

Preparing Graduates for a Diverse Job Market: A Comparison of Human Development and Family Science Programs

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The purpose of the present study is to investigate the extent to which human development and family studies (HDFS) programs are preparing graduate students for positions both inside and outside university settings, and the basis on which graduate programmatic emphases are developed and maintained. Thirty-one HDFS graduate programs were surveyed to assess the levels of preparation emphasis in various occupational areas and the extent of the faculty's expertise, the students' interest and job attainment, and the anticipated job demand in those areas. Expectations that master's-only programs place greater emphasis in preparing their students for the applied professions than master's/doctoral programs, whereas doctoral programs place more emphasis on preparing their students for academe are supported. Also, areas of program emphases at the master's level are more likely to reflect graduate students' interests, while areas of emphases at the doctoral-level

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are more likely to reflect the faculty's expertise and students' present job attainment levels. A consistent finding of this study is that graduate program preparation emphasis levels are generally unrelated to projected job market trends.

Historically, an important goal of many human development and family science (HDFS) programs in the United States has been to prepare graduate students for teaching/research positions in university settings. Evidence accumulating throughout the 1980s suggested that the number of doctoral-level graduates exceeded the number of available openings for these graduates in university settings (National Research Council, 1983; Tenner, 1984). For example, a study conducted by the National Research Council (1983) showed that only 64% of doctoral graduates in social and behavioral sciences, a category that includes the field of family science, had immediate commitments for employment. The study also showed that many (approximately 32%) recently graduated Ph.D.s did not enter academic positions, compared to the 67% who did. Recent data illustrate that while all fields of study experienced an overall decline in the proportions of new doctorates taking positions in academe between 1970 and 1993, social and behavioral sciences Ph.D.s showed the steepest drop, from 80% in 1970 to 53% in 1993 (U.S. Department of Education, 1995).

During these uncertain times for newly graduated Ph.D.s, researchers began to explore the job opportunities that existed for family scientists outside of academe. The results were generally encouraging, indicating that many alternative jobs existed for family science professionals at both the master's and doctoral levels (Smith & Holman, 1989). Examples included employment with the government, as well as with for-profit and nonprofit business organizations and with educational institutions outside of academe (Vance, 1989). Moreover, consistent with the findings of the National Research Council (1983), there were some signs that recent family science graduate-degree recipients were highly successful in securing these positions. Based on alumni surveyed between 1981 and 1991 from four universities with family science master's and doctoral degree programs, Krasenbaum, Pitman, Bradbard, and Solheim (1994) found that 41% of doctoral graduates and 78% of master's graduates were employed outside of academe (e.g., cooperative extension, marriage/family therapy, government, research consultant); the remaining percent were employed by colleges and universities. No additional data are available regarding the job market trends specific to family science graduate-degree recipients.

Presently, there are indicators suggesting that the number of available academic positions may be increasing over the next several decades. This increase is expected given our strong economy, increasing college enrollment by children of the "baby boomers," and increasing numbers of retiring professors who had been hired in large numbers during the 1970s (Magner, 1997). What is not clear is whether these newly available positions will be filled, and if filled, whether they will be full-time, tenure-track positions. Thus, while there may be an

apparent upswing in the number of positions available, the continuing availability of university opportunities for new doctoral graduates remains uncertain.

Given the large number of family science graduates who may seek positions outside of academe, and the uncertain availability of tenure-track positions within academe in the near future, it is important to investigate whether family science departments have effectively adapted their programs to meet the needs of master's and doctoral students who will be seeking positions outside of academe. Thus, one purpose of the present study is to investigate the extent to which HDFS programs are preparing graduates for positions both inside and outside university settings. The second major purpose of the study is to examine the basis on which graduate program emphases in HDFS departments are developed and maintained. More specifically, we are interested in whether current graduate programmatic emphases are more reflective of the perceived present and future demand for trained graduates in various family science fields, or instead, tend to reflect status quo factors of departments, such as faculty expertise/interests, that may or may not be consistent with the opportunities of the job market.

Two primary lines of research have characterized past attempts to evaluate family science programs. One line of study has provided general comparative descriptions of departmental programs located at different universities. These studies focused on such issues as department structure, programmatic emphases, and admissions criteria (Day, Quick, Leigh, & McKenry, 1988); faculty eminence (Adams, Huston, Braeger, & Goeff, 1989); location of academic units, degrees offered, major areas of study, courses, number of faculty and students, admission requirements, financial aid, credit-hour requirements, and thesis and dissertation options (Touliatos & Lindholm, 1991). The second line of research focused on identifying career opportunities for family science graduates (Smith & Holman, 1989; Vance, 1989). The present study attempts to bring together these areas of research, investigating whether or not graduate programs in the field of family science prepare their students for the range of career opportunities potentially available to them. More specifically, the present study seeks to examine (1) the types of career options family science programs most and least emphasize in the training of their doctoral and master's-level students and (2) whether the stated areas of training emphases best reflect (a) faculty expertise, (b) student interest, (c) areas in which graduates are presently securing jobs, and/or (d) areas likely to have high future demand.

METHOD

SAMPLE

The programs were selected from a potential population of 153 programs listed in Touliatos's (1994) *Graduate Study in Marriage and the Family: A Guide to Master's and Doctoral Programs in the United States and Canada*. The following criteria for program inclusion were used: (a) they existed in the United States; (b)

they were departmental units, not schools, colleges, or institutions; (c) they placed emphasis on both human development and family studies (identified by faculty's research interests and courses offered); and (d) they offered a similar breadth of courses in human development and family studies. Thirty-nine (25.5%) of the 153 listed programs met all of the requirements. Because these programs represented a distinctive subset of all programs, caution is warranted in generalizing the findings of this study beyond the programs selected for inclusion.

