Graduate Students' Perceptions of the Prospects for Combining Career and Family: The Role of Academic Program and Gender

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Abstract: *In recent years, women have moved into academic programs previously predominated by men. Success in retaining women has not been replicated in the workforce. This study assessed the perceptions of 181 graduate students from male-predominated, female-predominated, and gender-balanced programs at 11 research-extensive universities in the United States. Unexpectedly, male and female students in female-predominated programs perceived they would have to prioritize career over family to be successful indicating a perceived lack of support for families. Women anticipated more numerous and severe barriers to their careers than men, with women in male-predominated programs*

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anticipating the most severe career barriers. Gender ideology was associated with career scaling back strategies for women, but not men, with women with more egalitarian gender ideologies anticipating scaling back more than women with traditional ideologies. Conflict between children and career was associated with plans to scale back family for career. Implications for recruitment and retention are discussed.

For the first time in 40 years, labor force participation of women declined in the last decade, with declines most noticeable among women with preschool-aged children and infants (Cohany & Sok, 2007; Juhn & Potter, 2006; Tossi, 2006; Vere, 2007). Population Survey data reveal labor force participation has decreased 4% among married women with preschool children and 6.7 % among mothers with infants since 1998 (Cohany & Sok). Vere (2007) found that Generation X mothers provide fewer hours to the labor market than previous generations, with college-educated women born in 1978-1979 supplying 7.3% fewer hours by the age of 27 than previous cohorts. It is estimated that after having children, 8% of women exit the workforce (Percheski, 2008) and among women with advanced degrees, 43% voluntarily leave the workforce for some period of time after having children (Hewlett & Luce, 2005).

Although men and women entered and earned graduate degrees at approximately equal rates at the turn of the millennium (Galinksy, Aumann, & Bond, 2009; Nevill & Chen, 2007), significant gender segregation remains in both occupations and academic programs, with women concentrated in service and administrative occupations as well as education, human resources, psychology, veterinary medicine, nursing and social services (U.S. Bureau of Labor Statistics, 2014). In academic programs women remain concentrated in the social sciences and education (59 % and 67% female, respectively) while men are still concentrated in physical sciences and engineering (72% and 79% male, respectively) (Nevill & Chen, 2007). Research shows that with each step up the educational ladder the representation of women erodes (National Academy of Sciences and National Academy of Engineering, 2007). A study of more than 300 doctoral students by Ulku-Steiner, Kurtz-Costes, & Kinlaw (2000) found that women in male-dominated programs compared to those in gender-balanced programs reported less sensitivity to family issues and lower career commitment. In 2007, a National Academy of Sciences report echoed concerns stating, “the United States

can no longer afford the underperformance of our academic institutions in attracting the best and brightest minds to the science and engineering enterprise. Nor can it afford to devalue the contributions of some members of that workforce through gender inequities and discrimination" (2006, p. 5).

Relevant Research

Research highlights the importance of early career socialization in academic programs on later career decisions (Kirchmeyer, 2006). Using a sample of 143 accounting academics, Kirchmeyer found the impact of family on careers is felt at entry into careers as well as early and middle career stages. Work-family research has largely focused on employees already in their jobs and has given little attention to the perceptions of work and family roles and plans for balancing career and family roles among individuals who have already selected and are on the cusp of entering elite careers. Little attention has been paid to the ways sex composition of academic programs contributes to perceptions of work and family. For this reason, this study focused on graduate students to explore perceptions of family supportiveness and perceived career barriers. Grounded in life course and gender theory, the purpose of this paper was to explore gender and program differences in the perceptions of family supportiveness and anticipated career barriers among graduate students in three academic programs with differing sex composition: male-predominated, female-predominated and gender-balanced. These perceptions were used to predict subjugating career for family as well as subjugating family for career.

Life Course Theory

Life course theory positions transitions within the broader context of trajectories. In general, individuals navigate their own life course and trajectories, but they do so within a broader context of institutions and normative patterns in the world around them (Elder, Johnson & Crosnoe, 2004). The decisions made in one trajectory have implications for other trajectories. Academic environments are dynamic, unique and play a profound role in shaping ideals and behaviors of emerging young professionals. It is during the time of 'training' for desired occupations that individuals begin to receive messages about how they will be expected to work, the ways in which success is defined within their occupations and the criteria for advancement. The academic context

provides messages for students about how and where family fit into the demands of their careers. Academic environments and subsequent work environments present workers with both opportunities for achieving their goals and constraints or barriers to achieving goals. However, it is during the preparation for entering professional careers that individuals start to realize the expectations of work and family roles and begin to strategize blending these roles.

Gender Theory

Gender is a fundamental organizing principle of social life that is continuously reconstructed through everyday routines, yet remains resistant to change because gender is institutionalized (Mennino & Brayfield, 2002). Gender differs from a gender identity in that 'sex roles' or what it means to be 'male' or 'female' is not a set grouping of traits or behaviors, but rather the ways in which people conceptualize gender leads to the adoption, labeling or claiming of a gender identity. Gender is the process by which an individual claims a gender identity and acts out the socially agreed upon expectations of that gender. According to gender theory, gender is constructed through interactions with social structures, behaviors and attitudes (Ferree, 1990). Gender is shaped by the way social structures, such as occupation, academic program, and family, provide resources, advantages, and constraints to either the adoption of male or female behaviors (Ferree, 1990).

