131). Especially in the case of adult learners, voluntary participation is a necessary component (Galardi, 2012).

*Self-determination theory***.** Voluntary participation and the accompanying intrinsic motivation is perhaps best explained by a related psychological theory, that of self-determination. According to the theory, humans have the innate psychological desire for competence, autonomy, and relatedness (Ryan & Deci, 2000), and "when those needs are

satisfied, we're motivated, productive, and happy. When they're thwarted, our motivation, productivity, and happiness plummet" (Pink, 2009, p. 70) Self-directed autonomy has the potential to increase grades, conceptual understanding, productivity, persistence in academics, psychological well-being, and to decrease burnout (Deci & Ryan, 2008). Motivational speaker and author Daniel Pink argues that humans are naturally inclined towards learning until forced schooling destroys this motivation, claiming that, "If, at age fourteen or forty-three, we're passive and inert, that's not because it's our nature. It's because something flipped our default setting" (Pink, 2009, p. 87).

Pink (2009) further argues that as this autonomy leads to increased engagement, only engagement can produce the mastery that fulfills the need for competence as described in self-determination theory. This explains, at least in part, why adults have an increased need for engagement with instructional content, as they may be striving to achieve mastery and competence in an area of interest. Based on this, Pink (2009) suggests that educators "promote mastery by offering a novel, engaging task" (p. 186) and ensure that students understand the purpose of learning the material (Knowles, 1970). Understanding the purpose fulfills the need for relatedness; through their work, people are "thirsting for context, yearning to know that what they do contributes to a larger whole" (Pink, 2009, p. 138). This theory is verified by studies that show that learning and retention are enhanced by the meaningfulness of material, or "the extent to which it is rich in associations for the individual learner" (Werner & DeSimone, 2012, p. 78).

Chapter 3: Methodology

As identified in the problem statement in Chapter 1, collection of data regarding the experiences of graduate student parents, their satisfaction with the resources provided in the context, and their perceptions of the necessary supportive services is a necessary first step in addressing attrition among this population. In addition, this study intends to provide at least basic demographic information on the size of the graduate student parent population, as well as other specific characteristics that could influence the variables described above.

Research Design

In the context of the needs outlined above, a pragmatist research paradigm is most appropriate. The pragmatist framework asserts that researchers should use what works best for the research questions and context (McDavid, Huse, & Hawthorn, 2013). From this paradigm, a mixed-methods research design is justified, because "the working assumption [is] that a design that combines quantitative and qualitative methods provides a richer, more credible evaluation" (McDavid, Huse, & Hawthorn, 2013, p?). More specifically, my initial research plan aligns with Creswell's (2010) explanatory mixed-methods design, in which quantitative data is collected, followed by qualitative techniques to deeply explore and provide further evidence of quantitative themes. It is only the first half of this plan that could be accomplished; the focus groups I had planned for the second stage were canceled due to an absence of volunteers. However, both quantitative and qualitative data were gleaned from the survey in the first stage, so this research still holds to the general mixed-methods standard.

Mixed methods designs are increasingly popular within educational research (Fraenkel et al., 2012). Quantitative data are easily summarized and collected in large amounts, which suits

the need to determine demographic information, as well as provide insight into satisfaction with existing resources and perception of necessary additional services. Qualitative data allow for a more thorough understanding of such quantitative data and can also provide information to be used to make general inferences about correlation between variables identified as potentially significant to graduate student parent experiences.

Population and Sample

James Madison University can be summarized as a mid-sized public university set against the context of the fairly small college town of Harrisonburg, Virginia. It opened in 1908 as a women's college specializing in teacher training; as the university has grown, the educational emphasis has expanded to include a number of other programs that have received national recognition—most notable is the top-ranking reputation of the College of Business. As of the fall of 2014, the website reports a total enrollment of 20, 855 undergraduate and graduate students. It is predominantly white (79.13% of the total JMU population) and has a higher percentage of female students than male students (James Madison University, "About JMU: Just the facts", 2015).

Despite the rapidly growing number of total students, the university tends to focus on undergraduates. Graduate enrollment in the Fall of 2014 totaled 1,711 graduate students populating 48 graduate degree programs, and the university awarded 859 graduate degrees in the 2013-2014 school year (James Madison University, "About JMU: Just the facts", 2015). Although there is no official information on the general socioeconomic status of students, it is common knowledge on the campus that a large percentage of undergraduates attend the university as out-of-state students. In-state tuition for both undergraduates and graduate students

is considered to be a good value; at the graduate level, one in-state credit is $434, while one out-of-state credit totals $1,135 (James Madison University, "About JMU: Just the facts", 2015). Clearly, out-of-state graduate students would likely accrue a significant amount of debt without financial aid, which is especially limited at the graduate level. The university website exhibits a lack of information on statistics regarding the student parent population, a situation that this study intends to address.

By submitting a request through bulk email services at JMU, my survey was distributed to all graduate students enrolled during the Spring semester of 2015. The target population includes all JMU graduate student parents, but my interest in estimating the proportion of parents to non-parents indicates that all graduate students at JMU are relevant participants. To determine this proportion, non-parent graduate students were asked to complete the first question in the survey, regarding whether the participant identifies as a graduate student, or a graduate student parent. Those who indicated non-parent status were not allowed to continue to the next question.

Although random samples are more likely to yield generalizable results and conclusions that can illustrate correlations or cause and effect relationships, random sampling is not always feasible, particularly in education research (Fraenkel et al., 2012). Generalizing beyond the JMU population is not the purpose of this research, but representation of the target population within this particular university is of interest. Fraenkel et al. (2012) assert that “for the results of a particular study to be applicable to a larger group, then, the researcher must argue convincingly that the sample employed, even though not chosen randomly, is in fact representative of the target population.” (p. 104). As described below, a purposive sample is most appropriate for this research.

Survey sample. The sample employed in this study is termed "nonrandom" or "purposive," which is characterized by intentional selection of "participations who are informed about or have experiences with the central concept(s) being investigated" (Fraenkel et al., 2012, p. 562). Purposive sampling is common in studies involving qualitative research, and it tends to utilize a smaller number of participants than would be the norm in quantitative research (Fraenkel et al., 2012; McDavid et al.,2013). According to the purpose of the study and knowledge of a particular population, the researcher uses his or her personal judgment to select an appropriate sample that is expected to contain the information or experience necessary to address the research questions (Fraenkel et al., 2012). A disadvantage of this technique lies in the quality of the researcher's judgment: if it is flawed, the sample may not be representative, and the information may not be as useful as was expected (Fraenkel et al., 2012).

In the context of this research, data collection focused on information generally only obtainable from graduate student parents. However, because I intended to gauge the proportion of non-parent graduate student to graduate parents, I asked all graduate students to respond in at least a brief manner. The survey generated 106 total responses, 27 of whom identified as graduate student parents. Although this is a small sample as compared to the total number of graduate students, the ratio shows an interestingly clear-cut pattern: 25% of respondents are parents and 75% are non-parent students. Another intriguing characteristic concerns a characteristic of particular interest to this study: of 27 student parents, only two claimed to be single parents. It is impossible to know if this is indicative of a very small number of single parents or an extraneous variable, such as extreme time restraints or lack of interest among this population. Clearly, all of these estimates require replication and more comprehensive evaluation in order to make any conclusions with confidence.

Instrumentation

Although the focus group stage of this research could not be conducted due to a complete lack of volunteers, both the survey development and focus group plan will be discussed for the purpose of demonstrating the quality of methodological planning in this study.

Survey. As I have described in Chapter 1, a major component of this research methodology is focused on the framework of a needs assessment. Surveys are now considered a "principal means of gathering new data in needs assessments and surveys of current or future clients are often used to estimate unmet needs" (McDavid et al., 2013, p. 245). They are also useful in exploring client experiences and satisfaction with existing services (McDavid et al., 2013), which are two other key components in my research questions.

I developed my survey using Qualtrics, a web-based software tool that is available for student use at JMU. Web-based surveys are increasingly common (McDavid et al., 2013) and particularly useful because of a number of advantages over other data collection methods (Gupta, 2007). These advantages include convenience, low cost, rapid turnaround of results and descriptive statistics, the use of multimedia interface design, mobile availability, and reduced data entry (Fraenkel et al. 2012; McDavid et al., 2013). A major disadvantage that is commonly cited in methodological literature is the likelihood of low response rates (Fraenkel et al., 2012). This proved to be an issue in the present study, as I noted fairly low response rates when compared to the number of graduate students at JMU—all of whom were invited to participate. I attribute this partially to the relatively small window the survey was available, as well as the lack of a reminder email for nonrespondents. Fraenkel et al. (2012) also cite an apparent

unwillingness to participate, a lack of interest in the topic, or simple forgetfulness as potential factors influencing an increase in nonresponse to surveys in recent years.

As my survey is a self-created instrument, it was important to consider the advice of McDavid et al. (2013), that states "it is essential that the designer(s) knows what constructs are to be measured with the survey, and that information guides developing the contents of the instrument." (p. 172). Similarly, other research methods authors advise that it is good practice to study the data collection instruments from similar studies to identify ideas for specific questions and formatting (Fraenkel et al., 2012). My instrument was developed at the conclusion of a thorough review of the literature relevant to graduate student parent experiences, much of which involved careful examination of other instruments. After a strong initial instrument is established, logical validity of the questions should be confirmed by colleagues—as was accomplished in pilot testing—and the instrument should be revised according to feedback (Fraenkel et al., 2012).

The survey, included in Appendix A, makes use of nominal categories for many questions, which is often best suited to the Likert scales that are common in surveys (Gupta, 2007). I also ensured that the layout followed good design principles as effectively as the survey software would allow. An uncluttered format is perhaps the most important visual aspect of a survey, because "when respondents have to spend a lot of time reading a question, they quickly become discouraged from continuing" (Fraenkel et al., 2012, p. 401). Similarly, survey designers should follow the rule of simplicity when crafting questions, which specifies that answers are most valid when only one idea is included in a statement (Gupta, 2007; McDavid et al., 2013).

The validity of answers was also enhanced by avoiding leading or negatively phrased questions (Fraenkel et al., 2012; Gupta, 2007).

Focus groups. In following an explanatory mixed-methods design, I had planned to conduct focus groups after accumulating participants who indicated interest in the opportunity to share more in-depth information. Had any persons expressed this desire, they would have entered contact information after following a link at the conclusion of the survey, thus ensuring the anonymity that was promised upon initiation of the survey. Part of the reasoning behind this stage includes the argument put forth by McDavid et al. (2013), that in-person discussions provide the researcher with the occasion to evaluate whether participants fully understood the survey questions and allow participants an opportunity to offer alternative responses and communication of a deeper understanding of their feelings, opinions, and perceptions. Establishing rapport in sessions with personal interaction may be "the most effective survey method for enlisting the cooperation of the respondents" (Fraenkel et al., 2012, p. 398). Gathering information in such sessions can also provide additional support for the conclusions resulting from analysis of qualitative data obtained from a survey (Fraenkel et al., 2012). To better explain the way I planned to support my survey data with additional qualitative information, the focus group interview structure is included in Appendix B.

Unfortunately, these advantages were not attainable, as the proposed second stage of research was cancelled. This poses a threat to the intended nature of this study, because as McDavid, et al. (2013) write, "if qualitative evaluation is, in part, about reconstructing others' lived experiences, structured instruments, which imply a particular point of view on what is important, can significantly limit opportunities to empathetically understand stakeholders'

viewpoints" (p. 211). Although my survey was carefully constructed according to the relevant literature and personal experience, the structured nature of the survey instrument does limit the effectiveness of my data in achieving the full purpose of this study.

Data Collection & Procedures

Explanatory study data collection typically occurs within a small amount of time, such as within one session or two successive sessions (Fraenkel et al., 2012). The current survey collected responses for nearly a month and a half: an invitation was sent via university email on February 16, 2015 and was closed on March 25, 2015. This was the longest amount of time that would allow data analysis to be feasible within the deadline for completion of this project, although additional time may have allowed additional responses and collection of volunteers for the focus groups. Data were analyzed over the following month.

Data Analysis

Although the focus group stage of this research—which would have provided a majority of the qualitative data for in-depth exploration of themes—was not completed, the survey included a few qualitative questions in support of the quantitative questions. Therefore, both quantitative and qualitative data analysis procedures are utilized, and an explanatory mixed methods approach still applied.

Quantitative analysis. Descriptive statistics constitute the majority of support for conclusions reached from quantitative data. Descriptive analysis techniques align well with the nature of this study, as they are used to "document an event, situation, or circumstance of interest" (Fraenkel et al., 2012, p. 459). Most of the visual representations of data rely upon measures of central tendency, or averages, such as the mean and mode of responses. Pie charts

are used for data that reach a certain total when added together; for example, the question regarding the estimated average number of hours spent per day on routine activities totals 24 hours. Comparison of the time spent on each activity is best achieved with a pie chart. Quantitative data analysis also involved histograms, which are used to display interval or ratio measurement data (Fraenkel et al., 2012). Bar graphs are used to show the frequencies or percentages for categorical data, best illustrating differences in proportions (Fraenkel et al., 2012). The deepest level of quantitative analysis focused on comparisons of an individual's answers across the entire survey, as qualified by the influence of factors such as parenting status, ages of participants' children, and the number of children on reported stress levels and satisfaction with resources.

Qualitative analysis. Without the large amount of qualitative data that I planned to generate in focus groups, the qualitative analysis component was greatly reduced. A number of open-ended response opportunities in the survey produced some qualitative data, which iare presented in chapter four.