Thirty-two (82.1%) of the programs that met the study criteria agreed to participate in the study. Since incomplete information was received from one program, the results of the study are based on the responses of 31 graduate programs (see Table 1 for participating programs). The programs included one doctoral-only, 12 master's-only, and 18 master's and doctoral degree granting programs. For some of the comparisons there were fewer programs included as a result of missing data. As shown by the demographic comparisons presented in Table 2, the master's-only and master's/doctoral programs (the one doctoral-only program was grouped with the master's/doctoral programs) were similar in size with respect to numbers of graduate students, numbers of master's-level students graduating per academic year, and numbers of courses offered. In addition, while the program types did not differ with respect to the numbers of full-time nontenured and part-time faculty, the master's/doctoral programs reported having more tenure-track faculty ($t = -2.90, df = 28, p < .01$).

PROCEDURES

Self-administered surveys were mailed to the graduate coordinators of the selected programs during the fall of 1996. Graduate coordinators were surveyed based on the assumption that they would be highly knowledgeable about their graduate programs, the faculty, and the students in their programs. The coordinators were asked to respond to five questions about their program, each in reference to 14 occupational areas: social/community agency, agency administration, child and family life specialist, extension agent, child and family policy, consultant, parent education, sex education, child care, elder care, clinical, teacher (noncollegiate), professor, and researcher. Coordinators from master's/doctoral programs were asked to respond separately about their master's program and then again about their doctoral program. Responses to each question were scored on a six-point Likert scale.

The first question required coordinators to indicate how much *emphasis* their graduate program(s) place on preparing students for each of the 14 occupational areas, and potential responses ranged from no emphasis (1) to very much emphasis (6). Second, coordinators were asked to indicate how well their faculty as a whole were *qualified* to prepare students for each of the career options, and potential responses ranged from not qualified (1) to highly qualified (6). Next, coordinators were asked to indicate how *interested* students were in preparing

TABLE 1
Universities/programs participating in the current study (N=31)

Universities	MS/MA	Ph.D.	Universities	MS/MA Ph.D.
Arizona State University	X		University of Georgia	X X
Auburn University	X	X	University of Illinois	X X
Brigham Young University	X	X	University of Kansas	X X
California State University at Northridge	X		University of Kentucky	X X
Colorado State University	X		University of Maine	X X
Cornell University		X	University of Missouri at Columbia	X X
East Carolina University	X		University of Nevada at Reno	X X
Florida State University	X	X	University of New Hampshire	X X
Iowa State University	X	X	University of North Carolina at Greensboro	X X
Kansas State University	X	X	University of Rhode Island	X X
North Dakota State University	X		University of Texas at Austin	X X
Oklahoma State University	X	X	University of Wisconsin at Madison	X X
South Dakota State University	X			
Syracuse University	X	X	Utah State University	X X
University of Alabama	X		Virginia Tech	X X
University of Delaware	X	X	Washington State University	X X

TABLE 2
Demographic profile of participating programs

Descriptives	Master's-only program (N = 12)	Master's/Ph.D. program (N = 19)
Regional location of university (%)		
Northeast	25.00	10.53
South	25.00	42.11
Midwest	16.67	31.58
West	33.33	15.79
Number of tenure-track faculty		
Mean (SD)	11.18 (3.89)	17.74 (6.85)
Median	11.00	16.00
Range	5 - 16	8 - 33

Table 2 continued

TABLE 2
(Continued)

Descriptives	Master's-only program (N = 12)	Master's/Ph.D. program (N = 19)
Number of full-time non tenure faculty		
Mean (SD)	2.67 (2.35)	3.53 (2.48)
Median	2.00	3.00
Range	1 - 8	1 - 10
Number of part-time faculty		
Mean (SD)	6.70 (6.82)	3.43 (2.68)
Median	5.00	3.00
Range	1 - 25	1 - 11
Number of graduate courses offered yearly		
Mean (SD)	15.08 (11.52)	19.00 (10.86)
Median	12.00	17.00
Range	4 - 40	8 - 45
Number of master's students currently enrolled		
Mean (SD)	30.09 (19.48)	32.06 (25.34)
Median	22.00	25.00
Range	9 - 68	2 - 110
Number of doctoral students currently enrolled		
Mean (SD)	--	32.21 (23.34)
Median	--	24.00
Range	--	6 - 100
Estimated number of students that graduate per academic year		
Mean (SD)	8.70 (7.38)	16.00 (9.74)
Median	5.50	13.50
Range	2 - 25	6 - 44
Major focus of study for master's program (%)		
More emphasis-human development	16.67	5.26
More emphasis-family studies	8.33	5.26
Equal emphasis on both	66.67	78.95
Major focus of study for doctoral program (%)		
More emphasis-human development	--	10.53
More emphasis-family studies	--	15.79
Equal emphasis on both	--	68.42
AAMFT certification offered (%)		
Master's level	50.00	42.11
Doctoral level	--	36.84

*One of the programs only offered a doctoral degree and was classified as a master's/Ph.D. program.

themselves for each of the career options, ranging from no interest (1) to high interest (6). Fourth, coordinators were asked, "over the past three to five years, in which of the following career options did most of your graduates *actually get jobs*," and potential responses ranged from no jobs (1) to many jobs (6). Last, coordinators were asked for their opinion concerning which of the career options would provide the most regional and national *demand* for newly trained graduates of human development and family studies programs over the next three to five years, and potential responses ranged from no demand (1) to highest demand (6).

After preliminary analyses, the occupational areas of consultant and sex education were eliminated due to the ambiguity of the consultant category and to consistently low ratings for the sex education category. To simplify the presentation and interpretation of the present data, the 12 remaining occupational areas were categorized into five classifications for some of the analyses: (a) community/ agency (i.e., social/community agency, agency administration, child and family life specialist, extension agent, parent education, and child and family policy), (b) education (teacher) and child care, (c) clinical, (d) elder care, and (e) academe (i.e., professor, researcher). Ratings for areas within each classification were averaged to yield a single mean rating score. It should be noted that although some researchers are employed outside of academe, we have combined professor and researcher due to the similarity of the training required.