One of the ways in which women are challenged and disadvantaged is through the expectation that they conform to the stereotype of the 'ideal worker' in order to achieve success in their careers. The idealized worker norm is framed around traditional patterns of men and personifies a worker unencumbered by external demands, such as family responsibilities, and able to devote himself without distraction or interruption to his employer (Williams, 2000). Workplaces contain structural constraints and expectations when they assume spousal support or a lack of caregiving responsibilities (National Academy of Sciences, 2007). This stereotype of the 'ideal worker' in academic programs and workplaces send messages to graduate students and employees about the requisite criteria for success and advancement in their jobs with the message being that being encumbered by family demands will limit opportunities for advancement. In academic programs and workplaces where there are a greater number of men, it will be even more

challenging to conform to this standard of an ideal worker in the absence of other nonconformists and viable, valued, worker prototypes.

Gender plays a crucial role in workplaces. Evidence from the workforce coupled with the erosion of representation of women up the educational ladder in the sciences suggest sex composition may play an important role in the recruitment and retention of women in elite careers. Research shows that employers with a sex composition of at least 50% female are more likely to provide workplace supports to employees to balance work and family roles, such as flexible schedules and child care assistance (Galinsky, Bond & Sakai, 2008), helping the women in these jobs to confront the notions of the ideal worker by providing supports for forming alternative worker prototypes in the workplace.

Finally, gender ideology thus is a function of gender and comprises a variety of attitudes and values that are associated with differing roles and social positions that shape what an individual believes is acceptable for men and women. "Doing gender" is an interactional process, with the site of these processes being the social structures that provide resources and constraints, thus shaping interactions.

Challenges Combining Work and Family

Professional women are beginning their career trajectories and parenting trajectories simultaneously and the simultaneous entries may be one of the sources of barriers to advancement. For women in academia, having children during the first five years of an academic career has been shown to impede earning tenure (Mason & Goulden, 2002). Barriers to career advancement stem from the increased time demands of children at the same time that career advancement increases time demands. Having children has been associated with working fewer hours and having less energy for research among women in academia (Mason & Goulden, 2002). Women who do decide to interrupt their careers to stay at home with children are often highly conflicted about their decisions (Stone & Lovejoy, 2004). Among the primary considerations that influence a professional woman's decision to temporarily exit the workforce are work-based factors, such as workplace inflexibility and changes in corporate culture (Stone & Lovejoy, 2004).

Research suggests women may experience more barriers in their careers than men, in particular difficulty blending work and family responsibilities and may be constrained from career advancement opportunities by family roles (Stone, 2007; Swanson, Daniels, & Tokar, 1996; Williams, 2000). Women's career decisions are influenced by family roles more than their male counterparts (Kirchmeyer, 2006). While Reynolds (2005) found that when faced with conflict between work and family, both men and women *desire* to work fewer hours; however, research indicates that mothers, but not fathers, actually scale back career for family when faced with conflict (Bianchi & Raley, 2005).

It is estimated that work-family conflict accounts for 23% of the variation in turnover intentions, indicating that conflict between work and family roles may play a crucial role in the 'leaky pipeline' (Kossek & Ozeki, 1999). Preliminary findings from the 2008 National Study of the Changing Workforce show that experiences of work-family conflict for men have risen significantly since 1977 while conflict for women has not risen in the same time period (Galinsky, Aumann, & Bond, 2009). Men have also increased time spent in child care with less than an hour separating mothers and fathers (Galinsky, Aumann, & Bond, 2009). However, women still report being primarily responsible for domestic house work.

Method

Three academic programs, male-predominated, gender-balanced and female-predominated, were selected for inclusion in this study based on national statistics of sex composition. Chemical engineering was selected as a male-predominated academic program, with national statistics indicating less than 25% of chemical engineering students were female (Hoffer et al., 2006). Veterinary medicine was selected as a female-predominated program, with national statistics indicating female students account for 80% of students (Lofstedt, 2003). Finally, business/ management was selected as a gender-balanced program, with national statistics indicating that men and women were approximately equally represented in these programs (Hoffer et al., 2006). In this study, women accounted for approximately 29% of students in chemical engineering programs, with a range of 16 to 35%, and approximately 79% of students in veterinary medicine programs, with a range of 54 to 85%. The sex

composition of business/management programs could not be estimated as these departments did not provide sex composition data.

Universities with comprehensive doctoral programs, including medical and veterinary programs with high or very high research activity were selected for participation from within the Big 10, Pac 10, and Big 12 athletic conferences if they contained all three graduate programs of interest. The survey was pilot tested with a sample of ten graduate students at Purdue University. Response time ranged from 10 to 25 minutes, the responses were not used in the final analysis and no changes were made to the content of the survey.

Procedure

Department heads and academic deans from 33 programs at 11 research-extensive universities across the United States were sent a letter of invitation and information about the study. Participating departments provided demographic information about the department, including number of students and sex composition. Department heads and/or academic deans forwarded a letter of invitation to their graduate students. Graduate students then contacted the researcher to be directed to the website where they completed the online, self-administered survey. Graduate students were sent three email reminders. After reading the letter of consent, graduate students completed the online survey and received a small honorarium.

