

Career preferences of pediatric dentistry advanced education students

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Abstract

A questionnaire addressing career preferences of pediatric dentistry advanced education students was mailed to 52 training programs. Two hundred and thirty-two completed surveys from 45 responding programs were returned. Men were in combined specialty programs significantly more often than women ($P < 0.05$, chi-square) and U.S. citizen students were significantly older than noncitizens ($P < 0.05$, t-test). The collected data reflected differences in career preferences between men and women, and citizens and noncitizens. Women reported a significant preference for private practice, part-time associate and public health practice than did men. Although not significant, men declared equal preference for full-time private practice either solo or as an associate. Noncitizens were found to have a significant preference when compared to citizens for academic full- and part-time, hospital/institutional full- and part-time, research full- and part-time positions, and for additional training. (Pediatr Dent 19:104-8, 1997)

Pediatric dentistry was recognized as a specialty by the American Dental Association in 1948. In 1995 there were approximately 4000 formally trained pediatric dentists in the U.S.¹ and 181 first-year training positions; this reflects an increase of 20 positions (12%) since 1990-91.²

The specialty faces several human resource issues. Many established practitioners are looking for associates and advances in pediatric medicine have created an increased recognition and appreciation for hospital-based dental services requiring pediatric dentists. Also, active pediatric dentists are aging and beginning to look toward reducing their number of work hours or retiring. As a result, both the private practicing and the hospital/institutional communities are seeking young pediatric dentists to join them.

Recent changes in gender composition of entering pediatric dentistry advanced education classes have the potential to affect career choices. Women comprise more than 50% of first-year students in pediatric dentistry programs,²⁻⁴ and numerous studies indicate that women general dentists have different practice patterns than men.⁵⁻⁹ Noncitizen enrollment in pediatric den-

istry advanced education programs has remained relatively constant at 30-31% since 1992.² No data exist on how many noncitizen students remain in the U.S. after completing their advanced education programs or whether those who remain here have practice patterns different from citizens.

Graduates of pediatric dentistry training programs today have numerous career opportunities, and their choices will influence the distribution of available professional services. Data about career preferences of current advanced education students would provide valuable information to those attempting to identify individuals for future employment opportunities.¹⁰⁻¹² The purpose of this study was to examine the career preferences of current pediatric dentistry advanced education students.

Materials and methods

Between December 1993 and May 1994, program directors of the 52 ADA-accredited pediatric dentistry advanced education programs were asked to distribute a questionnaire to all enrolled students. A second request was made to those who did not respond to the initial mailing. To ensure confidentiality, each student was given an envelope addressed to the principal investigator to return the completed questionnaire. The instrument was designed to measure basic demographic factors and respondents' preferences among a variety of career options using a five-point Likert-type scale.¹³

Means, standard deviations, and simple proportions were used to describe the demographic characteristics of the study population. Statistical differences were assessed with *t*-tests and chi-square tests, and Wilcoxon's rank sum tests were used to test whether the distributions of the response variables were similar between groups. The data were compared by gender and citizenship status. An alpha level of 0.05 was used to determine statistical significance. The most favored career preferences were determined by combining the 4 and 5 responses on the Likert scale. The least desirable career preferences were determined by combining the number of 1 and 2 responses on the same scale.

Results

Completed questionnaires were received from 232 of the 302 students enrolled in the responding 45 programs—a response rate of 77%. The extent to which responding individuals differ from those who did not participate was not assessed.

Demographic factors

The demographic results are illustrated in Table 1 by gender. Seventy percent of the responding students were younger than 30 years of age; mean age 28.7 years for all respondents. Five percent of the student respondents were enrolled in courses of study combined with other dental specialties or academic programs. Twenty-two percent had graduated from dental school prior to 1990; a mean of 2.1 years since graduation at the time of responding to this survey.

Forty-nine percent of the respondents were married, 49% were single, and 2% were divorced. Eighteen percent had children.

Although the means of the demographic factors for male and female students were similar, men were older, married, had children more often than women

TABLE 1. DEMOGRAPHICS BY GENDER

	Women (N = 137) x ± SD	Men (N = 95) x ± SD
Age in years	28 ± 3.2	29 ± 3.5
% in combined program	2	8*
% US citizens	74	72
# years since graduation	1.8 ± 2.3	2.4 ± 2.8
% single	53	43
% with children	15	22
Length of graduate program in months	25 ± 5.3	26.2 ± 5.6
Age of desired retirement in years	66.1 ± 18.6	64.7 ± 15.0

* $P < 0.05$ chi-square.