RESULTS

Since the data for the current study were collected from the entire population of interest rather than from a sample of the population, inferential statistics that are designed to infer from a sample to a population are not necessary. However, to help the reader see the magnitude of the relationships and differences some significance tests are presented. Given the exploratory nature of the present study, *p*-values were set at .10 for all significance tests.

PREPARATION EMPHASIS

The primary purpose of the present study was to examine the types of career options HDFS programs most and least emphasize in the training of their master's and doctoral students. Figure 1 illustrates the preparation emphasis levels that graduate coordinators reported for each of the five occupational classifications. These summaries show that master's-only programs, on average, placed the most preparation emphasis on community/agency occupations ($M = 4.50, SD = .69$) and the least emphasis in preparing students for academic occupations ($M = 2.91, SD = .86$). Similarly, master's/doctoral departments most emphasized the applied careers (i.e., education/child care: $M = 4.06, SD = 1.32$; community/agency: $M = 3.78, SD = .95$) in the training of their master's students. Alternatively, master's/doctoral departments most emphasized academic careers ($M = 5.31, SD = .84$) in the training of their doctoral students.

TABLE 3
Means and standard deviations program emphasis ratings by program type

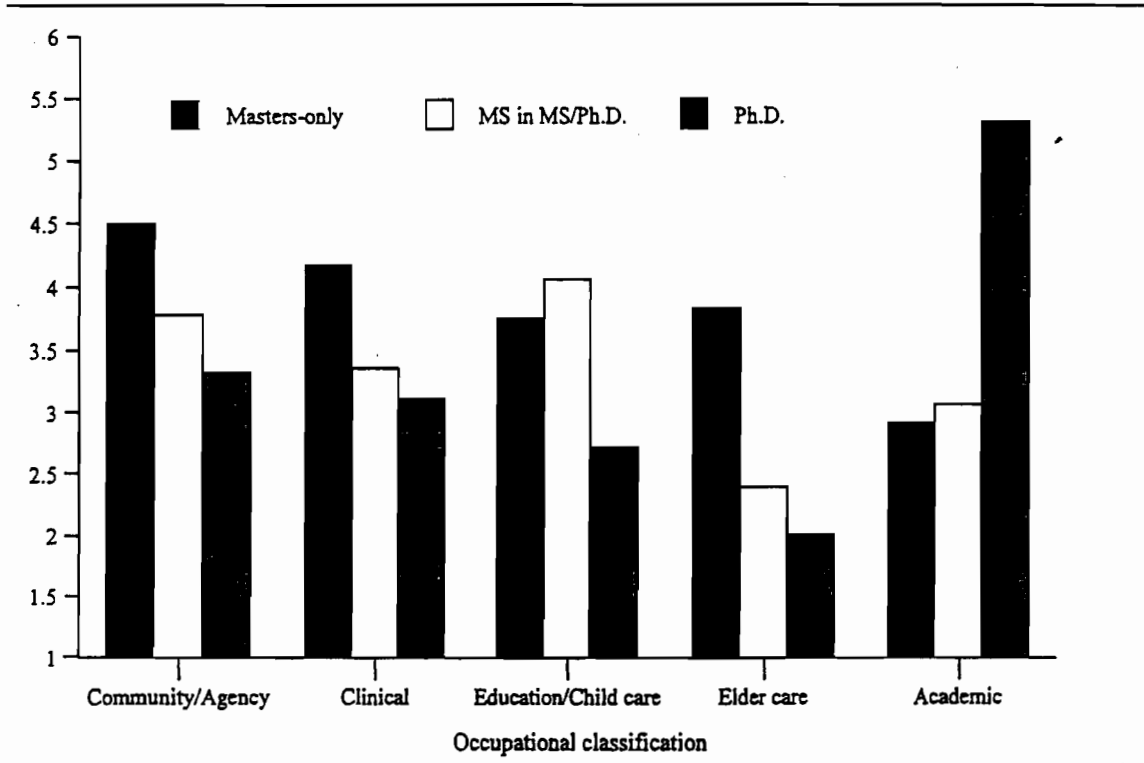
Occupational area	Master's-only (N = 12)	Master's in MS/Ph.D. (N = 18)	Ph.D. (N = 19)
Social/Community agency	5.33 (0.65)	4.44 (0.78)	3.53 (1.02)
Parent education	4.92 (1.17)	4.22 (1.22)	3.47 (1.17)
Agency administration	4.83 (0.94)	3.78 (1.31)	3.32 (1.29)
Child/Family life specialist	4.75 (1.14)	3.83 (1.38)	3.11 (1.49)
Child/Family policy	3.75 (1.55)	3.33 (1.19)	3.63 (1.30)
Extension agent	3.42 (1.38)	3.06 (1.59)	2.89 (1.45)
Clinical	4.17 (1.80)	3.35 (2.34)	3.11 (2.03)
Child care	4.58 (1.24)	4.33 (1.61)	2.68 (1.46)
Teacher (Noncollegiate)	2.82 (1.40)	3.78 (1.56)	2.73 (1.45)
Elder care	3.83 (1.75)	2.39 (1.42)	2.00 (1.16)
Professor (College level)	3.36 (1.29)	3.44 (1.34)	5.47 (0.70)
Researcher	2.45 (0.69)	2.67 (1.41)	5.16 (1.17)

Preparation in the area of elder care was reported as least emphasized for master's/doctoral departments at both the master's ($M = 2.39, SD = 1.42$) and doctoral levels ($M = 2.00, SD = 1.16$). A more detailed breakdown of the means and standard deviations across each of the 12 occupational areas is provided in Table 3.