Nine out of 11 universities participated, with a response rate of 81%. Two of the invited universities had participation from all three programs. Of the 33 departments invited to participate, 16 did so reflecting a 48% response rate for all programs. More specifically, the response rate for chemical engineering, veterinary medicine, and business/management programs were 64%, 55% and 27%, respectively. At the individual level, the response rate for chemical engineering and veterinary medicine students was 9%. The response rate for business/management students could not be estimated as not all programs provided composition statistics. The lack of response rate for business/management programs coupled with a low individual response rate are limitations to this study.

Participants

Participants were recruited through a multistage cluster sample that began with academic programs. The sample for this study consisted of 181 graduate students, including 66 chemical engineering students (22 female, 33% female), 40 business/management students (13 female, 33% female) and 75 veterinary medicine students (66 female, 88% female). The overall sample was 56% female and 73% white. On average, participants ranged in age from 21 to 48 years with a mean age of almost 27 years old (M = 26.87, SD = 4.31). The sample contained 82 married individuals (43%) and 28 individuals who had children (15%). Students in the three programs differed demographically in three ways. As expected, there were more females in veterinary medicine programs than engineering and business/management programs. Chemical engineering programs had 8% more females than expected while business/ management programs had approximately 17% fewer females participating than expected. Students in engineering were younger (M = 25.79, SD = 2.31) than students in business/management programs (M = 28.40, SD = 4.43). Finally, there was greater racial diversity in engineering and business/management programs than veterinary medicine programs. Slightly more than one third of engineering and business programs students were non-white compared to 8% of veterinary medicine students. Sample characteristics can be found in Table 1.

Table 1

Sample Characteristics (N=181)

	Male-Predominated (n=66)	Gender-balanced (n=40)	Female-Predominated (n=75)	Total (N=181)
Gender n (%)				
Male	44 (67)	27 (67)	9 (12)	80 (44)
Female	22 (33)	13 (33)	66 (88)	101 (56)
Mean Age in Years	26	28	27	
Race n (%)				
White	41 (64)	25 (63)	67 (92)	133 (73)
Non-White	23 (36)	15 (37)	6 (8)	42 (27)
Marital Status n (%)				
Single, never Married	29 (44)	12 (30)	24 (32)	65 (33)
Single, committed	14 (21)	5 (12)	14 (19)	33 (12)
Married	23 (35)	23 (58)	36 (48)	82 (45)
Divorced	0	0	1 (1)	1 (<1)
Parent Status n (%)				
Have Children	7 (11)	10 (25)	11 (15)	28 (19)
Do Not Have Children	59 (81)	30 (75)	64 (85)	123 (81)

Measures

Sex. Sex was measured by asking participants if they were male or female. Males served as the reference group coded as 0 while females were coded as 1.

Program. Program was measured by asking participants which of the following programs they were currently enrolled in: chemical engineering, business/management or veterinary medicine. Students in chemical engineering were categorized as male-predominated and were assigned a value of 1. Students in business/management programs were categorized as gender-balanced and were assigned a value of 2. Students in veterinary medicine programs were categorized as female-predominated and were assigned a value of 3. This variable was dummy coded for use in regression analyses with students in gender-balanced programs serving as the reference group.

Perceived family supportiveness. Perceived family supportiveness was measured in academic program as well as chosen career with three items on a 7-point Likert response scale (1 = strongly agree; 7 = strongly disagree) by adapting a subscale, "Making Family Sacrifices for Work" from the "Work-Climate for Family Role Scale" developed by Kossek, Colquitt, and Noe (2001). This scale was adapted by changing the stem of the question twice, creating two separate scales, one for academic program and one for anticipated career. Items assessed the extent to which academic departments and anticipated careers required family sacrifices and asked, "*In my department/chosen career, it is generally accepted that people":* "must take time away from their families to get their work done," "have to put their families second to their job," and "must take time away from their families to get their work done." Cronbach's alpha for these three items was $\alpha = 0.79$, ($M = 3.42$, $SD = 1.27$) and $\alpha = 0.87$, ($M = 3.47$, $SD = 1.35$) for academic program and anticipated career, respectively. Family supportiveness was defined as not having to make family sacrifices for career success. A high score indicated an individual felt he or she does not have to sacrifice family for career, representing higher perceptions of family supportiveness.

Anticipated career barriers. Anticipated Career Barriers were measured on a 7-point Likert scale (1 = would not hinder at all; 7 = would completely hinder) by adapting and using 27 of 70 items from the

Career Barriers Inventory representing four subscales: Sex Discrimination (7 items); Multiple Role Conflict (8 items); Conflict Between Children and Career Demands (7 items) and; Being Discouraged from Nontraditional Careers (5 items; Swanson, Daniels & Tokar, 1996). The stem for all 27 items asked respondents, "For each of the common barriers listed below, think about how much it would hinder your career progress. An example of a barrier item measuring sex discrimination was, "people of the opposite sex receive promotions more often than people of my sex." An example of a barrier item measuring multiple role conflict was, "stress at work affecting my life at home." An example of a barrier item measuring conflict between children and career demands was, "having children at a 'bad time' in my career plans." Finally, an example of a barrier items measuring being discouraged from nontraditional careers was, "lack of opportunities for people of my sex in nontraditional fields."