Analyzing open-ended question responses involves the creation of "categories that are intended to capture the key meanings of responses and allow us to group responses into themes" (McDavid et al., 2013, p. 152); this is called "coding." Initial themes were developed from my knowledge of the literature on the topic and personal experience, and these categories were refined as I sorted the data. Most themes overlapped with other significant themes, which I took as indication of relationships among these variables. Causal relationships—and even correlations—cannot be fully justified in this research because of the small sample size and limited data.

Limitations

Confidence in my conclusions could be questionable from a strict methodological philosophy, but Fraenkel et al. (2012) argue that documenting the reasoning process for inferences assists in enhancing validity and reliability. Thorough explication of my analysis process and conclusions is included in Chapter four. In general, the research design chosen is appropriate for this study, and the methodology it entails enhances the value of the information provided. Potential threats from internal validity, external validity, and generalizability are discussed below.

Internal validity. Ensuring that any instrument used in research measures the variables that it is intended to measure is the nature of enhancing internal validity. McDavid et al. (2013) argue that this component necessarily includes "an important judgmental component to it: Does a certain measurement procedure make sense, given our knowledge of the construct and our experience with measures for other constructs?" (p. 154). They cite the extraneous variable problem, where the researcher must consider the way in which stimuli such as the setting, subject characteristics, and researcher bias might alter the internal validity of responses (McDavid et al., 2013).

The three characteristics outlined above constitute the significant threats to internal validity within my study. The setting in which participants completed the survey could have influenced the way students answers questions (Fraenkel et al., 2012). For instance, my survey was delivered through university email, so participants may have responded differently if they completed the survey in the academic setting rather than at home. Recent experiences in the school setting would likely affect an individual's perceptions from day to day. Similarly,

answering survey questions at home with a child in the vicinity could emphasize feelings of stress and dissatisfaction, thus also affecting the validity of answers.

According to Fraenkel et al. (2012), a subject characteristics threat occurs when individuals "[differ] from one another in unintended ways that are related to the variables to be studied" (p. 167). In the context of this research, pertinent characteristics include ability level, resilience, academic ability, stress threshold, attitude, socioeconomic status, intelligence, gender, maturity, and age. The unintended influence of such variables can be minimized by choosing an appropriate research design that accounts for these possibilities (Franekel et al., 2012). My mixed-methods research design accounts for the subject characteristics threat by measuring the same variables with both quantitative and qualitative questions, thus demonstrating continuity across answers within the survey.

Finally, researcher bias likely played a role in the development of my survey instrument and may have influenced the analysis of my results. However, this bias could be more of a benefit in this circumstance, since I already was familiar with the issues facing this population because of personal experience. According to McDavid et al. (2013), "some of what we bring with us to an evaluation is tacit knowledge--it is knowledge based on our experience, and it is not learned or communicated except by experience" (p. 11); this is not necessarily a negative influence.

Regardless, I took steps to minimize this bias. I pilot tested my survey with members of the target population—graduate student parents—as well as with members of the larger population of graduate students who are not parents. I also followed careful procedures recommended by the IRB and the literature. For instance, I avoided leading questions and

standardized my procedures, which Fraenkel et al. (2012) argue can be accomplished through training. I consider my training as a researcher to be my advanced education in a Master's program.

External validity. External validity is a measure of the degree to which research findings can be generalized to the larger target population. Obtaining sufficient demographic information and taking steps to reduce nonresponse can reduce the threat of external validity (Fraenkel et al., 2012). I gathered demographic information that was relevant to my research questions, but I should have gathered additional background information. I also intended to send a series of reminder emails to prompt additional responses and did not accomplish this before the survey was closed for data analysis. For these reasons, external validity is questionable, but my findings will nonethless be useful to JMU, since no data on graduate student parents at this university currently exist.

Reliability. Because the survey is a self-created instrument and the focus group sessions were not conducted—which were meant to be, in part, an additional assurance of survey data accuracy—the argument for reliability is questionable. However, I attempted to minimize this threat by comparing survey responses across individuals, as well as among groups of individuals with common characteristics. Some of the pertinent characteristics include: parenting status (single or co-parent), number of children, and ages of children. Most responses followed a similar pattern based on these factors, which I took as evidence for both validity and reliability. Since the data collection instrument was not administered in multiple instances and was obviously not used in previous studies, similarity of answers across time has not been confirmed.

Generalizability. Fraenkel et al. (2012) write that, "the value of a generalization is that it allows us to have expectations (and sometimes to make predictions) about the future." (p. 436). However, these authors conceded that studies involving qualitative research are not likely to involve methodological justification for generalizing the findings to other populations or, in many cases, to generalize to the entire target population (Fraenkel et al., 2012). This limitation is generally due to the limited size of the sample in qualitative studies. The findings from this study are not meant to be generalized to other populations, because data are firmly situated in the specific context of JMU. Still, I hope that my findings are a useful contribution to the literature base because of the general exploration of graduate student parent experiences. Findings regarding satisfaction with available resources are most likely only applicable to the JMU context alone, unless interested readers can use the background information and explanation of the reasoning behind my conclusions to determine that another context is sufficiently similar to make use of some of the data. Fraenkel et al. (2012) elaborate on this concept:

> the researcher may also generalize, but it is much more likely that any generalizing to be done will be carried out by interested practitioners--by individuals who are in situations similar to the one(s) investigated by the researcher. It is the practitioner, rather than the researcher, who judges the applicability of the researcher's findings and conclusions, who determines whether the researcher's findings fit his or her situation. (p. 437)

This idea of transferability is mainly used in qualitative research, but it may also be applicable to my mixed-methods design.

Protection of Human Subjects

As this study derived all data from the participation of human beings with inherent rights to protection from harm, there are a number of factors to be carefully considered. To ensure that a study is ethical, the researcher must: divulge the justification for his or her interest in the topic; acquire informed consent from participants; and take steps to safeguard participants against physical or psychological harm resulting from a subject's involvement in the study (Fraenkel et al., 2012). Additionally, the researcher should be able to justify why the study is worthwhile in terms of the purpose, the utility of conclusions that may be reached, who will benefit from this information, and that these benefits outweigh potential costs (Fraenkel et al., 2012).

These guidelines are enforced in university settings by following requirements of the Institutional Review Board (IRB), an entity from which the researcher must seek approval for his or her research plan. According to the rules of JMU's IRB, I did not obtain identifying information about survey respondents and I provided the option for survey participants to opt-out of answering potentially uncomfortable or overly-personal questions with the choice of "I prefer not to answer." I also judged any slight discomfort that could result from participation in this study to be justified by the overall purpose of improving the experiences of my participants; the welfare of the target population is the motivation for the research endeavor.

Chapter 4: Findings

As described in the methodology, a mixed-methods design was chosen in order to strengthen conclusions and further explore ideas that emerged in quantitative data analysis. Even without completion of focus groups, analysis of survey data demonstrates how "the strengths of each approach to a large degree mitigate the weakness of the other" (Fraenkel et al., 2012, p. 565), therefore addressing the mixed-methods research question of how this method creates a more holistic understanding of student parent experiences. For instance, combining ratings of reported interest in additional categories of support services with an opportunity to enter alternative ideas into open-response text boxes creates a more comprehensive answer to the research question regarding additional support services that graduate student parents would value. Similarly, identifying resources and constraints in this population is supported by ratings of common themes and open-entry responses.

The purely quantitative research questions were less successful because of an insufficient sample size to conduct inferential tests with SPSS software. Correlations between single or co-parenting status and satisfaction with available resources and reported stress levels cannot be drawn with any confidence because only two survey respondents are single parents. Although only 106 of a reported 1,711 graduate students responded, 25% of these participants were student parents. A sample size of 26 provides at least an idea of demographic statistics on this population at JMU; in the context of a complete absence of this information, these estimates are significantly useful. Finally, I use descriptive statistics to estimate whether the ages and number of children reported affect the reported stress level of graduate parents.

Quantitative Findings

Quantitative results have been separated and color coded (in most cases) according to five major themes: demographic information (green), descriptive statistics regarding experiences (orange), resources and satisfaction with these (purple), constraints and needs (red), and potential support services to be offered in the future (blue).

Demographic information. Basic statistics on the graduate student population at JMU include: the proportion of graduate student survey respondents who indicate identification as a parent; the proportion of this number who reported being a single or co-parent; the number of children for each respondent; the ages of their children; and the proportion of students who are enrolled full- or part-time. Collecting demographic information such as a participant's age and sex would have helped to explore a correlation between maturity level, gender, and stress levels. In addition, determining the respondent's degree program would have better informed the university about whether certain departments or colleges require the most focused resources.

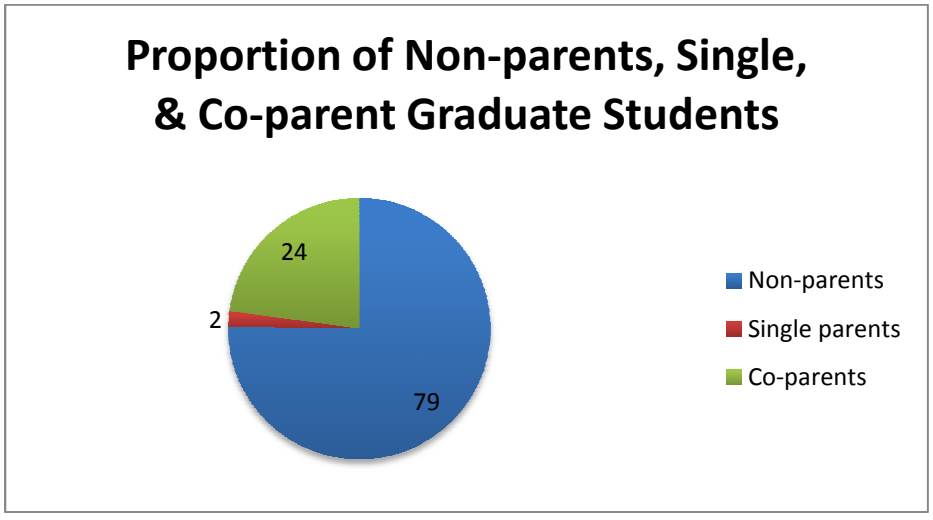

Figure 3: Proportion of Graduate Student Non-parents, Co-parents, and Single Parents in Survey Respondents

Although the survey sample is rather small in comparison to the total number of graduate students (1,711 in the fall of 2014), the proportion of graduate parent respondents as compared to graduate student non-parents shows a significant number: 79 non-parents (75%) and 27 parents (25%). Only two parents identified as being a single parent (8% of total parent respondents). These numbers are summarized in Figure 3. However, it would have been helpful to have data on the age of respondents; the parents may have been older than the non-parents.

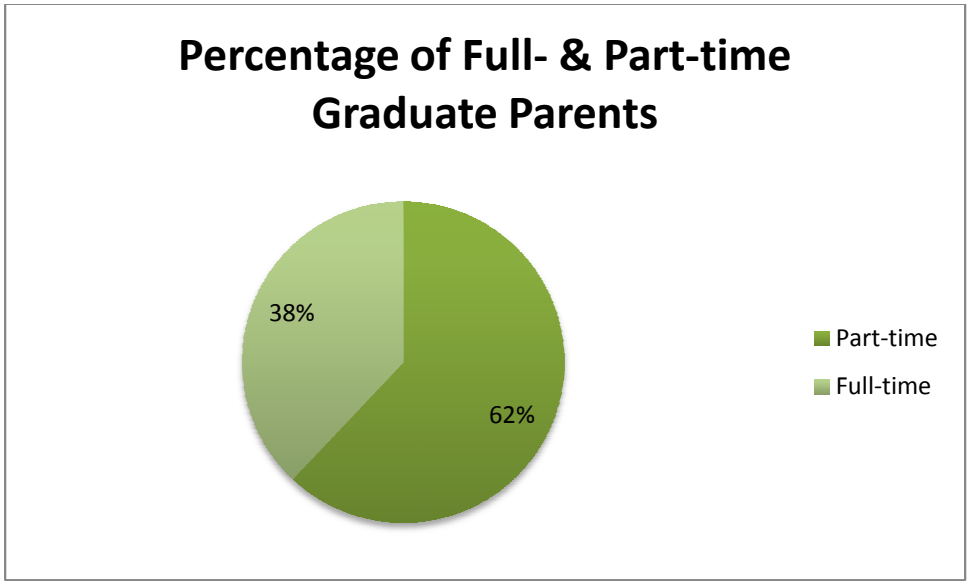

Figure 4: Percentage of Student Parents Enrolled Full- or Part-time

A majority (62%) of student parents report part-time status in graduate school (Figure 4). It is not a risky assumption to presume that this is related to time restraints and additional responsibilities of caring for and supporting a family.

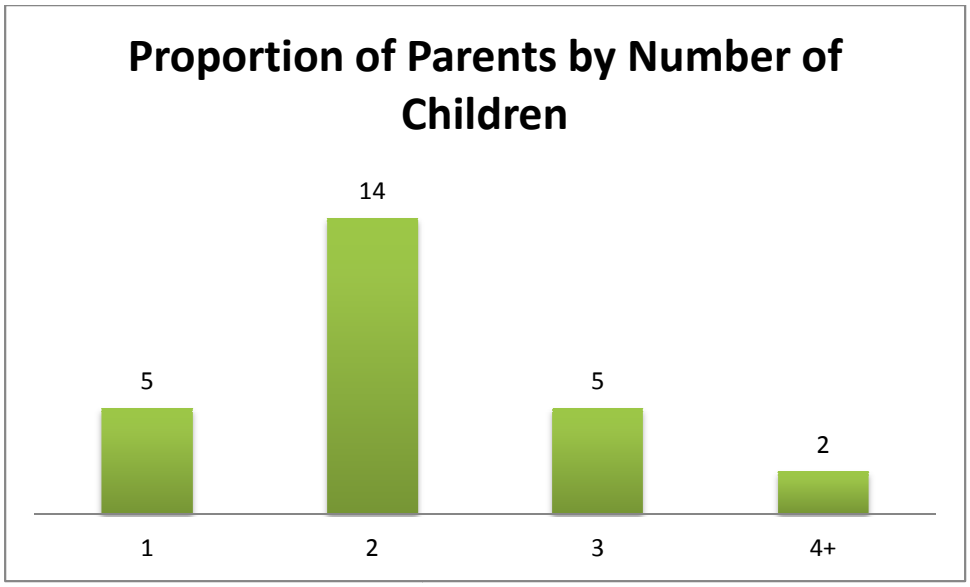

Figure 5: Number of Children Clarified by Frequency of Reported Ages

A surprising number of student parents reported having more than one child, even though each additional child would logically increase the challenges associated with role strain and time restraints. Figure 5 displays the complete set of responses. The category of "4+" children revealed two graduate parents with four or more children: one reported four children, and the other reported an astonishing five children.