To further assess the extent of the differences in the reported levels of preparation emphasis between master's and doctoral programs, differences between means were analyzed using *t*-tests. A significant difference between master's-only and master's/doctoral programs was found in two occupational classifications: community/agency and elder care occupations. First, master's-only programs reported placing greater emphasis on community/agency occupations ($t = 2.26, df = 28, p < .05$). This difference was particularly evident in the areas of social/community agency ($t = 3.25, df = 28, p < .01$), agency administration ($t = 2.41, df = 28, p < .05$), and child and family life specialist ($t = 1.90, df = 28, p = .07$). Second, master's-only programs also reported placing higher emphasis than master's programs within master's/doctoral departments on preparing students for professions in the area of elder care ($t = 2.49, df = 28, p < .05$).

Compared to doctoral-level programs, both types of master's-level programs reported significantly higher levels of preparation emphasis in most applied professions. Specifically, master's-only programs reported higher preparation emphasis than doctoral-level programs on community/agency ($t = 3.60, df = 29,$

FIGURE 1
Mean program emphasis ratings by program type



$p < .01$), education/child care ($t = 2.50, df = 29, p < .05$), and elder care occupations ($t = 3.53, df = 29, p < .01$); master's programs within master's/doctoral departments reported higher preparation emphasis on community/agency ($t = 2.20, df = 17, p < .05$) and education/child care occupations ($t = 5.00, df = 17, p < .01$). As expected, doctoral-level programs placed significantly higher levels of emphasis on preparing their students for academe when compared to both master's-only ($t = 7.51, df = 28, p < .01$) and master's programs within master/doctoral departments ($t = 7.56, df = 17, p < .01$).

Because of the large variability of scores for the preparation emphasis of clinical occupations (SDs ranged from 1.80 to 2.34), further comparisons were made between American Association for Marriage and Family Therapy (AAMFT) accredited programs and nonAAMFT programs (see Table 4). On average, while AAMFT programs placed greater emphasis on preparing students for clinical occupations, preparation emphasis for all other occupational categories did not differ markedly between AAMFT and nonAAMFT for master's or doctoral-level programs. Therefore, the remainder of the analyses of program types do not distinguish between AAMFT and nonAAMFT status.

COMPARISONS AMONG THE INDEPENDENT MEASURES

The second purpose of the study was to examine whether the stated occupational areas of training emphases best reflect (a) faculty expertise, (b) student interest, (c) areas in which graduates are securing jobs, and/or (d) areas likely to have high future demand. First, we describe similarities and differences between the means of the independent measures as they compare to mean preparation emphasis levels. Figures 2, 3, and 4 illustrate these patterns across the five general occupational classifications, whereas Tables 5, 6, and 7 provide descriptive statistics for each of the 12 occupational areas. In the next section we examine the correlations between preparation emphasis and each of the independent measures.

Master's-only programs. As noted earlier, the highest reported preparation emphasis for master's-only programs was in the category of community/agency occupations, particularly in the areas of social/community agency, parent education, agency administration, and child/family specialist (see Figure 2 and Table 5). Graduate coordinators of these programs also reported that faculty were exceptionally qualified to prepare students in these four community/agency subcategories. As well, graduate coordinators reported that students had the highest interest levels for preparation in social/economy agency, parent education, agency administration, and child care occupations (means ranged from 4.73 to 5.25). Moreover, graduate coordinators reported that students from their programs were securing more jobs in social/community agency and child care occupations, but fewer jobs in academe as professors or researchers. Furthermore, occupations in the applied professions (e.g., elder care, child care, social/community agency) were perceived by graduate coordinators to have the

TABLE 4
Descriptive statistics of program emphasis ratings across career options for AAMFT and nonAAMFT programs

Occupational Classification	Master's-only program		MS in MS/Ph.D. Program		Doctorate Program	
	AAMFT (n=6)	NonAAMFT (n=6)	AAMFT (n=8)	NonAAMFT (n=10)	AAMFT (n=7)	NonAAMFT (n=12)
Community/Agency						
Mean (SD)	4.39 (0.65)	4.61 (0.77)	3.65 (0.92)	3.88 (1.01)	3.19 (1.09)	3.40 (0.96)
Median	4.42	4.42	3.67	3.75	3.83	3.50
Clinical						
Mean (SD)	5.17 (1.17)	3.17 (1.83)	5.57 (0.53)	1.80 (1.75)	4.86 (1.07)	2.08 (1.73)
Median	5.50	3.00	6.00	1.00	5.00	1.00
Education/Child care						
Mean (SD)	3.42 (1.02)	4.08 (0.97)	4.06 (1.12)	4.05 (1.52)	2.86 (1.34)	2.63 (1.15)
Median	3.25	4.25	4.00	4.50	2.50	2.50
Elder care						
Mean (SD)	3.17 (1.33)	4.50 (1.97)	2.13 (1.25)	2.60 (1.58)	1.86 (0.69)	2.08 (1.38)
Median	3.00	5.00	2.00	2.50	2.00	1.50
Academic						
Mean (SD)	3.20 (0.67)	2.67 (0.98)	2.63 (0.88)	3.40 (1.22)	4.79 (1.15)	5.63 (0.37)
Median	3.50	3.00	2.75	3.75	5.00	5.50

TABLE 5
Means and standard deviations for ratings of master's-only programs ($N = 12$)

Occupational area	Preparation emphasis	Faculty expertise	Student interest	Job attainment	Future job demand
Social/Community agency	5.33 (0.65)	5.67 (0.49)	5.25 (0.75)	5.18 (0.87)	4.92 (1.00)
Parent education	4.92 (1.17)	5.75 (0.62)	4.73 (1.10)	2.82 (0.75)	4.33 (1.23)
Agency administration	4.83 (0.94)	5.25 (1.06)	4.92 (1.08)	4.36 (1.43)	4.45 (1.29)
Child/Family life specialist	4.75 (1.14)	5.25 (1.06)	4.17 (1.40)	3.45 (0.69)	4.17 (1.03)
Child/Family policy	3.75 (1.55)	4.67 (1.15)	3.18 (1.25)	2.40 (0.84)	4.00 (1.28)
Extension agent	3.42 (1.38)	4.42 (1.88)	3.09 (1.51)	2.60 (1.78)	3.36 (1.12)
Clinical	4.17 (1.80)	5.08 (1.24)	4.25 (1.71)	4.00 (1.94)	4.58 (1.44)
Child care	4.58 (1.24)	5.67 (0.65)	4.82 (1.33)	4.89 (1.27)	5.17 (0.83)
Teacher (Noncollegiate)	2.82 (1.40)	4.82 (1.47)	3.10 (1.66)	3.00 (1.33)	3.45 (1.04)
Elder care	3.83 (1.75)	4.75 (1.71)	4.08 (1.68)	3.10 (1.85)	5.25 (0.97)
Professor (College level)	2.45 (0.69)	5.09 (1.22)	3.55 (1.29)	2.00 (0.93)	2.67 (1.12)
Researcher	3.36 (1.29)	5.09 (1.22)	2.30 (0.82)	2.00 (0.87)	3.55 (1.13)