TABLE 2. DEMOGRAPHICS BY CITIZENSHIP

	Citizens (N = 169) x ± SD	Noncitizens (N = 63) x ± SD
% female	60	57
Age in years	29 ± 3.6	28 ± 2.4*
% in combined program	5	5
# years since graduation	1.9 ± 2.5	2.6 ± 2.6
% single	46	57
% with children	18	18
Length of graduate program in months	25.8 ± 5.7	25.1 ± 4.8
Age of desired retirement in years	65.4 ± 16.7	65.9 ± 18.6
% of noncitizens who plan to return home	N/A	86

* $P < 0.05$ *t*-test. N/A = not applicable.

and reported a lower mean age of desired retirement. Men were significantly more likely to be enrolled in combined programs ($P < 0.05$) than women.

Demographic data for the citizen and noncitizen groups appear in Table 2. Twenty-seven percent of the responding students were noncitizens (63/232). This compares favorably with the noncitizen enrollment in pediatric dentistry education programs.² Sixty percent of the citizen and 57% of the noncitizen responding students were women. These two groups differ significantly only in mean age and mean number of years since graduation from dental school. Citizens were older than noncitizens ($P < 0.05$) but there was no significant difference in the number of years since graduation from dental school. Both groups were similar in gender distribution, participation in combined training programs, marital status, and having no children. Eighty-six percent (54/63) of the noncitizens stated an intention to return home after completing their training.

Career options for women and men

Career preferences for women and men are listed in Table 3. Women identified full-time private practice, associate as the most preferred career choice (57%) followed by part-time academics (48%) and part-time private practice, associate (47%). Women and men both reported little interest in federal/military service (full- or part-time), or full-time research.

Men rated full-time solo private practice (54%) and full-time private practice associate (49%) as their most favored career options. The next most preferred career option was part-time academics (42%).

The Wilcoxon's rank sum test was used to determine whether or not the distributions of ratings for each of the career options were the same. Two factors differed significantly for men and women. Women assigned significantly higher scores to the career options part-time private practice associate ($P < 0.001$) and public health ($P < 0.01$) than men.

Career options for citizens and noncitizens

Table 4 summarizes the stated career preferences by citizenship. Differences were greater between the citizens and noncitizens in the order and ratings of career options than between men and women. Citizens ranked full-time private practice, associate and solo, and part-time associate as their top three preferences. Noncitizens rated part-time academic and hospital/institutional positions, and additional training as their three top choices. Both groups ranked full-time research and full- and part-time federal/military service as the least desirable options.

Citizens considered full-time private practice as an associate or solo more appealing than did noncitizens ($P < 0.01$). Noncitizens indicated that academics, part time ($P < 0.001$) and full time ($P < 0.05$); hospital/institutional, part time ($P < 0.001$) and full time ($P < 0.05$); and research, part time ($P < 0.001$) and full-time ($P < 0.001$), positions were more appealing than did citizens.

TABLE 3. CAREER PREFERENCES OF WOMEN AND MEN (N = 95)

Career Option	Low				High					
	1		2		3		4		5	
	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)
Women (N = 137)										
Private pract, assoc FT	16	(22)	9	(12)	18	(25)	22	(30)	35	(48)
Academic, PT	15	(20)	15	(20)	23	(31)	26	(37)	21	(29)
Private pract, assoc PT*	18	(25)	15	(20)	20	(28)	31	(42)	16	(22)
Hospital/institute PT	21	(29)	13	(18)	23	(31)	30	(41)	13	(18)
Private pract, solo FT	20	(28)	24	(33)	17	(23)	17	(23)	22	(30)
Private pract, solo PT	24	(30)	24	(33)	14	(19)	22	(30)	16	(22)
Public health†	35	(47)	17	(23)	26	(37)	16	(22)	6	(8)
Additional training	53	(74)	12	(16)	15	(20)	9	(12)	11	(15)
Hospital/institute	43	(59)	15	(20)	25	(34)	10	(14)	7	(10)
Research PT	60	(82)	15	(20)	13	(18)	8	(11)	4	(6)
Academic, FT	50	(69)	23	(32)	15	(20)	6	(8)	6	(8)
Research FT	79	(108)	11	(15)	8	(11)	< 1	(2)	< 1	(1)
Fed serv/military FT	91	(125)	7	(10)	< 1	(1)	< 1	(1)	-	-
Fed serv/military PT	90	(123)	7	(10)	3	(4)	-	-	-	-
Men (N = 95)										
Private pract, solo FT	24	(23)	11	(10)	11	(11)	17	(16)	36	(35)
Private pract, assoc FT	26	(25)	10	(10)	14	(13)	18	(17)	32	(30)
Academic PT	26	(25)	11	(10)	21	(20)	27	(26)	15	(14)
Hospital/institute PT	27	(26)	12	(11)	22	(21)	26	(25)	13	(12)
Private pract, solo PT	42	(40)	13	(13)	17	(16)	14	(13)	14	(13)
Additional training	47	(45)	11	(10)	19	(18)	10	(10)	13	(12)
Private pract, assoc PT	38	(36)	23	(22)	18	(17)	12	(11)	9	(9)
Hospital/institute FT	44	(42)	18	(17)	19	(18)	8	(8)	11	(10)
Research PT	57	(53)	10	(10)	17	(16)	7	(7)	9	(9)
Academic, FT	57	(54)	19	(18)	11	(10)	5	(5)	8	(8)
Public health	48	(45)	16	(15)	27	(26)	7	(7)	2	(2)
Fed serv/military FT	84	(80)	10	(10)	4	(4)	1	(1)	1	(1)
Research FT	80	(76)	11	(10)	6	(6)	3	-	-	-
Fed serv/military PT	89	(84)	9	(9)	2	(2)	-	-	-	-