Figure 6 shows further analysis of the findings displayed in Figure 5. Examination of open-text responses where participants listed the ages of their children yielded the following data set. A majority of graduate parents reported that they care for young children, which might be indicative of a pattern of fairly young ages among graduate student. Older children are grouped according to the following logic: children of the ages 18-22 years are of the traditional college age, and may be attending college or at least taking on additional responsibilities to support themselves. To save space, I grouped the last two children (ages 25 and 26) into one category—23+.

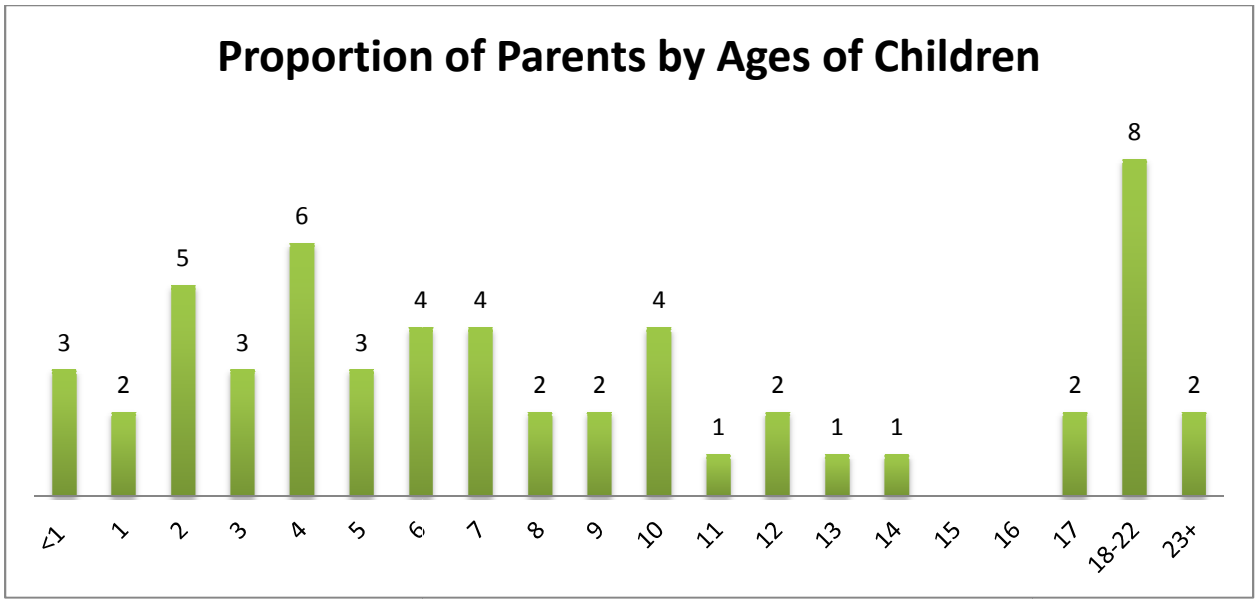

Figure 6: Ages of Children Clarified by Frequency of Reported Ages

Experiences. Quantitative data grouped within the exploration of graduate student experiences overlaps in large part with the following sections regarding resources and constraints. Because I had a general sense of what variables might constitute a resource or a challenge from personal experience and the literature review, I was able to group themes in this way. The less definitive categories include: the estimated number of hours graduate parents spend on each of seven common activities of adults; their average daily stress level; and perceptions of single parents regarding the impact that they believe a co-parent would have on their experiences. Figures 9, 10, and 11 address the impact of the number of children reported and their ages on estimated daily stress levels.

As illustrated in Figure 7, the majority of graduate parents' time is spent on parenting, class time and homework, and sleep, and in their jobs. Exercise, social or personal time, and housework are relegated to the "back burner," with barely over an hour spent on housework, approximately an hour for social or personal time, and less than thirty minutes on exercise.

Taken together, these averages imply a severe lack of work-life balance among graduate parents; however, these are choices most graduate students willingly make for the promise of a brighter future for themselves and their children.

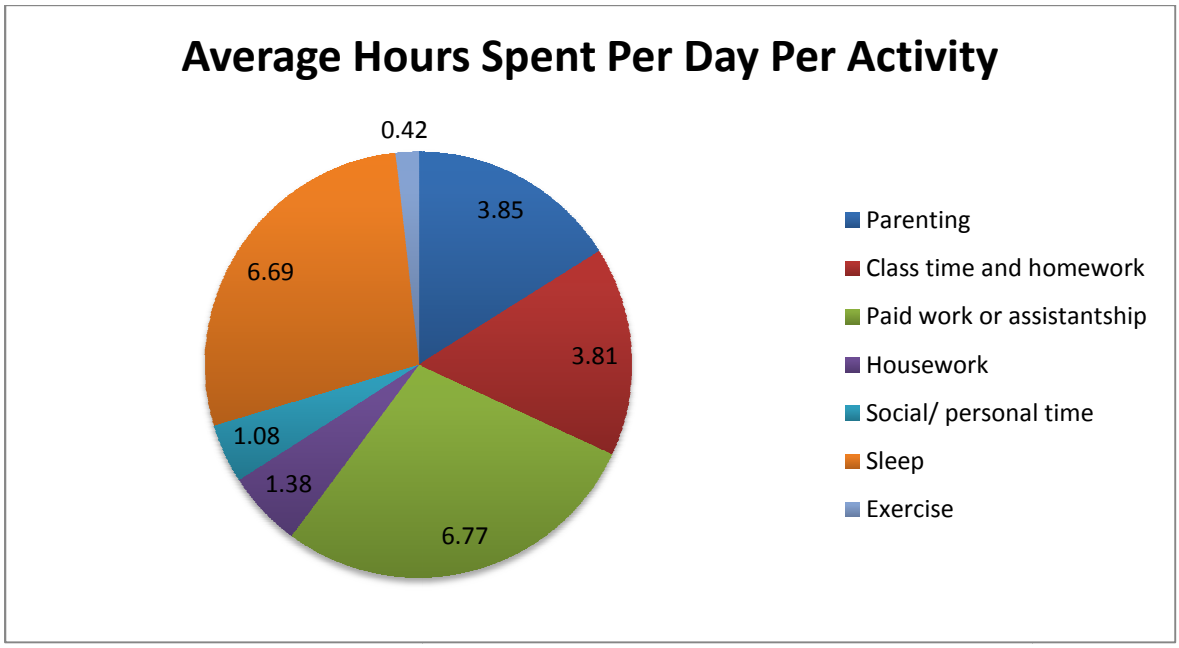

Figure 7: Average Number of Hours Spent Per Day on Common Adult Activities

Interestingly, as shown in Figure 8, one single parent reported an average daily stress level of only two, while the other single parent reported a rather high daily stress level (8). Both reported full-time enrollment status and have one child each. In response to the question, "*If you identify as a single parent, do you feel that your experience would be substantially different if you had a spouse or other committed partner? If yes, please explain how you think this would impact you and your child(ren),*" only one single parent claimed that a partner would have a significant impact. This respondent elaborated by saying, "Assuming that they are a qualified partner, I expect we would be sharing household and parenting duties." Upon inspection of the responses regarding the ages of the two single parent respondents' children, the explanation for

the widely different answers about daily stress level and their parenting-partner views seems apparent. The single parent quoted above reported having a 9 year-old, whereas the other single parent has a 26 year-old child. As could be predicted, it was the respondent with the younger child who reported the higher daily stress level.

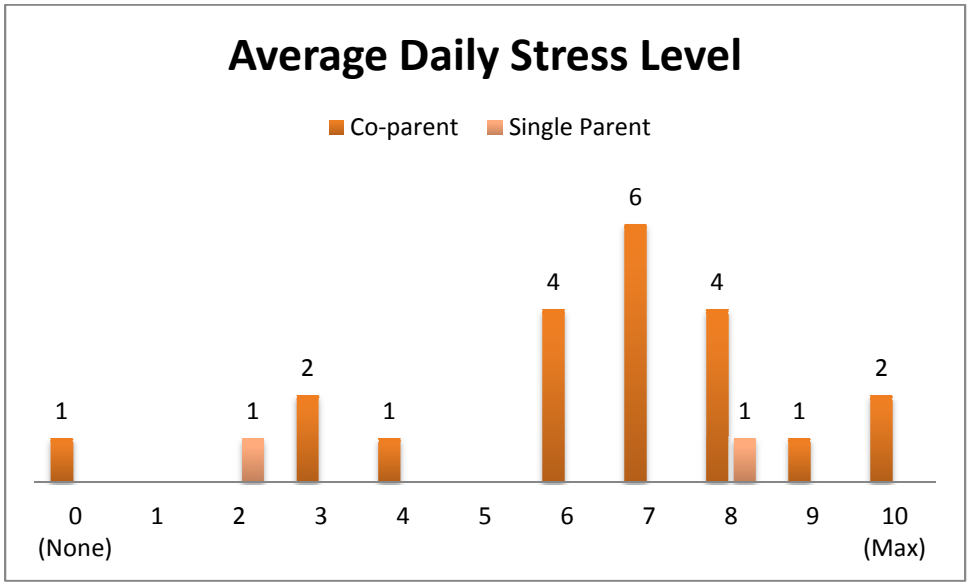

Figure 8: Average Daily Stress Level Reported by Graduate Co-parents and Single Parents

Figure 8 also illustrates a general tendency for stress levels of graduate parents to be on the higher end of the scale, which is logical, given the circumstances of graduate parent lives. Knowing the toll that just one child can take on a graduate parent's stress level, it is reasonable to explore whether the number of children reported by each student has an impact on their estimated stress levels. To explore this idea, I created a scatterplot (Figure 9) with matched pairs for each respondent's reported number of children and estimated stress level.

From the visual, there does not seem to be a strong relationship between these two variables. Differences in the way individuals perceive and handle stress, the amount of support

they receive outside of university resources, enrollment status, and the number of additional demands on his or her time may all constitute extraneous variables affecting this measure.

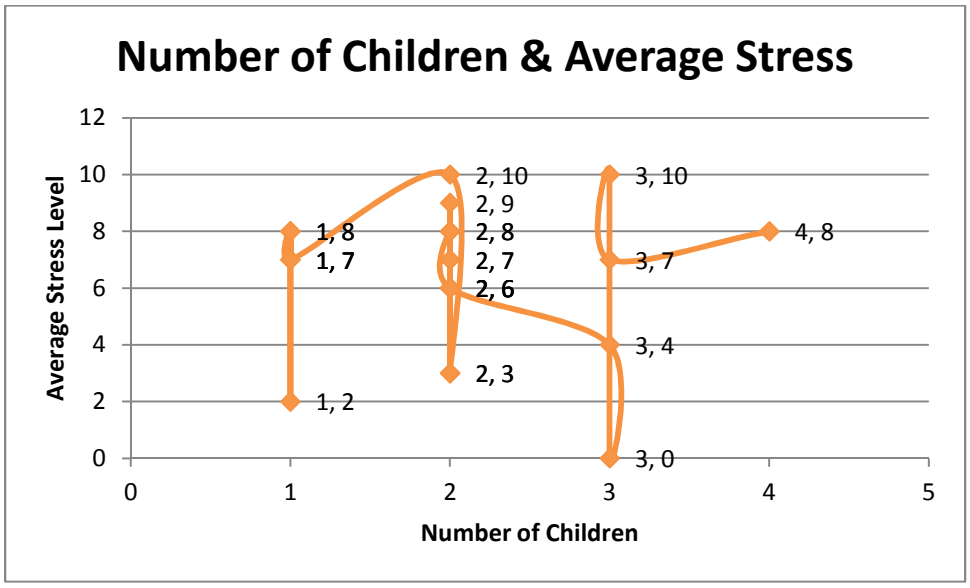

Figure 9: Average Stress Level Clarified by Number of Children

Another variable that I hypothesized might affect stress level is the age of children reported by each respondent. In Figure 10, each parent's reported stress level was plotted along the y-axis, and the age of the child determined the position along the x-axis. Parents reporting multiple children were separated into multiple pairs depending on the number of children.