FIGURE 2
Mean response ratings for masters-only programs ($N = 12$)

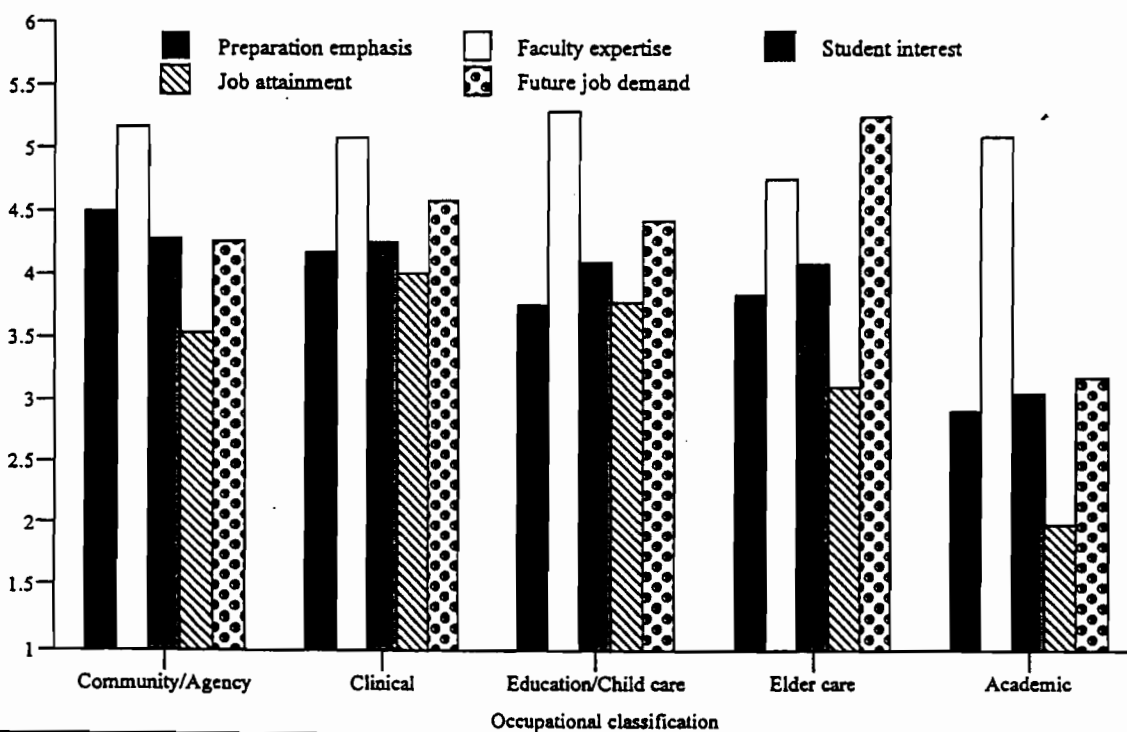
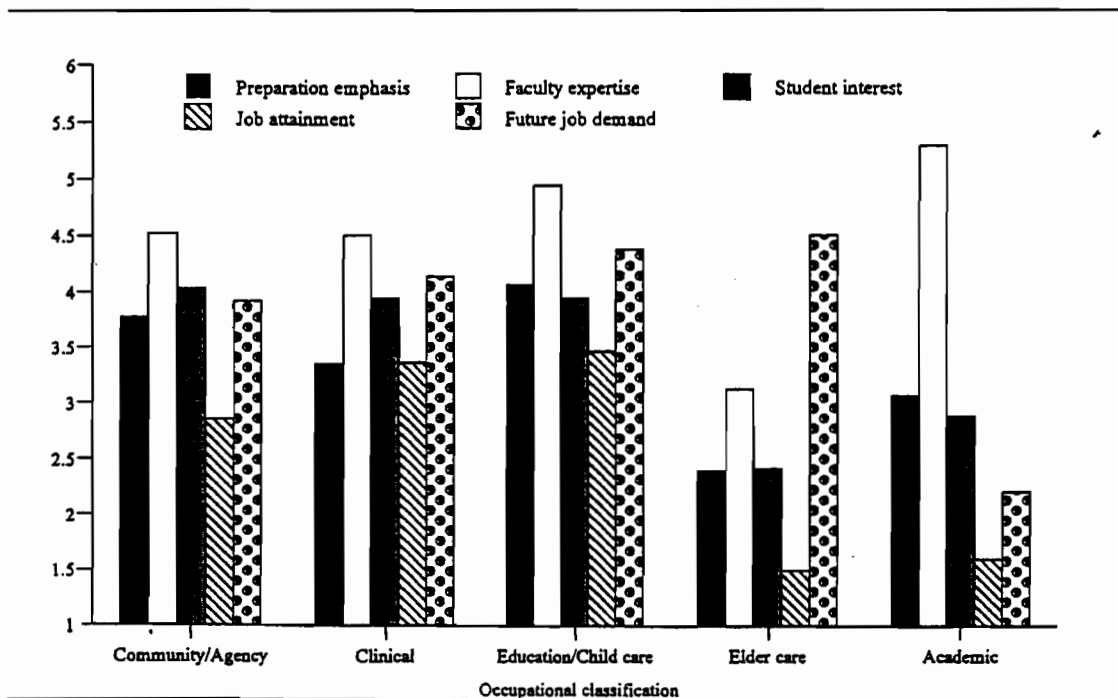