*P < 0.001 Wilcoxon's rank sum test. †P < 0.01. N = number of responses. PT = ≤ 32 hr/week.

Noncitizens assigned significantly higher ratings to obtaining additional training (P < 0.001) than did citizens.

Discussion

The greater number of women enrolled in pediatric dentistry training programs is consistent with reported gender trends in entering classes. The reported differences in the age of citizen and noncitizen students is probably a reflection of the shorter combined college/dental school programs in many foreign countries, which result in younger dental graduates than in the U.S.

Differences in choice of career paths between men, women, citizens and noncitizens emerge from this survey. The finding that women seem to favor associate positions in private practice over solo ownership is consistent with the finding of other investigators.^{3, 14} Solomon and Hayes³ reported on three age-matched cohort groups of male and female pediatric dentists based on years since graduation from their specialty programs, early career (up to 5 years), intermediate career (6–10 years), and established career (more than

10 years). Their early career group would be the most predictive of the eventual early practice patterns of our current survey group, although the practice type categories were more limited in their study. They reported that more men (66%) than women (52%) in the early career group were in private practice and a higher proportion of men (60%) than women (38%) were practice owners. Their data represent the actual practice patterns of pediatric dentists and while ours represent the preferences of advanced education students.

Solomon and Hayes reported that a higher proportion of

women (19.7%) than men (11.1%) were members of dental school faculties or in private practice as an employee or contractor (women 61.9%; men 39.3%). Although not statistically significant, data from our survey indicated that more women (30%) than men (28%) favored full- or part-time academics and more women (52%) preferred private practice as a full- or part-time associate than did men (35%). Based on Solomon and Hayes' findings, the predictive ability of careers by the advanced education students in our survey is good.

Solomon and Pait¹⁴ found that differences in practice patterns between men and women were evident during the educational process before graduation. When dental students were asked what their immediate plans were upon graduation, the responses from men and women differed in several respects. Nineteen percent of the men expected to enter solo practice immediately, whereas less than 7% of the women expected to do so. Women seemed to prefer employment in group practices.

An interesting finding in our study is that men are as inclined to enter private practice as an associate

TABLE 4. CAREER PREFERENCES OF CITIZENS AND NONCITIZENS

Career Option	Low		2		3		4		High	
	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)
Citizens (N = 169)										
Private pract, assoc FT*	18	(31)	9	(15)	15	(25)	18	(31)	40	(67)
Private pract, solo FT*	20	(34)	15	(25)	15	(25)	17	(29)	33	(56)
Private pract, assoc PT	25	(41)	20	(34)	20	(34)	24	(41)	11	(19)
Academic PT	23	(39)	16	(27)	26	(45)	25	(41)	10	(17)
Private pract, solo PT	33	(56)	20	(34)	14	(24)	20	(34)	13	(22)
Hospital/instit PT	27	(46)	15	(25)	26	(44)	27	(46)	5	(8)
Public health	41	(69)	17	(29)	28	(48)	9	(15)	5	(8)
Hospital/instit PT	46	(78)	17	(29)	23	(39)	9	(15)	5	(8)
Addtl training	61	(103)	11	(19)	16	(27)	5	(8)	7	(9)
Academic FT	57	(96)	21	(36)	13	(22)	4	(7)	5	(8)
Research PT	70	(118)	13	(22)	12	(20)	4	(7)	1	(2)
Research FT	86	(145)	9	(15)	4	(7)	1	(2)	-	-
Fed serv/military FT	89	(151)	9	(15)	2	(3)	-	-	-	-
Fed serv/military PT	90	(152)	8	(14)	2	(3)	-	-	-	-
Noncitizens (N = 63)										
Academic PT [†]	10	(6)	6	(4)	13	(8)	30	(19)	41	(26)
Hospital/instit PT [†]	14	(9)	6	(4)	15	(9)	32	(20)	33	(21)
Addtl training [†]	21	(13)	13	(8)	18	(11)	22	(14)	26	(17)
Private pract, assoc PT	27	(17)	14	(9)	17	(11)	21	(13)	21	(13)
Private pract, assoc FT	28	(18)	12	(8)	18	(11)	26	(16)	16	(10)
Private pract, solo PT	27	(17)	18	(11)	18	(11)	15	(10)	22	(14)
Research PT [†]	28	(18)	12	(8)	25	(16)	17	(10)	18	(11)
Private pract, solo FT	29	(18)	27	(17)	14	(9)	17	(11)	13	(8)
Hospital/instit FT [†]	36	(23)	15	(9)	20	(13)	10	(6)	19	(12)
Public health	37	(23)	17	(11)	21	(13)	20	(13)	5	(3)
Academic FT [†]	41	(26)	21	(13)	16	(10)	10	(6)	12	(8)
Research FT [†]	62	(39)	16	(10)	17	(11)	3	(2)	2	(1)
Fed serv/military FT	85	(54)	7	(4)	3	(2)	3	(2)	2	(1)
Fed serv/military PT	87	(55)	8	(5)	5	(3)	-	-	-	-