Internal consistency was calculated separately for each of the domains. The scales together have a median reliability of $\alpha = 0.77$ (Swanson, Daniels, & Tokar, 1996) and Cronbach's alpha for all 27 items for this sample was $\alpha = 0.93$. Barriers were also grouped according to their subscale for analysis. Cronbach's alpha for each of the four subscales is as follows: sex discrimination ($M = 2.36$, $SD = 1.91$) $\alpha = 0.91$; multiple role conflict ($M = 3.68$, $SD = 1.30$) $\alpha = 0.84$; conflict between children and career demands ($M = 2.61$, $SD = 1.56$) $\alpha = 0.86$ and; being discouraged from nontraditional careers ($M = 1.05$, $SD = 1.33$) $\alpha = 0.89$.

This scale was used to create two variables: number of anticipated barriers and severity of anticipated barriers. The number of anticipated barriers ($M = 11.11$, $SD = 6.49$) was created by counting the number of barriers the respondent rated a 4 or higher (4 = would somewhat hinder; 7 = would completely hinder). The number of anticipated career barriers was then calculated by summing all 27 barriers. The severity of anticipated career barriers ($M = 2.93$, $SD = 1.03$) was created computing the average of all barrier items. A high score on the severity of anticipated career barriers indicated greater severity in the barriers a student anticipated.

Scaling back strategies. Scaling back strategies were measured using items from the General Social Survey (GSS) and Granrose (1985). Scaling back strategies are strategies that "reduce and restructure

commitment" in the career and family domains (Becker & Moen, 1999, p. 995). In this study, scaling back strategies were classified as either career or family scaling back strategies. There were five career scaling back strategies: reducing workload, reducing work hours, temporarily leaving the workforce, making use of flexible schedules and reducing goals for career advancement. There were five family scaling back strategies: giving priority to paid work and adjusting family responsibilities accordingly, using domestic services, and three items regarding the timing of having children (having children later than preferred, having children further apart than preferred and having fewer children than preferred).

Participants were asked to mark all work-family strategies they anticipated using to combine their career and family goals (no = 0; yes = 1). Career scaling back strategies were created by taking the sum of all career scaling back strategies. Family scaling back strategies were created by taking the sum of all family scaling back strategies. On average, graduate students anticipated using approximately two career scaling back strategies (M = 1.60; SD = 1.34). The most common career scaling back strategies were flexible schedules (59%) and reducing work hours (44%) with one-fourth not anticipating using any career scaling back strategies. On average, graduate students anticipated using approximately one family scaling back strategy (M = 1.22 SD =1.00). The most common family scaling back strategies were using domestic services (48%) and having children later than would have originally been preferred (40%) with almost one-fourth of students reporting they did not anticipate using any family scaling back strategies.

Gender ideology. Gender Ideology was measured using 4 items from the General Social Survey (GSS) and the International Social Survey Program (ISSP). Items were measured using a 5-point Likert Scale (1 = strongly agree; 5 = strongly disagree). The Cronbach's alpha for this scale from GSS data was $\alpha = 0.75$ and $\alpha = 0.80$ using study data. The items used to measure gender ideology were: "a preschool child is likely to suffer if his or her mother works"; "all in all, family life suffers when the woman has a full-time job"; "a job is all right but what most women really want is a home and children" and; "a man's job is to earn money, a woman's job is to look after the home and family". The mean of all four items was used to create the score for gender ideology (M =

2.16, *SD* = .92) with a high score indicating a more egalitarian gender ideology.

Demographic control variables. In all analyses, age, race, marital status, and parent status were controlled. For regression analyses (hypotheses 4 through 6) academic program and sex were added as controls. Due to some small and empty cell sizes in racial categories the demographics of the sample have been described in Table 1 with two categories, White and Non-White. For regression analyses race, marital status, parent status, sex and program were dummy coded. The reference groups were White, single, nonparents, male and gender-balanced programs.

Results

To explore gender and program differences in perceptions of family supportiveness and career barriers in graduate students in academic programs of differing sex composition, three hypotheses were tested:

> H_1: Students in male-predominated programs will perceive their academic programs and chosen careers to be less supportive of family and will anticipate more numerous and more severe career barriers than students in gender-balanced or female-predominated programs.
> H_2: Female students will perceive their academic programs and chosen careers to be less supportive of family and will anticipate more numerous and more severe career barriers than male students.
> H_3: There will be an interaction between sex and program for perceptions of family supportiveness and anticipated career barriers such that female students in male-predominated programs will perceive less family supportiveness in academic program and chosen career and anticipate more numerous and more severe career barriers than all other students.

Hypotheses 1 through 3 were tested using four Analyses of Covariance (ANCOVA), one for each of the following dependent variables: perceptions of family supportiveness in academic program, perceptions of family supportiveness in anticipated career, number of anticipated career barriers, and severity of anticipated career barriers. The independent variables for all four models were sex (male, female) and

program (male-predominated, gender-balanced, female-predominated). The models were robust to controls for age, race, marital status and parent status.