TABLE 6
Means and standard deviations for ratings of master's programs within master's/Ph.D. departments (N=18)

Occupational area	Preparation emphasis	Faculty expertise	Student interest	Job attainment	Future job demand
Social/Community agency	4.44 (0.78)	4.88 (0.93)	4.65 (1.22)	3.93 (1.59)	4.67 (0.90)
Parent education	4.22 (1.22)	5.06 (0.97)	4.65 (1.27)	3.00 (1.24)	4.20 (1.08)
Agency administration	3.78 (1.31)	4.35 (1.22)	4.18 (1.33)	2.77 (1.17)	4.21 (0.89)
Child/Family life specialist	3.83 (1.38)	4.59 (1.42)	4.29 (1.36)	2.87 (1.36)	4.00 (0.97)
Child/Family policy	3.33 (1.19)	4.59 (1.33)	3.65 (1.27)	1.86 (1.17)	3.36 (1.60)
Extension agent	3.06 (1.59)	3.56 (1.82)	2.76 (1.48)	2.00 (1.18)	2.71 (1.33)
Clinical	3.35 (2.34)	4.50 (2.07)	3.94 (2.05)	3.36 (2.34)	4.13 (1.64)
Child care	4.33 (1.61)	5.24 (1.30)	4.47 (1.46)	4.07 (1.44)	5.07 (0.96)
Teacher (Noncollegiate)	3.78 (1.56)	4.65 (1.45)	3.41 (1.54)	2.77 (1.42)	3.67 (1.18)
Elder care	2.39 (1.42)	3.12 (1.58)	2.41 (1.37)	1.50 (0.76)	4.50 (0.85)
Professor (College level)	2.67 (1.41)	5.50 (0.89)	2.65 (1.46)	1.33 (0.62)	1.71 (1.07)
Researcher	3.44 (1.34)	5.06 (1.39)	3.12 (1.17)	1.93 (1.14)	2.67 (1.11)

FIGURE 3
Mean response ratings for masters programs within masters/Ph.D. departments (N = 18)



highest future demand for newly trained graduates of HDFS programs, with elder care receiving the highest ratings. Academic positions, particularly that of professor, were anticipated as being least in demand over the next three to five years.

Master's programs within master's/doctoral departments Overall, for master's programs within master's/doctoral departments, graduate coordinators noted the greatest preparation emphases within the child care and community/agency professions, particularly within the areas of child care, social/community agency, and parent education (see Figure 3 and Table 6). Faculty were rated as moderately to highly qualified to prepare students for each of the occupational areas (mean ratings ranged from 3.12 to 5.50) and were believed to be most qualified in preparing students for professions in academe (i.e., professor, researcher), child care, parent education, and social community agency. Consistent with the findings of the master's-only programs, graduate coordinators noted high levels of student interest for preparation in the community/agency occupations (e.g., social/community agency, parent education) and the child care profession. The coordinators also noted that their graduates were securing more jobs in child care and social/community agencies, but fewer jobs in academe as professors and in professions related to elder care. Likewise, coordinators anticipated a higher future demand for HDFS graduates trained for child care and social/community agency professions and a lower demand for newly trained professors. On the other hand, occupations related to elder care were expected to have a high demand within the next five years, despite students' currently low level of job attainment in this area.

Doctoral programs. In contrast to master's programs, doctoral programs predictably placed a much higher emphasis on preparing their students for academic positions as professors ($M = 5.47, SD = .70$) and researchers ($M = 5.16, SD = 1.17$). Doctoral programs showed low to moderate levels of emphasis in each of the applied occupational areas (mean ratings ranged from 2.00 to 3.63). Similarly, ratings of faculty qualification, student interest, job attainment, and future job demand were, on average, higher in academic occupations compared to other areas (see Figure 4 and Table 7). However, future job demand ratings were not entirely consistent with ratings of preparation emphases. Whereas future job demand ratings exceeded preparation emphasis ratings for the applied professions, preparation emphasis ratings tended to exceed future job demand ratings for professions related to academe. For example, graduate coordinators, on average, rated future job demand for social/community agency positions at 4.41 ($SD = 1.06$) and preparation emphasis in this area at 3.53 ($SD = 1.02$). In contrast, preparation emphasis ratings for professor were, on average, 5.47 ($SD = .70$) compared to a future job demand mean rating of 4.24 ($SD = 1.03$).

FIGURE 4
Mean response ratings for doctoral programs ($N = 19$)