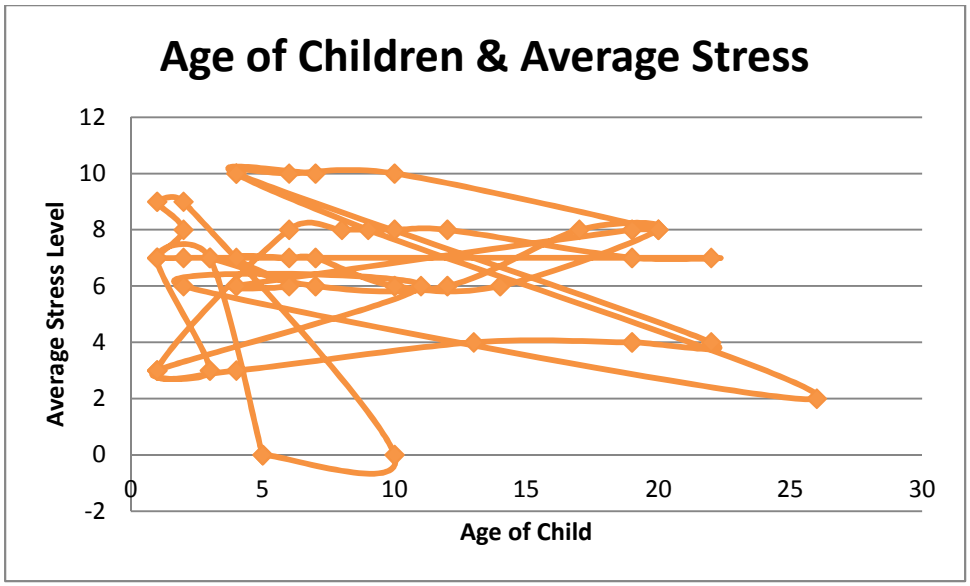

Figure 10: Average Stress Level Clarified by Age of Children

Figure 11 maintains the technique described for Figure 10; however, this image focuses solely on the relation between parents reporting young children and estimated stress levels. Since young children inevitably require more time and attention, I reasoned that stress levels should be higher in student parents reporting younger children. I focused on children age six and younger, reasoning that once a child starts school full-time, the necessary time and attention would decrease. Six is the average age of a kindergartener.

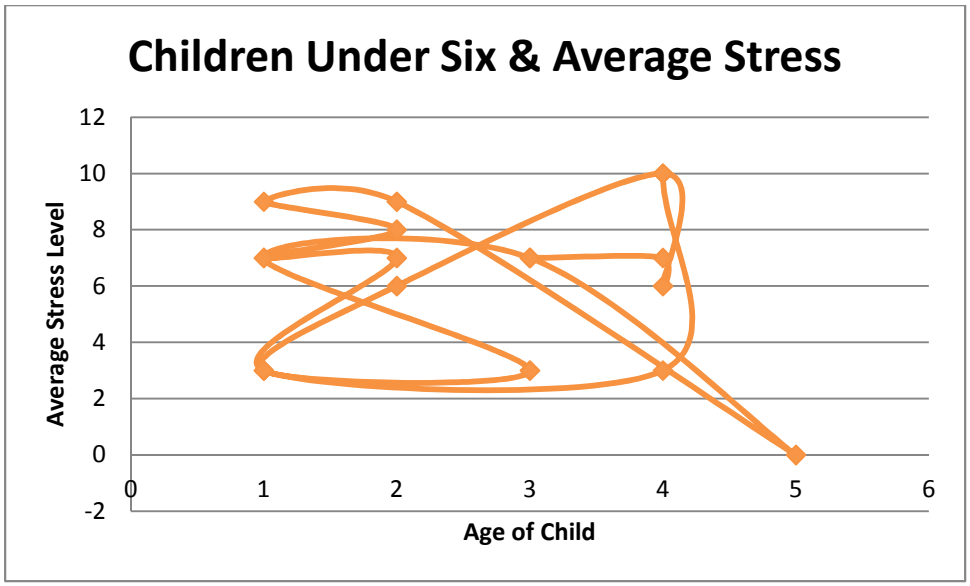

Figure 11: Average Stress Level Clarified by Ages of Children Under Six Years Old

Contrary to my expectations, Figure 10 and 11 do not show a relationship between the age of a graduate student's child(ren). This could be due, in part, to a few outliers, such as the stress rating of "0" for the parent with a five-year-old. This could be a mistake, as it seems unlikely that any graduate student would report a complete lack of daily stress. Despite these results, Figures 10 and 11 do tend to indicate generally high stress ratings. However, without a comparison of estimated daily stress from graduate students who are not parents, no definitive conclusions can be made.

Resources and satisfaction. Student parents' perception and satisfaction with resources includes: the degree to which respondents have used existing university resources and their satisfaction with these—especially financial aid satisfaction—satisfaction with faculty support and the specific ways they have felt supported; sources of emotional support; and individual coping strategies. Figure 12 addresses the first component: the degree to which respondents have

used existing support services. It is clear that many student parents either do not have the time, opportunity, awareness, or interest to take advantage of many of these resources.

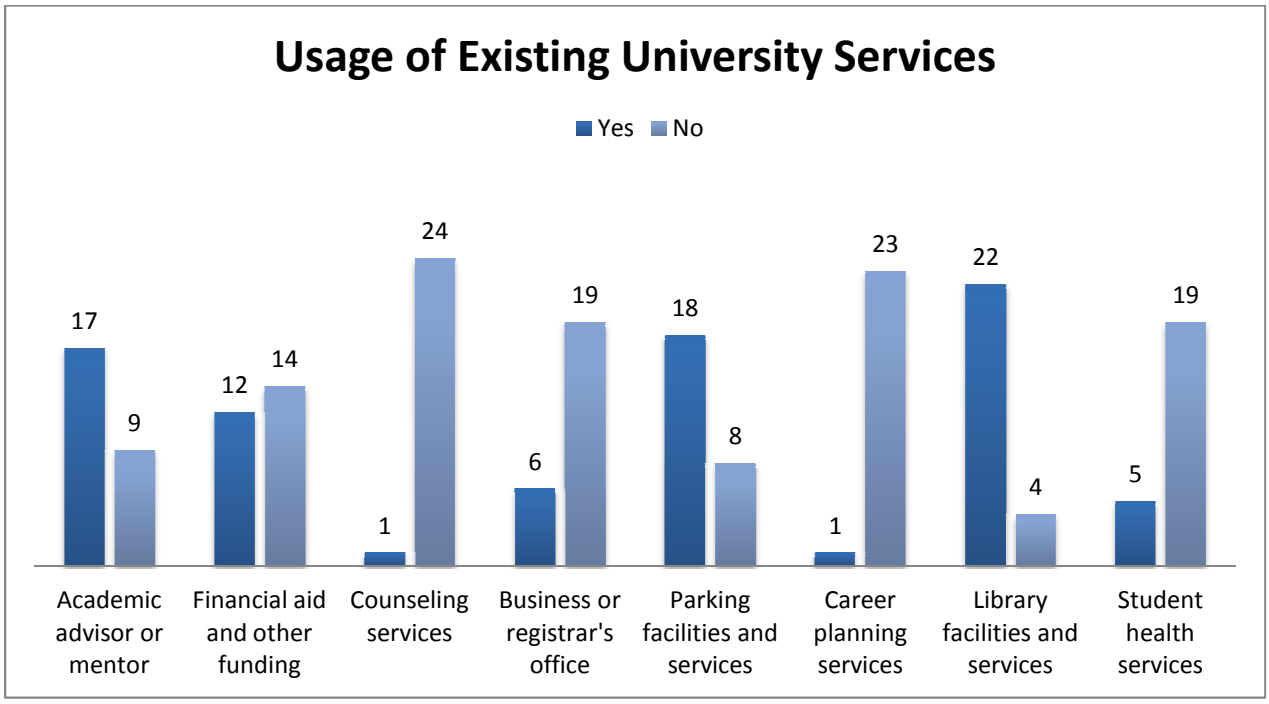

Figure 12: Graduate Parents' Reported Usage of Existing University Services

Satisfaction with existing resources was less variable for services such as counseling, business or registrar's office, career planning services, library facilities and services, student health services, and financial aid and other funding. Surprisingly, a majority of students reported (11 of 15) that they were "satisfied" or "very satisfied" with financial aid options. This contradicts the emphasis on finances as a major stressor that was revealed in many other pertinent questions. Given that this question asked about satisfaction with services that a respondent had used, it may be logical to conclude that those who were able to receive financial aid were highly pleased, while those who were not able to secure a graduate assistantship or other form of funding felt that this was a significant challenge.

Two categories that exhibited high variability: satisfaction with an academic advisor or mentor was largely positive with three outliers, and parking facilities and services showed that thirteen respondents were “satisfied” or “very satisfied” while five reported dissatisfaction. The complete results of respondent satisfaction with existing resources are displayed in Table 2.

Service	**Very Unsatisfied**	**Unsatisfied**	**Not applicable**	**Satisfied**	**Very Satisfied**	**Total Responses**
Advisor/ mentor	2	1	3	8	6	20
Financial aid	1	0	3	10	1	15
Counseling	0	0	11	0	1	12
Business office	1	1	9	3	0	14
Parking	2	3	1	12	1	19
Career planning	0	0	10	0	1	11
Library services	1	0	1	16	5	23
Health services	1	0	9	1	3	14

Table 2: Graduate Parent Satisfaction with Existing University Resources

As advisor and faculty member support is a significant resource for graduate student parents in the literature base, one survey question was devoted to this theme. All respondents indicated that they felt “supported” or “somewhat supported” intellectually and emotionally by their advisor and/or other program faculty members, as indicated in Figure 13.

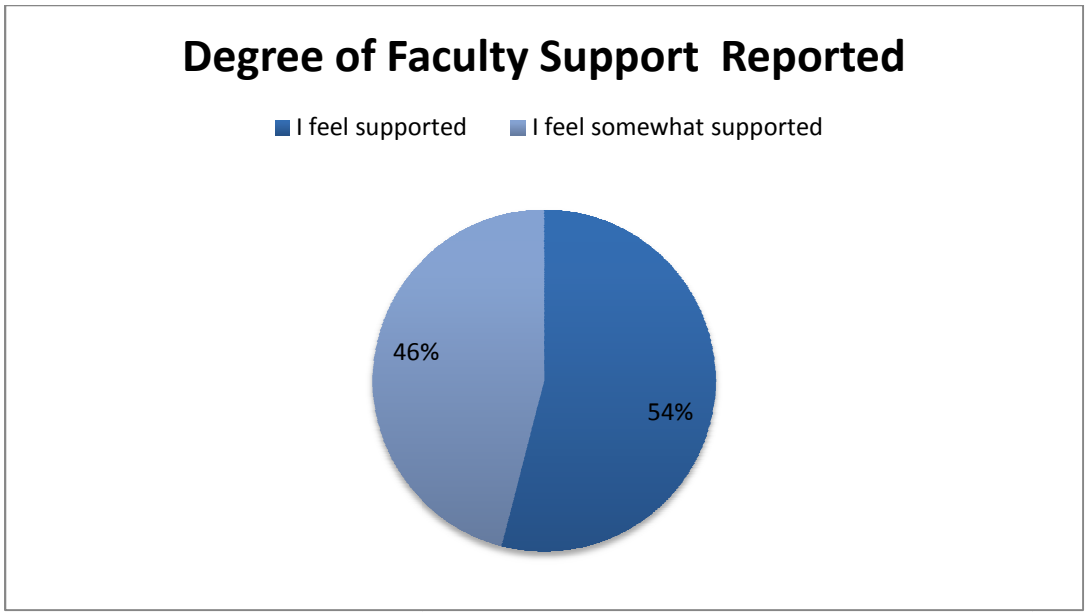

Figure 13: Degree of Faculty Support Reported by Graduate Parents

The next survey question asked respondents to indicate each specific way they felt supported by their advisor or other faculty members, according to themes identified in the literature. Participants were asked to check all themes that apply and elaborate on any additional components of this support. “Mutual respect and praise,” “Mentoring,” and “Acknowledging my private life” were most cited. Only one parent indicated an additional theme: “Support of heavy load and other commitments.” Complete themes and percentages are depicted in Figure 14.

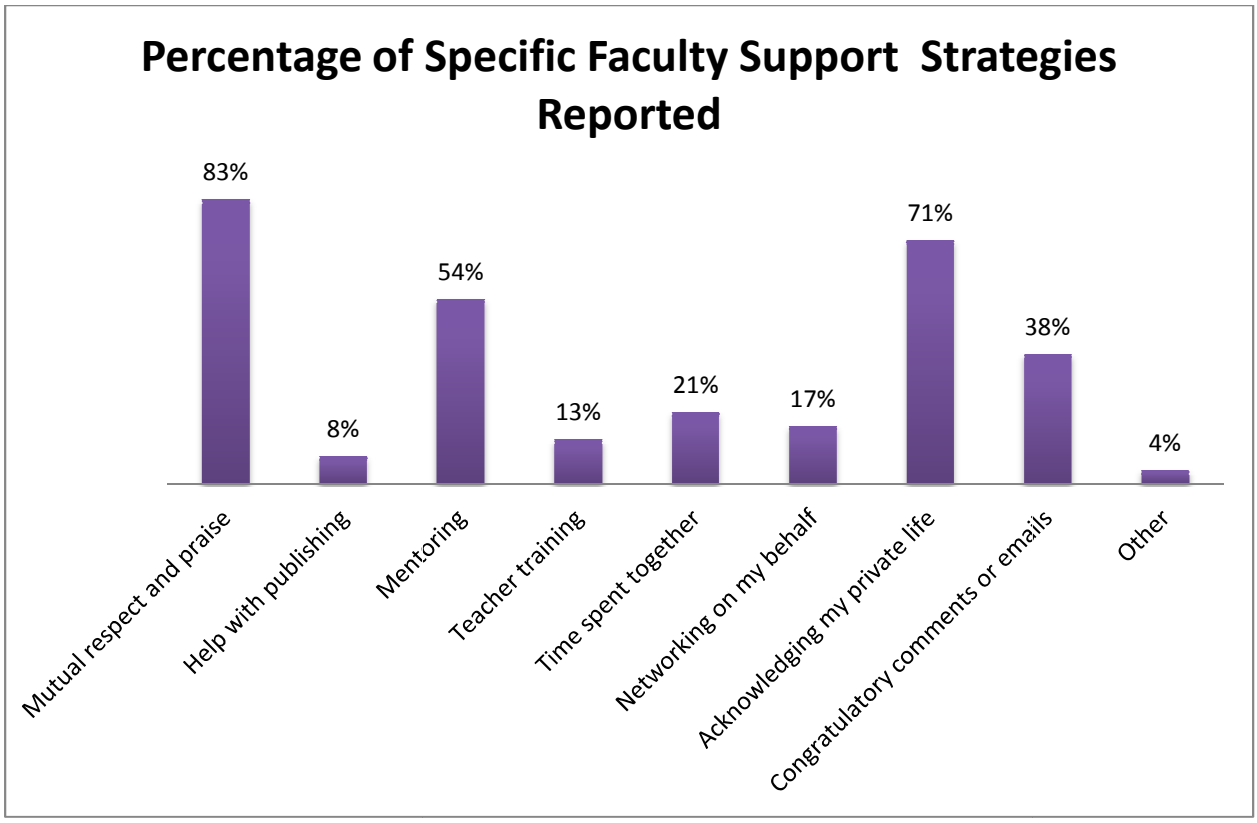

Figure 14: Specific Strategies of Faculty Support & Percentage of Graduate Parents Who Reported Each

Respondents were also asked to "check all that apply" regarding alternative sources of emotional support (Figure 15). This question was intended to address the social support aspect of graduate student experiences indicated to be significant from my review of the literature. The categories of "family" and "spouse" were the most influential, and other sources most commonly considered friends or classmates were less significant. This could be expected, since the literature suggests that social isolation and limited time for social interaction are also characteristics of graduate student experiences (Grady et al., 2014).