As Table 2 shows, hypothesis 1 was supported for perceptions of family supportiveness in chosen career. Post-hoc comparison of means with a Sidak adjustment (Tabachnick & Fidell, 2006) for multiple comparisons unexpectedly found students in female-predominated programs perceived their anticipated careers (M = 3.00, SE = .24) to be less supportive than their counterparts in gender-balanced programs (M = 4.02, SE = .22), but not male-predominated programs, contradicting hypothesis 1. Hypothesis 1 was not supported for perceptions of family supportiveness in academic program as well as the number and severity of barriers.
As shown in Table 3 and Table 4, hypothesis 2 was supported for both the number of anticipated career barriers as well as the severity of anticipated career barriers as evidenced by female students reporting more numerous (M = 13.10, SE = .76) and more severe career barriers (M = 3.24, SE = 0.10) than male students (Number M = 9.62, SE = .85; Severity M =2.55, SE = .11). There was no support for significant sex differences in perceptions of family supportiveness in academic program or anticipated career.

Table 2

Results of ANCOVA for Perceptions of Family Supportiveness in Anticipated Career

Source	df	*F*	*p*
Corrected Model	9	2.26	.02
Age	1	3.16	.18
Race	1	.37	.64
Marital Status	1	.34	.56
Parent Status	1	.04	.84
Sex	1	.32	.57
Program	2	5.05	.01**
Sex * Program	2	.32	.83
Error	171	(1.73)	

Note. Model controlled for age, race, marital status and parent status.
Value in parentheses represents mean square error.
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 3

Results of ANCOVA for Number of Anticipated Career Barriers

Source	df	*F*	*p*
Corrected Model	9	4.01	.02
Age	1	1.47	.23
Race	1	3.03	.08
Marital Status	1	.24	.63
Parent Status	1	.70	.41
Sex	1	8.94	.01**
Program	2	.94	.39
Sex * Program	2	2.18	.12
Error	170	(36.55)	

Note. Model controlled for age, race, marital status and parent status.
Value in parentheses represents mean square error.
*$p < .05$. **$p < .01$. ***$p < .001$.

Analyses found support only for the severity of anticipated career barriers. Table 4 shows women in male-predominated programs (M = 3.47, SE = .21) and women in female-predominated programs (M = 3.18, SE = .12) anticipated more severe career barriers than men in male-predominated programs (M = 2.30, SE = .15). Hypothesis 3 was not supported for perceptions of family supportiveness in academic program and anticipated career, and number of anticipated career barriers.
The role of sex and gender ideology in graduate students' plans to use scaling back strategies was tested with the following hypothesis:

> H_4*:* There will be an interaction between sex and gender ideology for scaling back strategies. Male students with more egalitarian gender ideologies will report planning to use more

career scaling back strategies, such as taking time off and reducing work hours than male students with less egalitarian gender ideologies, while female students with less egalitarian gender ideologies will report using fewer career scaling back strategies than female students with more egalitarian gender ideologies.

Table 4

Results of ANCOVA for Severity of Anticipated Career Barriers

Source	df	*F*	*p*
Corrected Model	9	4.12	.02
Age	1	1.21	.25
Race	1	2.98	.07
Marital Status	1	.00	.96
Parent Status	1	1.58	.21
Sex	1	11.62	.00***
Program	2	.20	.82
Sex * Program	2	3.00	.05*
Error	170	(36.55)	

Note. Model controlled for age, race, marital status and parent status.
Value in parentheses represents mean square error.
*$p < .05$. **$p < .01$. ***$p < .001$.

This hypothesis was tested using two hierarchical multiple regression models (one each for career scaling back and family scaling back strategies). Demographic controls for sex, program, age, race, marital status and parent status were entered in the first step of the model. Hypothesis 4 predicted that male students with more egalitarian gender

ideologies would scale back career for family more than male students with traditional gender ideologies while female students with less egalitarian gender ideologies planned to scale back career for family less than female students with more egalitarian gender ideologies.
In the first model the dependent variable was career scaling back strategies. In the second model the dependent variable was family scaling back strategies. The main effects of sex and gender ideology were entered into the second step. The interaction term of sex and gender ideology was entered in the third step. For career scaling back strategies, as Table 5 shows, the change in R^2 after entering the sex by gender ideology interaction term was significant. Married students reported planning to use fewer scaling back strategies than single students. The interaction was tested and plotted using procedures outlined by Aiken and West (1991). Contrary to hypothesis 4, gender ideology was not associated with male students' plans to scale back career for family (B = .01, SE_B = .18, n.s.) and was significantly associated with female students' plans to scale back career for family (B = -.62, SE_B = .23, $p <$ .01). When egalitarianism was low there was no difference between male and female students' plans to scale back career for family (please refer to Figure 1). When egalitarianism was high there were large differences between men and women in career scaling back strategies. Women high in egalitarianism planned to scale back their careers for family more than men with similar levels of egalitarianism and less egalitarian women. There was no support found for a gender by gender ideology interaction for family scaling back strategies.