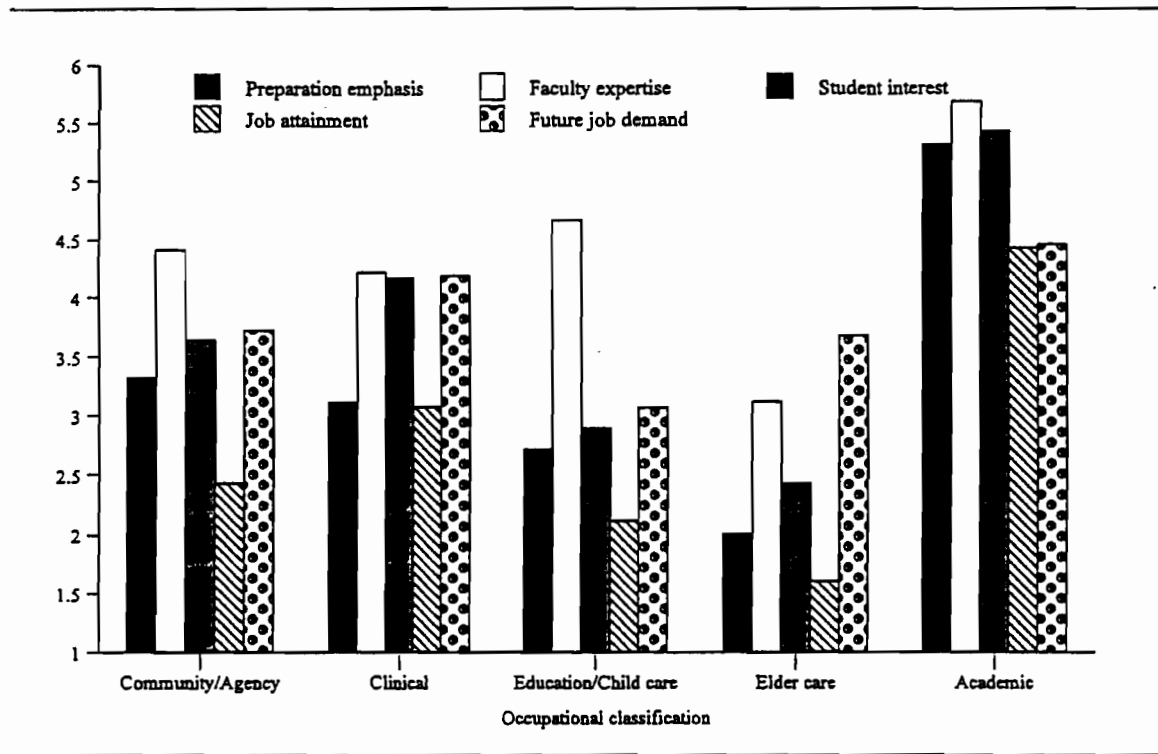


TABLE 8
Zero-order and third-order partial correlations between ratings of preparation emphasis in career options and independent factors by program type

	<i>n</i>	Faculty expertise	Student interest	Job attainment	Future job demand
Master's programs (N=30)					
Community/Agency	26	.73***	.78***	.39**	.36*
Zero-order		.45**	.57***	-.05	-.01
Third-order partial					
Clinical	24	.66***	.91***	.94***	.74***
Zero-order		.20	.47**	.58***	-.03
Third-order partial					
Education/Child care	24	.55***	.60***	.46**	.38*
Zero-order		.24	.31	-.09	.16
Third-order partial					
Elder care	23	.89***	.87***	.67***	.34
Zero-order		.71***	.64***	-.46**	-.03
Third-order partial					
Academic	23	.15	.42**	.30	.26
Zero-order		.16	.35	.16	.05
Third-order partial					
Doctoral programs (N=19)					
Community/Agency	16	.61**	.66***	.54**	.51**
Zero-order		.47	.16	.48*	-.05
Third-order partial					
Clinical	15	.75***	.70***	.80***	.42
Zero-order		.48	-.08	.51*	-.36
Third-order partial					
Education/Child care	13	.40	.66**	.52*	.71***
Zero-order		-.05	.20	.42	.53
Third-order partial					
Elder care	13	.72***	.83***	.72***	.34
Zero-order		.49	.08	.38	.01
Third-order partial					
Academic	15	.80***	.73***	.59**	.13
Zero-order		.52*	.34	-.24	-.53*
Third-order partial					

Note: Third-order partial correlation coefficients reflect the correlation between preparation emphasis and the independent factor, after the effects of the three other independent factors were partialled from both of them.

* $p \geq .10$; ** $p \geq .05$; *** $p \geq .01$

TABLE 7
Means and standard deviations for ratings of doctoral programs (N=19)

Occupational area	Preparation emphasis	Faculty expertise	Student interest	Job attainment	Future job demand
Social/Community agency	3.53 (1.02)	4.63 (0.90)	4.05 (1.08)	2.60 (1.06)	4.41 (1.06)
Parent education	3.47 (1.17)	4.79 (1.36)	3.53 (1.12)	2.33 (1.11)	3.53 (1.25)
Agency administration	3.32 (1.29)	4.21 (1.18)	4.11 (1.37)	3.00 (1.73)	3.94 (1.18)
Child/Family life specialist	3.11 (1.49)	4.37 (1.71)	3.21 (1.65)	2.27 (1.39)	3.35 (1.11)
Child/Family policy	3.63 (1.30)	4.79 (1.23)	4.16 (1.30)	2.33 (1.18)	4.07 (1.33)
Extension agent	2.89 (1.45)	3.56 (1.92)	2.79 (1.51)	1.53 (0.74)	3.00 (1.26)
Clinical	3.11 (2.03)	4.21 (2.12)	4.16 (1.95)	3.07 (1.83)	4.18 (1.70)
Child care	2.68 (1.46)	4.89 (1.56)	3.00 (1.53)	2.75 (1.66)	3.25 (1.34)
Teacher (Noncollegiate)	2.73 (1.45)	4.42 (1.68)	2.72 (1.53)	1.64 (0.74)	2.88 (1.63)
Elder care	2.00 (1.16)	3.11 (1.60)	2.42 (1.50)	1.60 (0.91)	3.67 (1.59)
Professor (College level)	5.47 (0.70)	5.84 (0.38)	5.47 (0.84)	5.38 (0.96)	4.24 (1.03)
Researcher	5.16 (1.17)	5.53 (1.02)	5.37 (0.83)	3.47 (1.55)	4.65 (0.79)

CORRELATES OF PROGRAM EMPHASIS

In order to determine which of the four independent factors (i.e., faculty expertise, student interest, present job attainment, future job demand) was most strongly associated with program emphasis levels in each occupational classification, both zero-order and third-order partial correlations were calculated and are presented in Table 8. Because of similarities in the patterns of central tendencies in master's-only programs and master's programs within master's/doctoral departments, the master's-level programs were combined in the present correlational analysis. As can be seen in Table 8, analyses of zero-order correlations showed that the level of emphasis placed on each occupational classification at both the master's and doctoral levels are, in most instances, significantly and positively associated with each of the independent factors. Given that the same reporter provided the ratings, it is not surprising to find these high associations. Due to the high amount of shared variance among the independent factors (not shown here, but available upon request), correlations between preparation emphasis and each independent factor were examined after partialling out the effects of the three other independent factors. Contrary to the findings of the zero-order correlations, relatively few positive and statistically significant associations were found to explain the preparation emphasis graduate programs placed on the five occupational classifications.