* $P < 0.001$ Wilcoxon's rank sum test. [†] $P < 0.05$. N = number of responses. PT = ≤ 32 hr/week.

[‡] $P < 0.01$ Wilcoxon's rank sum test. N = number of responses. PT = ≤ 32 hr/week.

(49%) as they are to begin a solo private practice (54%). This is in contrast to a survey of U.S. dental school seniors in 1994 that indicated a low preference for private practice as a solo practitioner. The percentage of seniors planning to enter a solo private practice immediately after graduation has decreased steadily over the past 15 years from 18.7% in 1979 to 6.3% in 1994.¹⁵

There is concern in the pediatric dentistry academic community that while many current faculty members are nearing retirement, few graduating pediatric dentists prefer a career in education or research. Upon first glance, the low rating of full-time academics by the respondents to our survey could be discouraging; however, the raw data show there were 15 citizens and 14 noncitizens who rated full-time academics in the two highest categories. These represent a reasonable pool from which to recruit for the limited number of vacant full-time positions each year. The picture is even more encouraging when the ranking of part-time academics is included. Forty-four percent of men and 34% of women stated a strong preference for academic part-time positions.

cern highly polarized responses from less focused ones. The data demonstrate numerous similarities as well as differences in preferred career choices between male and female, and between citizen and noncitizen pediatric dentistry graduate students. The recent gender trend in pediatric dentistry training programs suggests that female preference will be a dominant factor in defining future practice profiles in the specialty. The data suggest that many full-time solo practices may have difficulty identifying prospective purchasers as the present owners seek to retire. On the other hand, group practices, which embrace multiple part-time associates, may have less difficulty.

There is also a suggestion that fewer future academic positions in pediatric dentistry may be held by full-time members and more by part-time faculty. However, part-time was defined as fewer than 32 hours/week in this study and the questionnaire did not permit more precise notation. Even fewer respondents indicated a strong preference for positions in research or federal service/military. A larger percentage of noncitizens

Noncitizen students represent a large reservoir of human resources available to the profession. Data are limited for long-term career paths of noncitizens, but anecdotal reports suggest that many noncitizens return to their native country upon graduation.¹⁵ Should this occur, it will impact the pediatric dentistry human resource pool in the U.S.

Data from this survey have been presented in terms of ranking of career preferences. However, it is equally important and appropriate to look at the real numbers in each of the Likert scale categories as they provide additional, valuable information. The questionnaire design required respondents to rate each career option. It is conceivable that an individual respondent rated more than one option high; the data do not dis-

ranked research high than did citizens, although part-time research was preferred to full-time.

Noncitizens preferred part-time academic and part-time hospital/institutional positions more than did citizens, which suggests that a greater number of future academic positions may be held by individuals who are not currently citizens.

Summary

1. Significantly more men than women pediatric dentistry advanced education students were enrolled in combined specialty programs.
2. Citizens were significantly older than noncitizens in pediatric dentistry advanced education programs.
3. Citizens considered full-time private practice, solo as an associate, significantly more positively than did noncitizens.
4. Noncitizens rated full- and part-time academic and hospital/institutional career options significantly more positively than did citizens.
5. Women reported a full-time position as an associate in private practice as their most preferred career choice.
6. Men reported an equal career preference for full-time solo and associate positions in private practice.

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An Invitation to Participate

Readers have asked how they can become involved with *Pediatric Dentistry*. The most obvious way is to prepare and submit a manuscript to be considered for publication. However, there is also a great need for dedicated individuals to volunteer the hours needed to referee articles, to prepare abstracts of the scientific literature, or to serve on the Editorial Board. If you are interested in any of these activities, please contact the Editor in Chief Elect through the Headquarters Office or by e-mail (houpt@umdnj.edu) indicating your particular interest and/or area of expertise. There is no financial remuneration for these activities, but great personal satisfaction comes from contributing to the production of our well respected journal.