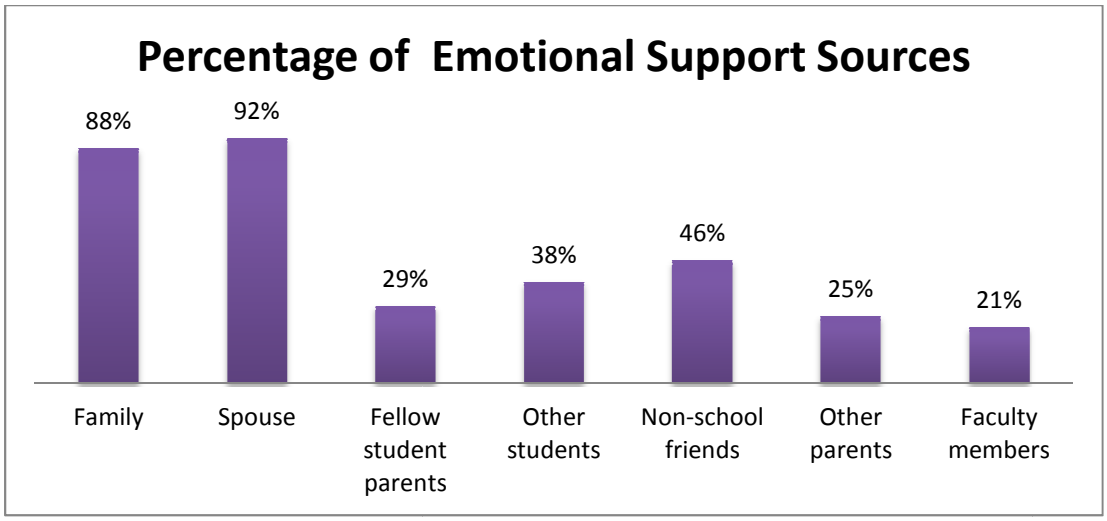

Figure 15: Significant Sources of Emotional Support & Percentages of Graduate Parents Who Use Each

After revealing the insufficiency in a number of resources affecting graduate student parents, it is important to consider the individual strategies that this population uses to overcome these challenges. Most of the results are shown in Figure 16, while qualitative responses for the "other category" are incorporated into the thematic analysis in a later section.

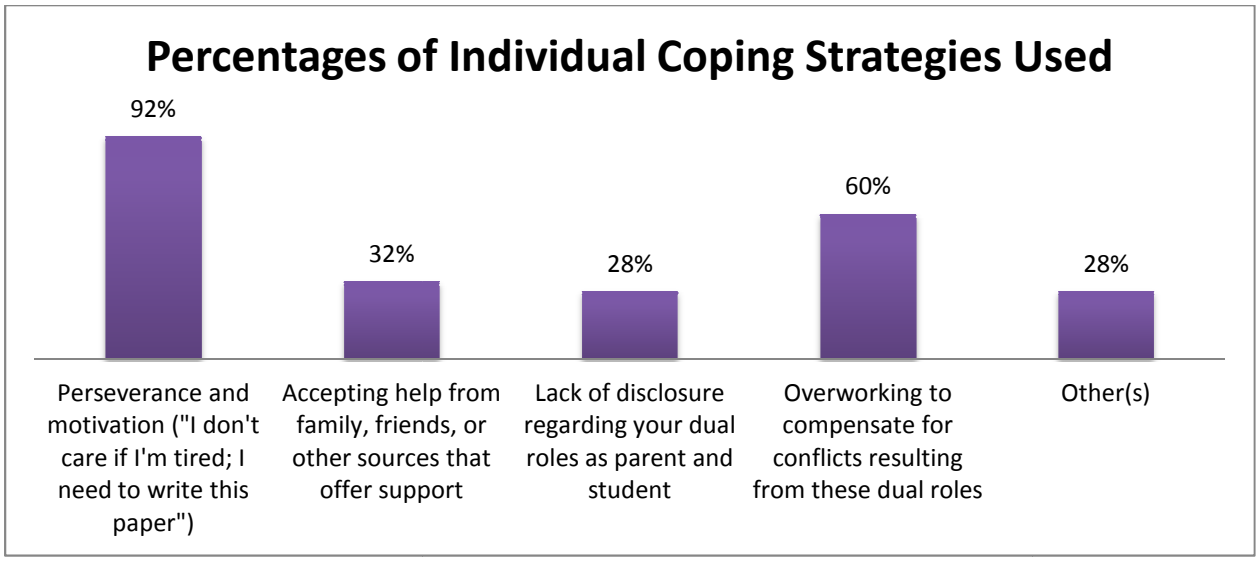

Figure 16: Individual Coping Strategies & Percentage of Graduate Parents Who Use Each

Constraints and needs. While the previous set of analyses examined what could be considered resources for graduate student parents, the following section addresses specific sources of stress and insufficient resources. These include: exploration of the ways graduate student parents pay for their advanced education; their perception of whether they have been offered enough financial aid; and ratings of the degree to which they experience the stressor themes from the literature.

Again, since financial stress has shown to be highly variable for students—often to be considered an unmet need—one survey question specifically addressed satisfaction with university-based financial aid options, shown in Figure 17. Responses are nearly split equally for "yes" and "no" responses to the simple inquiry, "Do you feel you have been offered enough financial aid…" As mentioned earlier, this might indicate satisfaction on the part of students who are enrolled full-time and are therefore eligible for graduate assistantships, whereas students without this option feel significantly unsupported financially.

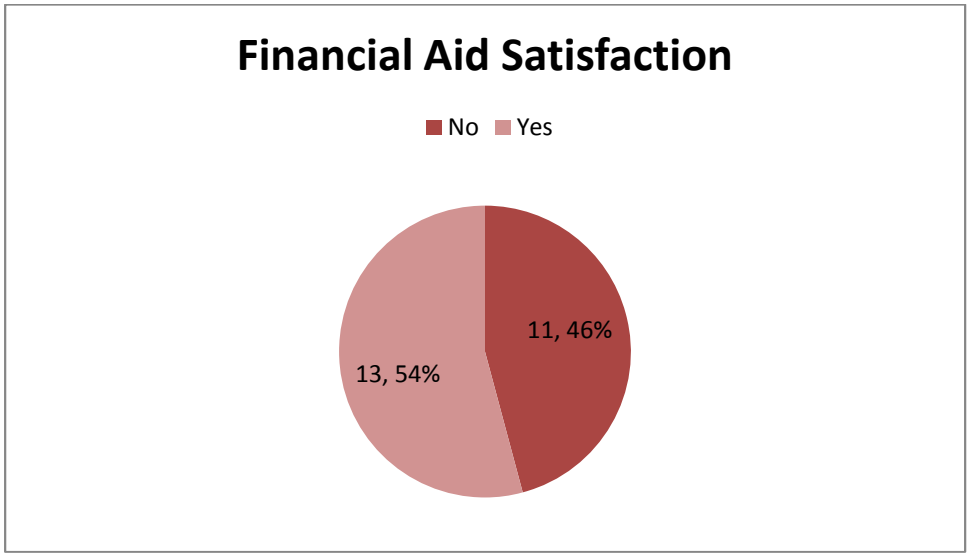

Figure 17: Graduate Parent Satisfaction with University-based Financial Aid Options

Figure 18 lists the number of graduate parents who reported paying for their advanced education with a variety of sources. Participants were asked to "check all that apply." Personal savings, government aid, and the "other" category are the most frequent resources, followed closely by credit cards and graduate or teaching assistant positions. I neglected to allow open-text entry with the category of "other," which is unfortunate, since this option is one of the two most significant sources. This graph emphasizes why financial stress can be a significant challenge for graduate student parents: government aid most likely takes the form of student loans to be repaid, and personal savings are likely somewhat small for a population that is already supporting one or more children.

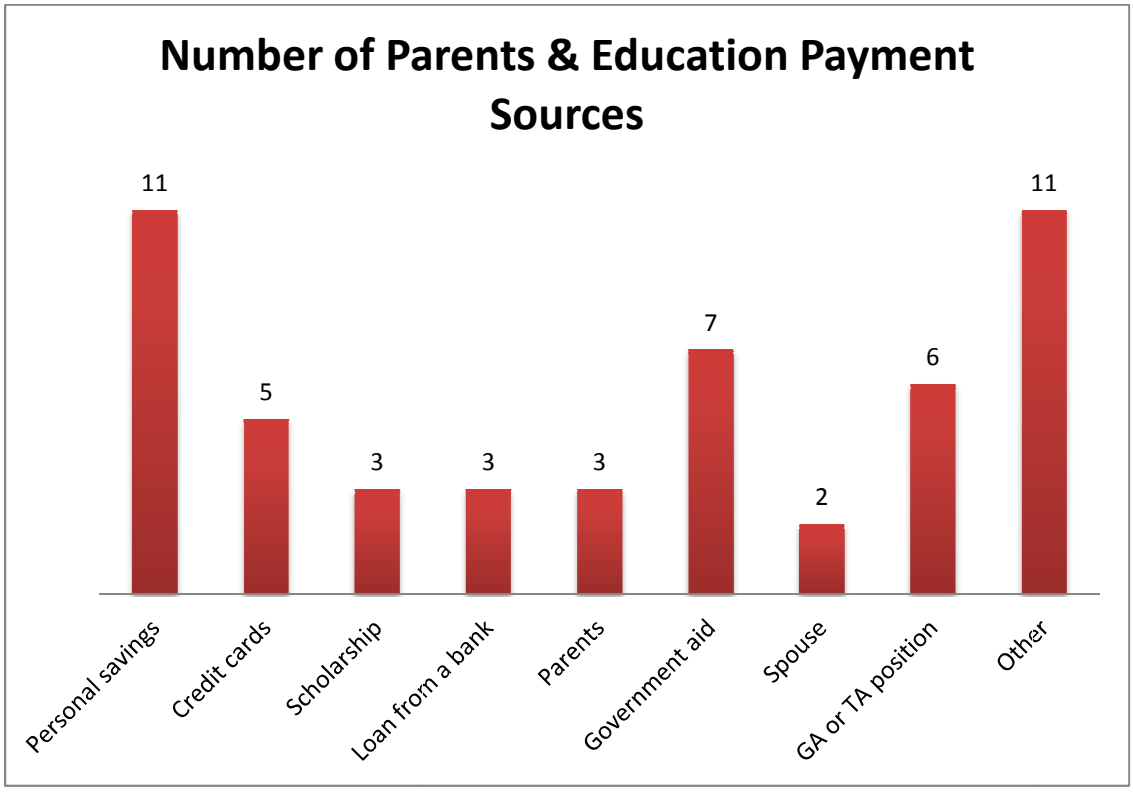

Figure 18: Sources of Payment for Graduate School & Proportion of Graduate Parents Who Use Each

Finally, the degree to which graduate student parents experience daily stress from a number of common themes is illustrated in Figure 19. These themes were pulled from the literature review and also represent the personal experience of the researcher. Three participants entered additional concerns in the "other" category. These are incorporated into the thematic analysis in the qualitative section, but they include: "addressing health insurance for family," "fear of failure," and "not fitting in with younger cohort." The "fear of failure" idea is not repeated in other qualitative answers, but a tendency to underestimate one's own abilities is cited as a theme that instructors should keep in mind with adult learners (Galardi, 2012).