Finally, to examine the association between perceptions of family supportiveness and anticipation of career barriers and plans to subjugate career for family and family for career the following hypothesis was tested:

> H_5: Low levels of family supportiveness and the anticipation of career barriers will be positively associated with scaling back strategies.

This hypothesis was tested using two hierarchical multiple regression models (one each for career scaling back and family scaling back strategies). The outcome for the first model was family scaling back strategies and the outcome for the second model was career scaling back strategies. The steps for both models were the same. Demographic control variables for sex, program, age, race, marital status and parent

status were entered into the first step. Family supportiveness in academic program and anticipated career and each of the four career barrier subscales (nontraditional careers, multiple role conflict, child-career conflict and sex discrimination) were entered in the second step.

Table 5

Summary of Regression of Career Scaling back Strategies on the Interaction between Sex and Gender Ideology (N = 172)

	Model 1		Model 2		Model 3	
Predictor	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1	.07					
Control Variables[a]						
Step 2			.03*			
Sex				.17		.17
Gender Ideology				.19*		-.01
Step 3					.03*	
Sex * Gender Ideology						.27*
Total R^2	.07		.09		.12	
F for ΔR^2	1.60		4.92		5.80	

Note. Base model controlled for age, race, marital status*, parent status, sex and program.

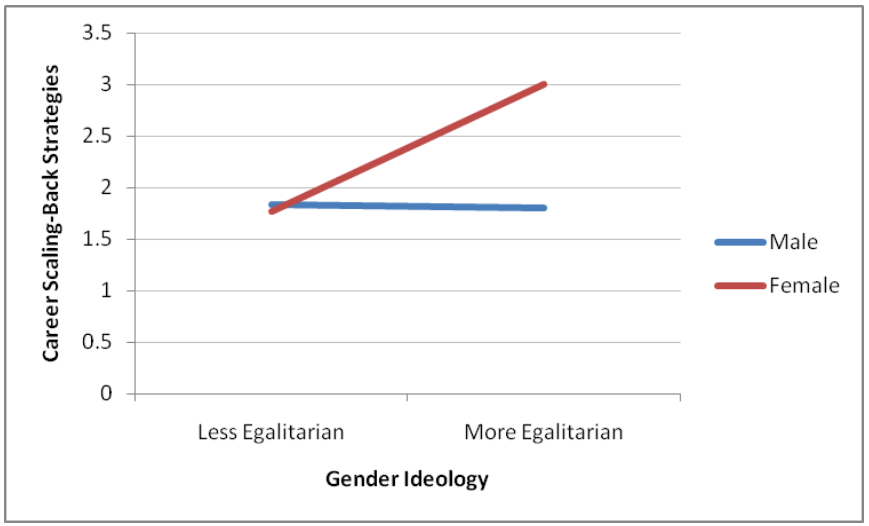
The reference group for marital status was single. The reference group for parents was nonparents. The reference group for race was Non-White. The reference group for sex was men. The reference group for program was gender-balanced.

*$p < .05$. **$p < .01$. ***$p < .001$.

Perceptions of family supportiveness and anticipated career barriers were not associated with plans to scale back career for family, thus failing to provide support for hypothesis 5.

Figure 1

Interaction Between Gender and Gender Ideology on Career Scaling back strategies



Anticipated career barriers significantly predicted family scaling back strategies. As Table 6 shows, barriers associated with being in nontraditional careers were negatively associated with plans to scale back family for career (B = -.17, SE_B = .09, p < .05) while barriers associated with conflict between child and career responsibilities were positively associated with plans to scale back family for career (B = .23, SE_B = .08, p < .01). Additionally, female students were more likely to plan to use family scaling back strategies than male students. Students who perceived barriers to their career as the result of pursuing a nontraditional career for their gender (i.e., men in nursing or women in engineering) were less likely to report planning to use family scaling back strategies to balance work and family responsibilities. Students who anticipated experiencing conflict between child and career roles, such as feeling guilty about working while children are young, were more likely

to report using family scaling back strategies to reconcile work and family demands. Perceptions of family supportiveness, multiple role conflict and sex discrimination were not significantly associated with family scaling back strategies.

Table 6

Summary of Regression of Family Scaling Back Strategies on Perceptions of Family Supportiveness and Anticipated Career Barriers (N = 169)

Predictor	ΔR^2	β	ΔR^2	β
Step 1	.12**			
Control Variables[a]				
Step 2			.08*	
Family Support – Program				.17
Family Support – Career				-.15
Nontraditional Careers				-.21*
Sex Discrimination				.03
Multiple Role Conflict				.00
Child Career Conflict				.29**
Total R^2	.12		.19	
F for ΔR^2	3.09		2.42	

Note. Base model controlled for age, rage, marital status, parent status, sex* and program.

The reference group for marital status was single. The reference group for parents was nonparents. The reference group for race was Non-White. The reference group for degree type was DVM.