Master's programs. For master's-level programs, student interest tended to be the best predictor of the level of preparation emphasis, particularly in the community/agency, clinical, and elder care categories. In addition, reported levels of faculty expertise also were significant predictors of program emphasis in the community/agency and elder care categories, and job attainment estimates predicted program emphasis in the clinical category. In contrast, after controlling for the faculty expertise, student interest, and future job demand factors, a significant, inverse relationship was found between the emphasis placed on preparing students for elder care types of occupations and students' actual attainment of jobs in this area ($r = -.46, p = .04$). This finding appears counter-intuitive, suggesting that when graduate coordinators reported lower student job attainment level in elder care occupations, they rated the program emphasis higher in this area.

Doctoral programs. For doctoral programs, in contrast to master's-level programs, student interest was generally unrelated to program emphasis levels. As shown in Table 8, few of the third-order partial correlation coefficients reached significance. Nevertheless, reported levels of faculty expertise tended to be a consistent predictor of program emphasis levels for most categories, with the exception of education/child care (correlations ranged from .47 to .52). As well, a moderate, positive association was found between reported levels of job attainment and the emphasis placed on preparing students in each occupational category, with the exception of academe (correlations ranged from .38 to .51).

Last, it should be noted that projected estimates of future job demand bore a moderate, negative relation to preparation emphasis levels in the academic category. This finding suggests that although graduate coordinators rate future job demand in academe higher than in other occupational categories, doctoral programs apparently are not coordinating preparation emphasis levels in this area relative to the projected job market. Thus, those programs reporting lower estimates of job demand also reported the highest levels of program emphasis in preparing their graduates for academe. Perhaps, most significant for the doctoral program analysis is the finding that future job demand was not a significant, positive predictor of program emphasis level for any of the occupational categories.

DISCUSSION

This study was designed to address two main questions: first, to what extent are HDFS programs preparing graduates for positions both inside and outside of academe, and second, on what basis are these program emphases developed and maintained? The findings of the study yielded some important differences among master's- and doctoral-level programs. Consequently, these programs are considered separately.

Our analysis showed that master's-level programs placed higher levels of program emphasis on most of the nonacademic career categories (e.g., community/agency and education/child care occupations). This is not surprising given that a doctoral degree is typically a necessary qualification for academic positions in this field. While all master's programs emphasize preparation for applied positions, departments offering only a master's degree tend to place more emphasis on the applied professions. This difference suggests that graduate students interested in preparing for the applied professions may receive greater exposure to these areas in a master's-only program.

Based on recent perceived fluctuations in the academic job market, the present study sought to understand which of a selected set of characteristics of HDFS programs may influence graduate program emphases. Specifically, the current study assessed whether faculty expertise, student interest, job attainment of recent graduates, and perceived future job demand are related to program emphasis levels. Since these factors were found to be highly related to each other, we employed third-order partial correlations procedures to determine which factors were most related to program emphasis levels independent of the other factors. Generally, for the master's programs, student interest and, in fewer instances, faculty expertise are related to program emphases. For doctoral programs, the faculty's expertise and the students' job attainment levels tended to better predict program emphasis levels than other factors. It is important to note that reported levels of future job demand are generally unrelated to program emphasis levels in both master's- and doctoral-level programs.

Given recent fluctuations in the demand for doctoral students in the academic job market, it might be expected that doctoral programs would expand their program emphases to include preparation for jobs in fields other than academe. The present results question whether such a trend is evident. When compared to programs at the master's level, particularly master's-only programs, doctoral programs reported lower levels of emphasis in preparing doctoral students for applied professions. Consistent with the previous findings of Krassenbaum et al. (1994), Graduate coordinators reported that doctoral graduates were less likely than master's-level graduates to secure employment outside of academe. Also, present findings show that graduate coordinators perceived a less promising future job market demand in the applied professions for newly trained doctoral graduates, but a higher demand for newly trained master's-level graduates. Thus, based on the reports of graduate coordinators it appears that doctoral-level programs are maintaining a level of emphasis in the applied areas consistent with the current job market trend, but are slow to change their emphasis in response to the uncertainty of future job market trends.

It is important to note that across program types the lowest emphasis is placed on preparing graduate students for professions related to elder care. This is true despite the disproportionate and projected continuing rise of those who are age 65 and older in the population (e.g., Bectel & Tucker, 1998; Spencer, 1989). In fact, the National Institute on Aging (1987) predicts that between 1984 and 2000 there will be a great increase in the demand for health professionals who are specifically prepared to serve older people. Consistent with these projections, graduate coordinators perceived elder care as an area with extremely high future job demand. Yet graduate coordinators also reported that compared to other occupational categories elder care was an area in which their faculty were least qualified to prepare students and in which their students were least interested and least likely to secure positions. It is possible that these factors, particularly current job market trends, may explain the hesitation of HDFs programs to focus emphasis on elder care given the projected job demand.

The graduate coordinators of the identified programs provided all of the information obtained here. As such, this design is subject to the flaw of common method variance, which could have accounted for some of the observed relationships. In addition, while coordinators are likely to have a strong sense of student interests and are usually aware of the job attainments of recent graduates, the students themselves may have provided different information if they had been asked. Future research can further expand knowledge of these relationships by using a multimethod, multi-reporter design.

Overall, the present study makes an important contribution to the existing literature on family science programs by exploring the factors that may best explain the level of emphasis programs place on various career preparation areas. Perhaps the most consistent and concerning finding of this study is that in the context of other factors, variations in graduate program preparation emphases are

generally unrelated to projected job market trends. This finding is somewhat disturbing given that graduates must be trained to fill jobs that are and will be available.

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