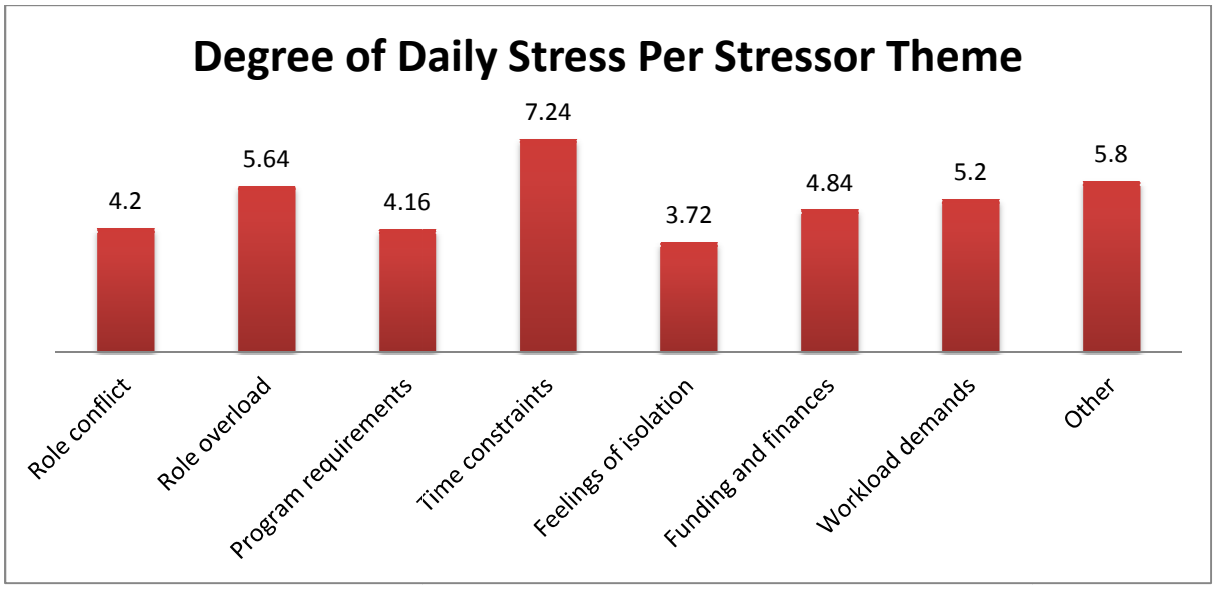

Figure 19: Degree to Which Graduate Parents Reported Daily Stress in Stressor Themes

Increasing future support. One of the most important purposes of this study is to supply suggestions for the university to increase support services for the graduate student population in ways that they will find most valuable. Figures 20-28 depict respondent rankings for the likelihood that they would use the following supportive services: student parent support groups, family friendly events, affordable on-campus daycare, family-friendly university policies,

training workshops on useful topics, additional financial aid options, a database of resources for student parents, faculty sensitivity training, and a formalized faculty-student mentoring program. An "other" category with the freedom to provide additional ideas yielded the following statements: "resources like books and movies that help normalize stressors of parenting and inject humor to address potential isolation" and "repeat library and/or computer how to sessions." Both ideas are incorporated into the thematic analysis of qualitative responses.

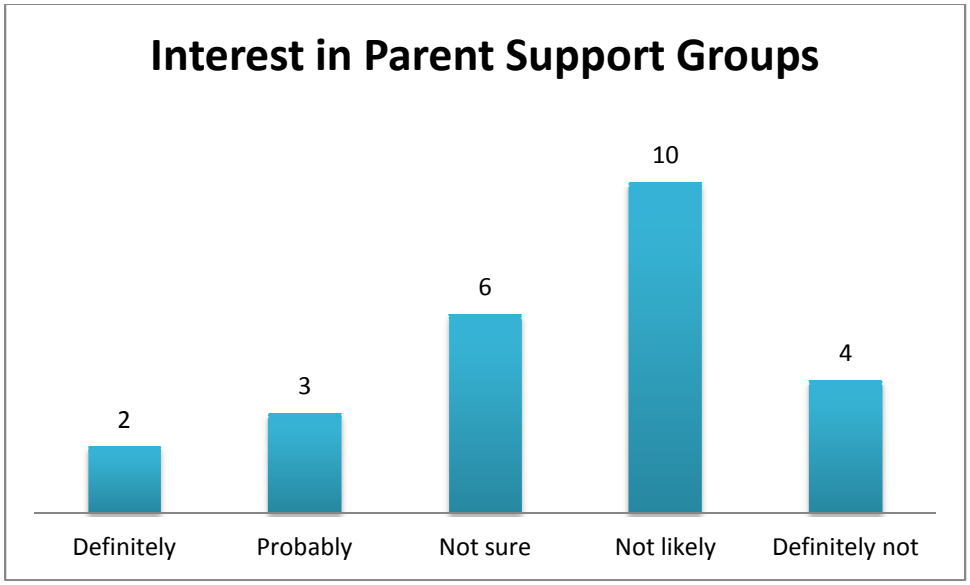

Figure 20: Graduate Parent Reported Likelihood of Using Student Parent Support Groups

Although student parent support groups could serve to ease the social isolation, role strain, and negative effects of stress for the graduate parent population, it may be that survey respondents did not feel that they would have the time to attend such sessions (Figure 20). Graduate student housing is offered at large research universities; these communities provide easily accessible social support. As JMU currently offers no housing specific to graduate students, this might a worthwhile consideration for supporting both the parent and non-parent graduate student population.

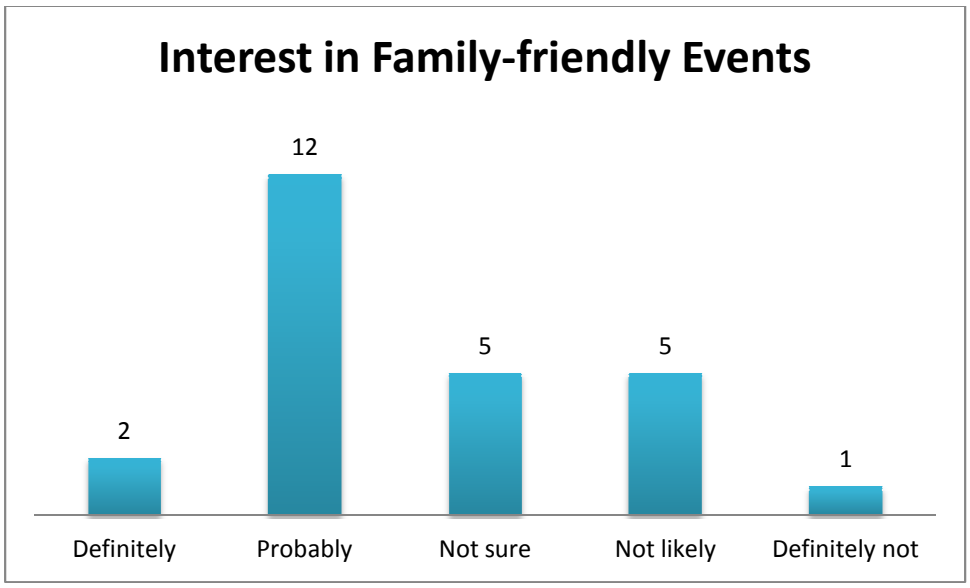

Figure 21: Graduate Parent Reported Likelihood of Using Family-friendly University Events

As indicated in Figure 21, it seems likely that at least a significant number of graduate student parents would be interested in attending family-friendly university events. Literature describes how graduate students—especially those who are parents—may feel less a part of their university because of demands and home and off-campus jobs. University events that welcome students and their children may be an appealing way to overcome this feeling of being "left out" or isolated from peers and university activities. While the JMU graduate school offers some family-friendly events, the university might increase parent family attendance with effective advertising techniques.

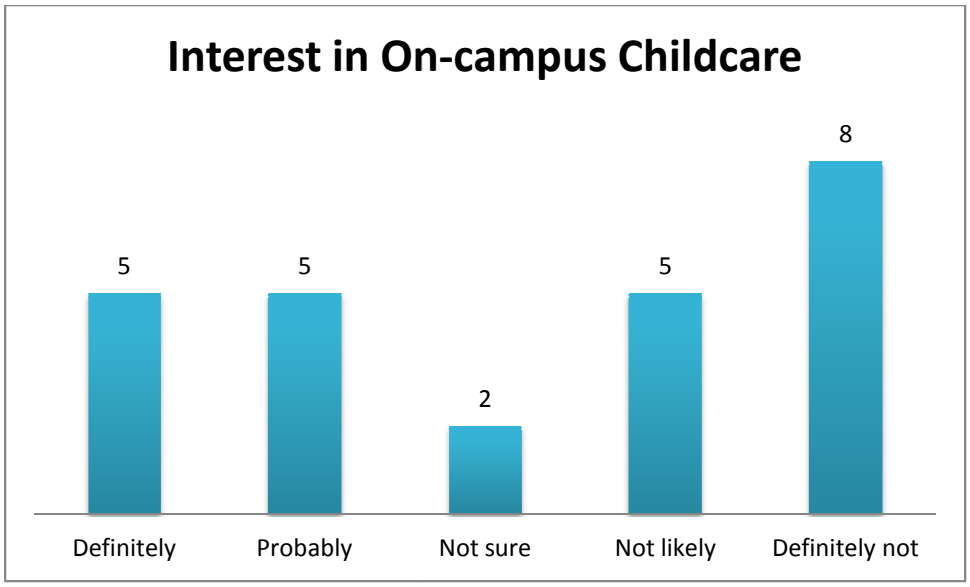

Figure 22: Graduate Parent Reported Likelihood of Using On-campus Childcare Services

Surprisingly, 13 graduate parents were not interested in affordable on-campus childcare, which is an option that research universities with large graduate student populations have been likely to implement as awareness of graduate parent challenges become increasingly apparent. Other sources report that graduate student parents like to keep their academic and personal lives separate, which could explain this result (Grady et al., 2014).

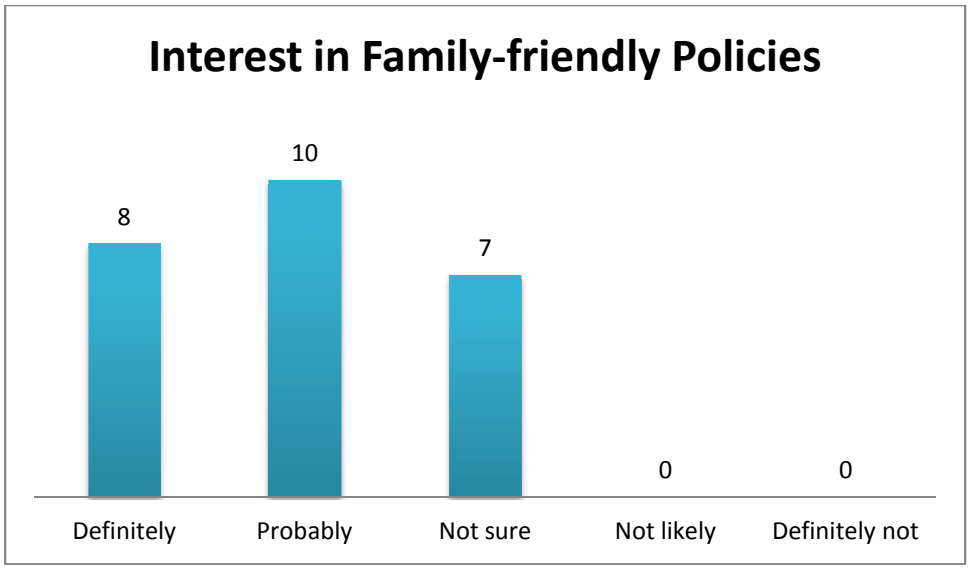

Figure 23: Graduate Parent Reported Likelihood of Using Family-friendly University Policies

By far, the most consistent ratings of interest in a supportive service are illustrated in Figure 23, in which 18 respondents claimed that they would "definitely" or "probably" be interested in family-friendly university policies. This finding could be explained by the ambiguity of the services that could be included in this theme.

Figure 24: Graduate Parent Reported Likelihood of Using Training Workshops on Useful Topics

Graduate parents' hectic schedules may play a large part in their lack of interest in training workshops (Figure 24). This inference supports the qualitative theme of time restraints.

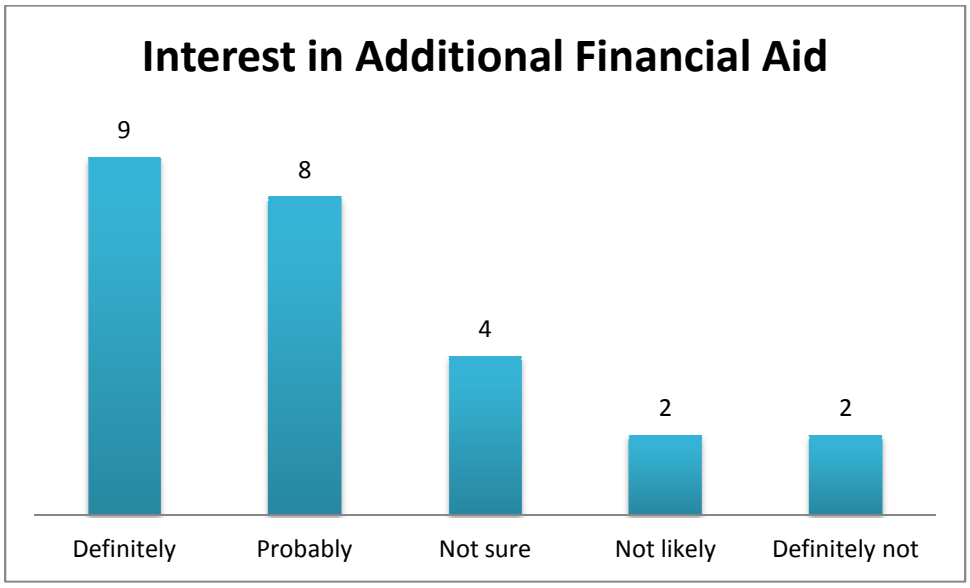

Figure 25: Graduate Parent Reported Likelihood of Using Additional Financial Aid Options

Figure 25 supports the idea that a significant number of graduate parents would appreciate additional financial aid options, although it is interesting that eight respondents indicated that they were "not sure," "not likely," or "definitely not" interested in being offered additional financial options. This may be explained by the fact that financial aid is usually offered as an assistantship at the university, which reduces the number of hours in a day available to spend with one's child. For this reason, some students would not consider this option, thus feeling financially unsupported by the university.