†$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

Discussion

Using a sample of graduate students, this study examined the opting out phenomenon of women in elite careers who subjugate career for family. There were two main purposes of this study. The first was to identify gender and/or program differences in the ways that graduate students perceived family supportiveness and anticipated career barriers as they prepared to enter professional careers. The second was to ascertain the role that these perceptions may or may not play in strategies future professionals anticipate using to blend career and family responsibilities. Drawing on a life course perspective and gender theory, this study focused on students in graduate programs with three different sex compositions: male-predominated, gender-balanced and female-predominated in order to examine how early career socialization in academic programs of differing gender composition was associated with students' perceived prospects and plans for combining career and family goals. Both life course and gender theory indicate that the expectations for advancement and success will present graduate students with opportunities for and constraints to achieving their career and family goals, in turn, shaping prospects for blending career and family goals. Gender theory suggests that the expectations of being male and female contribute to the behaviors that are rewarded in the workplace.

Gender and Program Differences in Family Supportiveness and Anticipated Career Barriers

Previous research has highlighted differences in enrollment and degree completion between men and women in various graduate programs. Efforts have been undertaken to recruit and retain women into male-predominated programs, such as engineering. At the same time, many female-predominated programs, such as education and the social sciences are looking at sex composition and making efforts to add diversity to their academic programs. One may expect that with differences in sex composition there would be differences in perceptions of family supportiveness, specifically, that programs with more women would be more supportive of family, which would be indicated by graduate students' perceptions of family supportiveness in these programs.

Unexpectedly, our analyses found students in female-predominated programs perceived the least support for family in their anticipated

career, clearly indicating that female-predominated does not equate to being family-friendly. Students in female-predominated programs perceive that they need to place the responsibilities of their career before their family responsibilities and take time away from their families in order to be successful in their careers. There could be several reasons for this unexpected finding. It is possible that the recent growth and changes in sex composition in academic programs have not yet had a measurable impact in the profession. Although females comprise 80% of veterinary medicine students (Lofstedt, 2003), they comprise just over 50% of veterinarians in the workforce (U.S. Bureau of Labor Statistics, 2014). Since significant differences were only found in anticipated career and not academic program it is possible that perceived lack of support for family among female-predominated students is due to structural lag. Although academic programs have increased the number of women in these programs, the labor force has not yet caught up. Perhaps the efforts to recruit and retain women into female-predominated programs are less recent than in the other programs and with the passage of time this emphasis has weakened. It is possible that in programs where the efforts to recruit women are more recent, such as the case with engineering programs, students perceive more family supportiveness.

Differences were found between men and women, as previous research has shown, in the number and severity of barriers that men and women anticipate experiencing in their chosen careers. Women anticipated experiencing more barriers than men and also anticipated those barriers to be more severe than men. There were not differences found between programs in the number or severity of barriers that graduate students anticipate experiencing. This finding may indicate the pervasive nature of gendered caregiving expectations and behaviors. While the hours spent in domestic labor and child care for women and men have converged, women are still primarily responsible for caregiving (Galinsky, Aumann, & Bond, 2009). Additionally, motherhood has been shown to decrease women's earnings while having the opposite effect on men (Cohen, 2002). When women are penalized for being mothers their attachment to the labor force decreases pushing them out of jobs and pulling them into the home.

Scaling Back Strategies: The Role of Gender Ideology and Anticipated Career Barriers

Gender ideology was associated with planning to use more career scaling back strategies to combine career and family goals only among female students. However, it was women with more egalitarian gender ideologies who were more likely to plan to scale back careers for family than women with more traditional gender ideologies. Women who are more likely to endorse beliefs that men should be the breadwinner and that children and family suffer when a mother works may have already planned to enter less demanding positions within their already elite careers requiring fewer scaling back strategies, for example veterinary medicine students who will join an established clinic as opposed to starting their own.

Women with more egalitarian gender ideologies may be more aware of the ways in which their careers and family will conflict with each other and as a result have already thought about ways to balance both using career scaling back strategies to simultaneously achieve career and family goals. The finding that women with more egalitarian gender ideologies plan to use a greater number of career scaling back strategies than less egalitarian women may indicate that these female students actively seek strategies that allow them to remain in their careers by utilizing a variety of scaling back strategies to facilitate this goal while less egalitarian women may be planning to use only one scaling back strategy, staying at home after having children. Research indicates that gender ideology influences work-family balance as well as the adaptive strategies men and women use to reconcile work and family demands, particularly among women who adapt masculine behaviors (Saginak & Saginak, 2005; Wierda-Boer, Gerris & Vermulst, 2008). When competing demands for time are present, the findings of this study suggest that women with more egalitarian gender ideologies plan to favor family over career by scaling back career demands to achieve work and family goals.

These findings further indicate the pervasive gendered nature of workplaces that reinforce the notion of the ‘ideal worker’, relegating women more responsible for adapting to family demands than men. Williams (2000) points to the ‘ideal worker’, a worker unencumbered by external demands able to devote himself completely to work, as the

origin of systematic and pervasive gender inequality at work and at home. Williams (2010) argues the workplace is a "gender factory" which sets rigid, nonnegotiable terms which men and women must comply. A workplace is 'gendered' when advantage and disadvantage are "patterned through and in terms of a distinction between male and female, masculine and feminine" (Acker, 1990, p. 146) leading to gendered practices in the workplace. A workplace is gendered to the extent that it is sex segregated and when practices and policies place a premium on gendered characteristics, such a freedom from external responsibilities (Britton, 2000). When family responsibilities make it impossible for women to conform to masculine behaviors, they are left with few viable choices to remain in their jobs. Helms-Erikson (2001) points to congruence between gender beliefs and behaviors as having an important role in individual well-being.