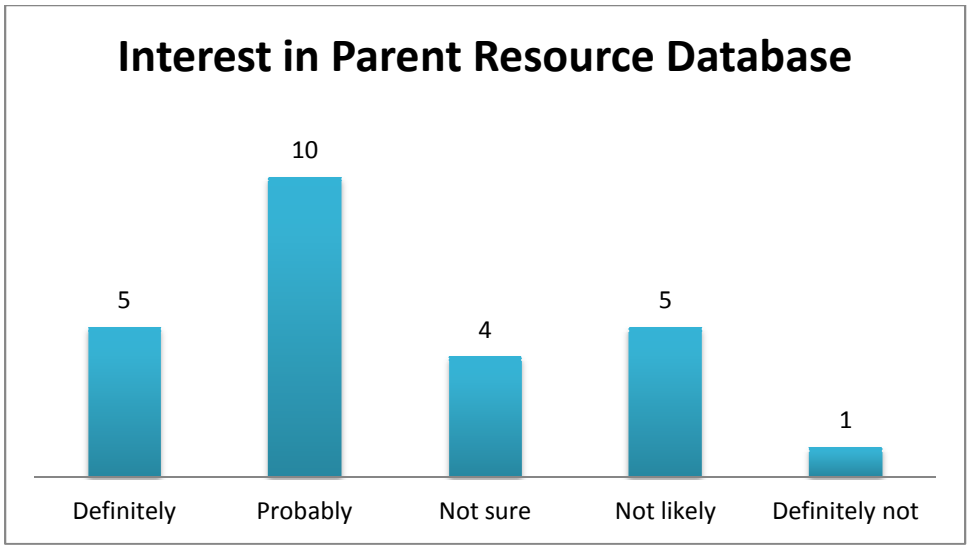

Figure 26: Graduate Parent Reported Likelihood of Using a Database of Student Parent Resources

Since many student parents may simply be unaware of university-based support systems as well as those within the local community, it makes sense that respondents indicated an interest in a database that compiles these supportive options into one accessible and easy-to-use resource (Figure 26).

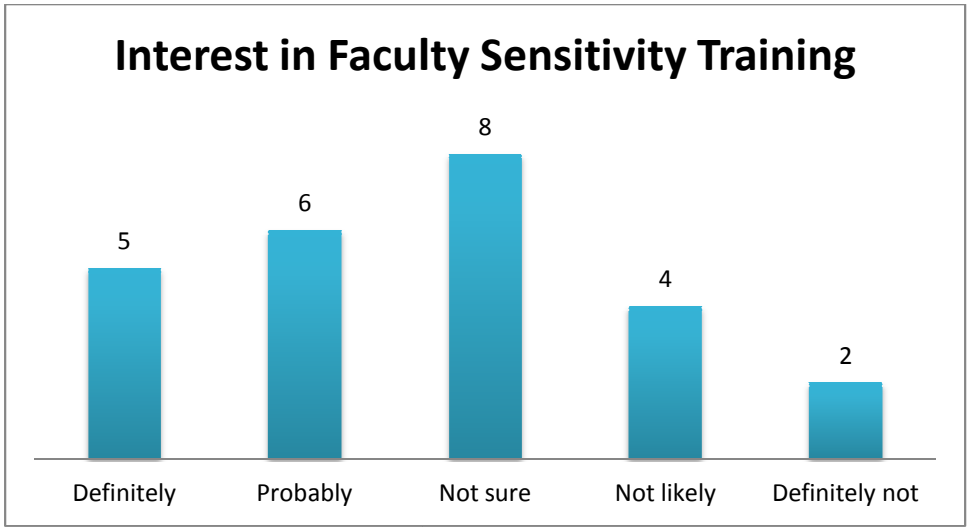

Figure 27: Graduate Parent Reported Likelihood of Using Faculty Sensitivity Training

The idea of work-life balance and the creation of a family-friendly atmosphere to be enhanced through faculty sensitive training shows high variability (Figure 27); this may be due to poor wording in the survey. Since the survey stated "Please rate each in terms of the likelihood that you would use this service," it is logical that many students responded with "not sure," "not likely," and "definitely not," since they likely do not consider themselves to be faculty members. Perhaps more students would have indicated appreciation for this concept if it had been worded in a more relevant way.

Figure 28 also depicts significant variability with the likelihood of using a formalized mentoring program. This could be due to limited time, negative or unsatisfying interactions with one's advisor or other faculty members, or a lack of clarity to see how this service could benefit the respondent. As indicated in the literature, it would be a low-cost service that could be made available for those students who indicated interest.

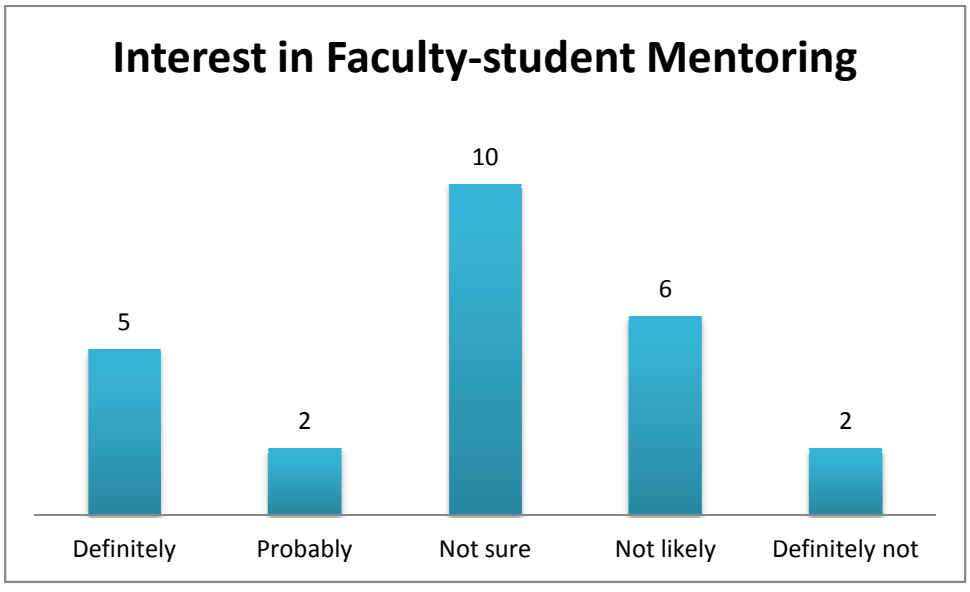

Figure 28: Graduate Parent Reported Likelihood of Using a Formalized Faculty-student Mentoring Program

Qualitative Findings

The coding process in this study involves a combination of inductive and deductive categorization of open-ended survey responses. I had general ideas of themes, partially resulting from a preliminary examination of the results, but additional themes and sub-themes were developed as I analyzed the data. Sub-themes are usually smaller components of a major theme or other general themes identified within one statement. This consistent overlap indicates a relationship between themes and allows for cautious inferences of causation in some cases.

Table three demonstrates the significant overlap revealed through analysis of qualitative survey data. Such is the nature of this topic, where a variable that one student parent considers to be a challenge could be seen as a resource to another, and vice versa. Similarly, themes that are less relevant to some respondents may be extremely relevant to the experiences of another student parent, who may then feel motivated to mention the factor contributing to the challenge at the center of the response. I followed the coding of data by the Framework approach (Ritchie, Spencer, & O'Connor, 2003) Farrell et al., (2006) summarizes this approach as,

> …identification of emerging issues to inform the development of a thematic framework. This is is a series of thematic matrices or charts...Organising the data in this way enables the views, circumstances and experiences of all respondents to be explored within a common analytical framework which is both grounded in, and driven by, their accounts. The thematic chart allows for the full range of views and experiences to be compared and contrasted both across and within cases, and for patterns and themes to be identified and explored. The final stage involves classificatory and interpretative analysis of the charted data in order to identify patterns, explanations and hypotheses." (p. 150)

Theme & *Sub-themes*(Generated from results)	**Definition**	**Relevant Survey Question(s)**	**Related Themes** (Generated from results)
Financial stress *Accepting help from others: Parents, Spouses* *Insufficient support: Healthcare, Scholarships*	How does stress and the challenges resulting from an insufficient amount of financial aid (or other support systems that could influence finances) affect graduate student parents and their child(ren)	Elaborate on the impact of not being offered sufficient financial aid as it relates to yourself and your child(ren) (Q11). Elaborate on "other" significant stressor themes (Q10). Elaborate on additional coping strategies you use to support your academic goals as a parent (Q16).	Social isolation Role strain Additional services needed (monetary and flexibility with workload demands) Time constraints Coping strategies (overcompensating)
Role strain *Role conflict* *Rrole overload*	How does role conflict and role overload affect graduate student parent experiences? How is this affected by parenting status?	Elaborate on the impact of not being offered sufficient financial aid as it relates to yourself and your child(ren) (Q11). *(Single parents only)* How would a spouse or other committed partner impact you and your child(ren) (Q8)?	Financial stress Time constraints

Time constraints	What are some of the explicit effects of time constraints on graduate student parents and their child(ren)?	Elaborate on additional coping strategies you use to support your academic goals as a parent (Q16). Elaborate on the impact of not being offered sufficient financial aid as it relates to yourself and your child(ren) (Q11).	Coping strategies Financial stress
Coping strategies *Overcompensating* *Faculty support* *Religious beliefs* *Accepting aid from the government* *Exercise* *Motivation*	How do graduate student parents overcome the unique challenges they experience, especially in circumstances of insufficient support?	Elaborate on additional coping strategies you use to support your academic goals as a parent (Q16). Elaborate on "other" specific ways you have felt supported by your advisor or faculty members (Q13). Elaborate on the impact of not being offered sufficient financial aid as it relates to yourself and your child(ren) (Q11).	Time constraints
Additional support *Healthcare*	What specific services, policies, or informal support systems would graduate student	Elaborate on the impact of not being offered sufficient financial aid as it relates to yourself and your child(ren)	Social isolation Role strain

Workshops *Scholarships* *Family-friendly atmosphere* *Facilities*	parents find to be helpful in improving their experiences?	(Q11). *(Single parents only)* How would a spouse or other committed partner impact you and your child(ren) (Q8)? Elaborate on "other" support services that could be provided by the university or your department (Q17).	
Social isolation *Limited time for social interaction* *Feeling out of place socially*	If social isolation is a key factor, what are the causes for a particular individual? How does it affect the experience of graduate student parents?	Elaborate on "other" significant stressor themes (Q10). Elaborate on the impact of not being offered sufficient financial aid as it relates to yourself and your child(ren) (Q11). Elaborate on "other" support services that could be provided by the university or your department (Q17).	Time constraints

Table 3: Thematic Framework for Coding of Qualitative Responses

After forming an initial set of categories as displayed in Table three, I organized each response into Table four to facilitate a holistic understanding of the key variables reported by survey respondents and the ways in which these themes related to other themes and sub-themes.

Theme & *Sub-theme*	**Question** & Evidence of Theme
Elaborate on the impact of not being offered sufficient financial aid as it relates to yourself and your child(ren) (Q11).	
Financial stress *(monetary support from parents)*	"I only take one class per semester and therefore cannot apply for financial aid. This has killed us. Thank God for my parents ability to pick up the slack."
Financial stress *(monetary support from spouse)*	"I have to rely heavily on my husband's income in addition to pulling from savings to pay the bills."
Financial stress ***Role strain*** ***Time constraints***	"Part time students can't receive FinAid, but I can't be a full-time student and a parent at the same time."
Financial stress *(monetary support from spouse)*	"Just because my husband and I both work fulltime, does not mean we are able to afford my grad school costs. Far from it. We'll be paying on these student loans (just like my undergrad) for many years. I feel the system should receive an overhaul. We recognize the value of education and thus have decided to take on the additional debt, but it certainly adds to the stress of daily living and expenses."
Financial stress	"It makes buying things [my children] need a pick and choose type of situation and sometimes even having to think strategically on what

Additional support *(financial & healthcare)*	items to buy when. Healthcare has been a nightmare to try and get."
Financial stress **Additional support** *(scholarships & flexibility with workloads)* ***Role strain*** **Social isolation** *(limited time for socializing)* **Time constraints**	"Having a child and a working husband and living a somewhat normal life is extremely challenging and is still a stressor financially. Graduate student parents have very limited social lives and what we do have usually revolves around our children. There is no reduced rate or assistance with child care offered for graduate students. It is a real strain to want to have time to be successful in school and as a parent, housewife, graduate assistant, and fellow. Stress has a direct effect on quality of life and health and more scholarships (with no strings attached, assistantships) should be offered to full time graduate student parents. No real concessions are given to graduate student parents either!"
Financial stress **Coping strategy** *(overcompensating)*	"I have to work harder and try harder to save for my children's educational experiences."
Financial stress **Time constraints**	"I have had to forgo camps and after school daycare, because I can't afford it. This cuts into my time for research and writing, and in the long run, probably extends my time at JMU. However, I'm in the final semesters now (I hope) and I am scared to death of my extreme student loan debt for this PhD."
Financial stress **Role strain**	"I am unable to focus on my degree and must split my life in too many directions"

(overload) **Time constraints**	
Elaborate on additional coping strategies you use to support your academic goals as a parent (Q16).	
Coping strategy **Time constraints**	"I try and do as much school work as I can at night and at work. Studying at home is nearly impossible."
Coping strategy **Time constraints**	"Using entertainment to occupy kids while doing work, multi-tasking (doing classwork while parenting/housework)"
Coping strategy **Time constraints**	"I am a 'good enough-ist'--to be contrasted with a 'perfectionist.' I'm good with a B in grad school. If 5 hours gets me a B and 10 gets me an A, I'm taking the B every time because that's 5 hours of seeing my kids, sleeping, going for a run, etc."
Coping strategy	"I'm a Christian. I have to pray. A lot."
Coping strategy **Time constraints**	"Using entertainment to occupy kids while doing work, multi-tasking (doing classwork while parenting/housework)"
Coping strategy	"Exercise"
Coping strategy *(motivation)*	"Desire to role model perseverance for my children."
Coping strategy *(guilt)*	"I make so little (not counting student loans) now that my son is eligible for Medicaid, so at least his health insurance is covered now…one less worry, but I feel guilty as an educated professional taking it."

Financial stress	
Elaborate on "other" support services that could be provided by the university or your department (Q17).	
Additional support *(database of resources)* **Social isolation**	"Resources like books and movies that help normalize stressors of parenting and inject humor to address potential isolation"
Additional support *(workshops)*	"Repeat library and/or computer how to sessions"
Elaborate on "other" stressor themes that you experience (Q14).	
Additional support *(healthcare)* **Financial stress**	"Addressing health insurance for family [is a significant stressor]"
Social isolation *(feeling 'out of place')*	"Not fitting in with younger cohort [is a significant stressor]"
***(Single parents only)* How would a spouse or other committed partner impact you and your child(ren) (Q8)?**	
Additional support *(informal: spouse)* **Role strain**	"Assuming that they are a qualified partner, I expect we would be sharing household and parenting duties."

Table 4: Coding and Organization of Qualitative Themes by Participant Responses

One response did not fit into the above chart, but was identified in response to the question regarding significant stressor themes; in the "other" category, one respondent listed "fear of failure." Although this was not commonly mentioned in my results, a lack of confidence and tendency to underestimate one's own ability is a characteristic identified in the literature review as common among adult learners. It is logical to assume that this fear would be amplified among students who also have the responsibility of caring for a child.

Chapter 5: Conclusions and Recommendations

In chapter four, I described how my survey data addressed the research questions in this study. Basic demographics of the graduate student parent population were obtained and analyzed with descriptive statistics, although these estimations cannot be generalized to the entire target population because of a small sample size. The age and number of children reported by graduate parents did not have a significant effect on their reported daily stress levels, although I concluded that stress levels tended to be high among this population. Other quantitative questions regarding the effect of single versus co-parenting status on satisfaction with resources and daily stress levels were unable to be answered due to an extremely limited sample size of two single parents. One of the most successful questions generated suggestions for additional supportive services that could be offered at JMU; these are discussed in the next section.

Qualitative data reiterate the quantitative findings and thus support the assertion that a mixed-methods design was most appropriate for this study. Participants were able to elaborate on their perceptions of the resources and constraints they experienced and provide suggestions for resources or strategies that could improve these experiences, thus answering these two qualitative research questions.

Implications for Practice

Fraenkel et al., (2012) argue that an "advocacy lens" is common in mixed-methods research designs and "occurs when the researcher's worldview implies that the purpose of the research is to advocate for the improved treatment of research participants in the world outside research" (p. 562). Improving the experiences of future graduate student parents was one of my main objectives in examining this subject. A number of helpful suggestions for additional

support services were determined. Because survey respondents ranked their interest in a list of potential supportive services, JMU can be more confident in spending limited resources as these options are explored in the future. JMU might also consider expanding sources of information on student services to include: graduate student orientation, flyers, physicians at the university health center, graduate assistants, and faculty members, most of which would involve the distribution of information to parties that have traditionally not been thoroughly educated on this topic.

Ideas for supportive services at the institutional level include graduate student housing and on-campus childcare like what is offered at many R1 universities. To underscore the importance of such support services, Malinckrodt & Leong (1992) write that, "Although housing and child care initiatives might be costly to implement, the cost to universities of high rates of graduate student attrition are also considerable, as is the cost to society when women are not able to fulfill their career aspirations" (p. 11). With JMU's "Be the Change" motto, it reasonable to expect the university to consider this concerns regarding both students and society.

Financial aid options are another variable of interest at the university support level. Financial aid proved to be of particular interest, as only about half of survey participants indicated satisfaction with existing financial resources, and financial stress was the most significant theme derived from qualitative answers. Family-friendly policies, including university events geared towards families, also solicited a high level of interest. At the departmental level, mentoring and family-friendly policies, such as academic flexibility, were significant themes. Although answers exhibited variability in rankings of interest in formalized mentoring, most respondents stated that they felt supported or somewhat supported by their

advisors or other faculty members. Specifically, acknowledging students' personal lives was a commonly cited strategy for offering professional support.

Finally, JMU should strive to recognize the unique challenges of its graduate student parent population and make this topic known to employees, who ultimately create the family-friendly atmosphere that can support this population. Collaboration across departments and university-level resources is a vital aspect to increasing support services for graduate students. Before any major changes are implemented, further research should be conducted on the graduate student parent population, especially at JMU.

Recommendations for Future Study

The focus group component of this study was the most important strategy to facilitate deeper exploration of graduate student parent experiences and their perceptions of resources and constraints. Future research should collect and utilize more qualitative data to enhance a holistic understanding of these variables. This should include assessment of individual skills and abilities to manage stressors. Additionally, identification of individual coping strategies and the dissemination of these ideas to other graduate parents could help these students to overcome the challenges that result from insufficient resources. All of these suggestions could be served by providing opportunities for graduate students to share their opinions and participate in decisions that directly affect their experiences.

I would also emphasize the importance of appreciating narrative scholarship. Because I am the researcher, I was bound by ethical and methodological constraints to avoid direct use of my own experiences and perceptions. However, the nature of this topic would, in my opinion,

justify more explicit personal input if it was more widely accepted in academic research. For instance, I was also unable to take my own survey, even though I would significant insight from the amount of reflecting I have done on this topic. In addition, the pitifully small sample for single parents was a major limitation, and I am one of seemingly few members of this sub-group of graduate student parents.

Conclusion

It is my opinion that JMU should strive to follow the lead of research universities with large graduate student populations that are demonstrating awareness of graduate student parent experience and building additional supports into their system. Although these institutions may have more monetary resources for supportive services, it is pertinent to success of JMU's Graduate School and the students it serves to strive to increase support for this population.

I am excited to contribute to greater awareness at JMU and, potentially, to improve the experience of future students. Fraenkel et al. (2012) describe the nature of qualitative researchers as "less definitive, less certain about the conclusions they draw from their research. They tend to view them as ideas to be shared, discussed, and investigated further" (p. 437). It is my hope that the ideas I presented in this study will indeed be shared, discussed, and investigated in greater depth over future years as student parents like myself continue to persevere through graduate programs for ourselves, our children, and for the value we recognize in education.

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Appendix A: Survey Questions

Demographic / Population Statistics

1. Do you identify as both a graduate student at JMU and a parent?
    a. Yes, I am a graduate student parent.
    b. *No, I am a graduate student but NOT a parent.
    c. *No, I am not a graduate student.

    *Choosing either of these two answers will result in termination of the survey.

2. Identify the situation most closely resembling your own. Please elaborate if you have another person who equally shares parenting duties with you, or type your answer if neither choice applies.
    a. I identify as a single parent.
    b. I consider myself part of a co-parenting partnership, and I share this responsibility with: _____
    c. Other: _____

3. How many children do you have?
    a. 1
    b. 2
    c. 3
    d. 4+

4. Please list the age(s) of your child(ren) in the text box. If you have multiple children, please separate their ages with commas.

5. Are you currently enrolled in classes on a full- or part-time basis?
    a. Full-time
    b. Part-time

Experiences

6. Please use the sliding bars to estimate the number of hours you spend on each of the following activities on an average day. Estimated hours are calculated in the bottom right corner of this grid, and the number must total 24 hours to proceed.
    a. Parenting
    b. Class time & homework
    c. Paid work or assistantship
    d. Housework
    e. Social / Personal time
    f. Sleep
    g. Exercise

7. Please use the thermometer to estimate your average daily stress level, where increasing the slider to 10 represents your maximum tolerable amount of stress and decreasing it to 0 represents little to no stress.

8. If you identify as a single parent, do you feel like your experience would be substantially different if you had a spouse or other committed partner? If yes, please explain how you think this would impact you and your child(ren).
    a. Yes, I feel that a spouse or partner would significantly affect the experience of myself and my child(ren) in the following ways: _____
    b. I am not sure.
    c. No, I do not feel that a spouse or partner would significantly affect the experience of myself and my child(ren).

Resources / Constraints

9. Please indicate whether you have used the following support services and rank your satisfaction with these services.

(Check yes or no and rank each option based on a scale of Very Unsatisfied, Unsatisfied, Not Applicable, Satisfied, and Very Satisfied)

a. Academic advising or mentor
b. Financial aid and other funding
c. Counseling services
d. Business or registrar's office
e. Parking facilities and services
f. Career planning services
g. Library facilities and services
h. Student health services
i. Other: _____

10. How are you paying for your enrollment in a graduate program? Please check all that apply.
    a. Personal savings
    b. Credit cards
    c. Scholarship
    d. Loan from a bank
    e. Parents
    f. Government aid
    g. Spouse
    h. GA or TA position
    i. Other
    j. I prefer not to answer.

11. Do you feel that you have been offered enough financial aid--whether in the form of scholarships, assistantships, or student loans--to successfully combine your academic pursuits with the responsibility to provide for your child(ren)? If no, please elaborate on the impact of this situation to yourself and your child(ren).
    a. Yes, I have been offered enough financial aid.

b. No, I have not been offered enough financial aid. This affects myself and my child(ren) in the following ways: _____

12. Do you feel intellectually and emotionally supported by your advisor and other program faculty members with whom you interact?
    a. *Yes, I feel supported by my advisor and/or other program faculty members.
    b. *I feel somewhat supported by my advisor and/or other program faculty members.
    c. No, I do not feel supported by my advisor and/or other program faculty members.

    *Selecting either of these options will prompt the following question:

13. In what specific ways have you felt supported by your advisor and other program faculty members? Please check all that apply.
    1. Mutual respect and praise
    2. Help with publishing
    3. Mentoring
    4. Teacher training
    5. Time spent together
    6. Networking on my behalf
    7. Acknowledging my private life
    8. Congratulatory comments or emails
    9. Other: _____

14. Below is a list of themes that have been identified as significant potential stressors for graduate students. Please rank the degree to which you experience stress from each of these on a daily basis.

    (Based on a scale of None, Little, Some, A Lot)

    a. Role conflict / strain
    b. Role overload
    c. Program requirements

d. Time constraints
e. Feelings of isolation
f. Funding and finances
g. Workload demands
h. Other: _____

15. What are the significant sources of emotional support on which you currently rely? Please check all that apply.
    a. Family
    b. Spouse
    c. Fellow student parents
    d. Other students
    e. Non-school friends
    f. Other parents
    g. Faculty members

Supportive Resources or Individual Strategies

16. Do you employ any of the following coping strategies to support your academic goals as a parent? Please check all that apply, and elaborate on any strategies you use that are not listed.
    a. Perseverance and motivation ("I don't care if I'm tired and stressed; I need to write this paper")
    b. Accepting help from family, friends, or other sources that offer support
    c. Lack of disclosure regarding your dual roles as parent and student
    d. Overworking to compensate for conflicts from your multiple roles
    e. Other: _____

17. Please rank the following support services that could be provided at the university or departmental level. Please rate each in terms of the likelihood that you would use this service.
    (Based on a scale of Definitely, Probably, Not Sure, Not Likely, and Definitely Not)

    a. Student parent support groups
    b. Family friendly events
    c. Affordable on-campus daycare
    d. Family-friendly university policies (such as health insurance for dependents)
    e. Training workshops on relevant topics (such as work-life balance or job market issues for families)
    f. Additional financial support options
    g. Accessible and comprehensive database of student parent resources
    h. Faculty sensitivity training
    i. Formalized faculty-student mentoring program
    j. Other:_____

18. If you would like to further contribute to this study by participating in a focus group about this topic, please indicate your interest by clicking on the link below to provide your contact information. Be sure to return to this page to submit the survey, and thank you for your time!
    a. (Link leads to a second Qualtrics survey with only one question, which leaves space for a student's name, email, and phone number. By linking to a second survey, all identifying information will be kept separate from responses to the original survey)

Appendix B: Focus Group Questions

Introduction

1. Tell me a little bit about your situation, so that we know the context of your responses. For instance, tell us your parenting status (single or co-parent), how many kids you have, their ages, whether or not you have a job, and anything else you feel might be relevant to this discussion.

Experiences

2. Can you describe an average day for you and your child(ren)?

3. How do you feel about your role as a parent? How do you feel about your role as a student?
    a. How do you feel about your ability to combine and balance these dual and often conflicting roles?

4. (*Single parents only)*: How do you think your experience differs from that of other graduate student parents who have a co-parent, and from other graduate students who do not have children?
    a. Do you employ any strategies to cope with this dichotomy, such as overworking or hiding your status as a parent and/or graduate student?

5. Have you ever considered leaving graduate education because of stress or pressures, and if so, can you describe the context of that situation?
    a. What kept you going? In other words, how did you overcome these obstacles to continue in graduate school as you are today?

Resources

6. What resources—formal or informal—do you generally rely on for support?
    a. Are there any resources of which you are aware that you do not use, and if so, why not?

Constraints

7. What would you identify as the major barriers to being a parent who is also actively enrolled in a graduate program? What are the unique challenges associated with this dual role?
    a. Can you describe what you consider to be your most pressing challenges at the current time?

Resources / Strategies for Success

8. What strategies or advice might you give to others to help them cope in a similar situation to yours?

9. What resources or supports do you think could be offered—formally or informally—to make your experience as a graduate student parent easier?
    a. What about these options would have made the resource helpful to you personally?

Conclusion

10. Is there anything else you would like to share about your experiences as a graduate student parent?