Unexpectedly, perceptions of family supportiveness or anticipated career barriers were not associated with plans to scale back career for family. However, anticipating barriers associated with being in nontraditional careers (i.e. men in nursing or women in engineering), such as being passed up for a promotion because of gender or receiving less pay because of gender and anticipating conflict between children and career was associated with family scaling back strategies. Students who anticipated experiencing barriers associated with being in non-traditional careers reported planning to use fewer family scaling back strategies. While students who anticipated conflict between children and their careers planned on using more family scaling back strategies. This finding suggests individuals in elite careers who anticipate conflict between child and career responsibilities will reduce family demands by prioritizing paid work, employing domestic service, and timing childbearing by delaying childbearing, having fewer children or having children further apart in age, in order to achieve balance. This finding is not surprising given that those who are in elite careers delay child bearing and as a result will have fewer children than their counterparts (Martin, 2000; Weeden, Abrams, Green & Sabini, 2006); though having fewer children is more salient among women.

Limitations

The major limitation of this study is the small sample, despite numerous efforts to increase the response rate. In the end 181 individuals

participated. The sample size was particularly small for men in female-predominated programs with only nine men participating. The sample of married students was also small. As a result, the strategies students plan to use to blend career and family may change based on partner experiences. Due to the small sample size, the study is limited in its ability to detect medium effects. The sample was also predominantly White. Future research with larger sample sizes would be more beneficial to draw meaningful comparisons able to detect small effects. It is possible the small sample size coupled with the sex composition of programs and participants masked small effects.

This study is also limited in its reliance on single-source, self-report data. Absent from this study is data from academic programs, such as faculty members. Also absent from this study is dyadic partner data. Research shows the work status and role of a partner plays a crucial role in an individual's work-family experiences, behaviors and adaptive strategies (Burke, 2000; Cha, 2010; Westman & Etzion, 2005). In order to fully understand why some workers scale back career for family consideration of other family members is crucial. Further research could include data from partners and/or the career family plans of couples, as well as data from faculty members and other program staff. Future research is needed about the ways in which workplace expectations and demands conflict with family roles. Moreover, future research could focus on the types of workplace supports and workplace characteristics that individuals want to work.

Implications for Policy and Practice

This study indicates that the 'leaky pipeline' starts during the training for elite careers highlighting the importance of focusing on graduate students to find solutions to the problem of 'opting out' and gender inequality in the labor force. Graduate students are reporting planning to make trade-offs to achieve career and family goals before entering their careers suggesting that students recognize the incompatibility between family and elite careers. Further, academic programs, particularly female-predominated programs, are missing opportunities to socialize students about alternative, viable prospects for achieving career and family goals. The results of this study indicate that attempts to increase the representation of women in academic programs and stop the 'leaky pipeline' problem will not translate into increased retention of women in these careers unless they are accompanied by practical, tangible and

effective supports for helping individuals combine the demands of their multiple roles.

It is important to note that these scaling back strategies are the ones that female graduate students plan to do to reconcile work and family demands. Once in their careers these strategies may not be available which may result in women being pushed out of their chosen careers. Workplaces contain structural constraints and expectations when they assume spousal support or a lack of caregiving responsibilities (National Academy of Sciences, 2007). Research indicates reconciling work and family demands has also become a growing problem among men (Galinsky, Aumann, & Bond, 2009; Winslow, 2005). Williams (2010) suggests that men experience disadvantage in the workplace when they are denied opportunities to attend to family responsibilities, such as being unable to work when a child is sick or leaving work early to pick a child up from daycare. The denial of these policies to men in the workplace alienates men from family responsibilities and reinforces the expectation that women are primarily responsible for family responsibilities, exacerbating gender inequality and contributing to the "stalled revolution". These findings clearly illustrate the need for workplaces to be more responsive to the demands of multiple roles and offer viable and flexible ways to meet both career and family demands in order to maintain a skilled and diverse workforce.

Conclusion

This study found significant gender and program differences in perceptions of family supportiveness and anticipated career barriers. In turn, the socialization of graduate students in programs with different gender composition regarding prospects for combining work and family goals was associated with scaling back strategies. For women, egalitarian gender ideologies were associated with plans to scale back career for family, while gender ideology was not associated with scaling back strategies among men. While perceptions of supportiveness were not associated with scaling back strategies, anticipating barriers associated with conflict between children and careers was associated with plans to scale back family for career. In order to more fully understand what recruits and retains men and women in their chosen occupations, attention should be paid to the ways in which academic programs socialize students about the prospects for blending career and family.

Specifically, attention should be placed on the types of strategies students anticipate needing in order to be successful in achieving their career and family goals. Identifying these specific strategies will elucidate the mechanisms for assisting workers combine work and family, thus increasing the retention of talented individuals in the labor force and promoting the advancement of women in certain occupations.

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