Factors that influence physician assistant choice of practice location

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ABSTRACT

Objective: Certain US rural areas have inadequate access to health care providers. Health care educational institutions have made nationwide efforts to recruit students from rural areas, in the hope that they will return upon graduation. This 2009 study focused on the physician assistant (PA) profession's endeavors in this effort. **Methodology:** A cross-sectional survey used a random sample of 2,000 practicing PAs from the United States. Factor analysis was used to categorize the responses to 20 Likert-type questions about possible reasons behind the PA's choice of first practice location. **Results:** Respondents who graduated from a rural high school were significantly more likely to practice in a rural setting. Six identifiable factors emerged from the factor analysis. Chi-square analyses determined that significant relationships existed between these factors and demographic variables. Gender influenced the greatest number of items; specialty and PA degree level influenced the fewest items. Factor 2 (support of/for significant other) held the most sway in the decision about first employment location. **Conclusion:** Respondents felt that support of and for the significant other was the most important factor in their first practice-location choice. Recruiters searching for health care professionals in areas needing medical services may wish to pay closer attention to spousal opportunities and should not underestimate the impact of family in the decision about work location.

Physician assistants (PAs) have been an essential part of the health care system since the profession began in 1965 as an effort to help fill the gaps in the generalist physician workforce, especially in rural areas and in underserved urban areas. People who live in certain urban and rural areas lack access to providers and have unmet health care needs. Health professional shortage areas (HPSAs) are much more likely to exist in rural than in urban areas.[3,4]

Studies validate that PAs play key roles in increasing access to primary care in rural areas.[3,5,6] According to the American Academy of Physician Assistants (AAPA), PAs were eligible to practice as of December 2009, and the number is expected to grow significantly over the next 10 years.[7] However, an increased number of practitioners does not necessarily mean that new graduates will practice in primary care or locate to underserved areas.[8,9] Specialty roles for PAs emerged during the 1980s and 1990s. By 2000, many PAs worked in surgical and medical subspecialty practices, far from the primary care specialties that provided almost all the jobs for PAs in the early years of the profession.[1,8,10]

BACKGROUND

Many researchers have evaluated PA demographics and specialty or whether the PA practiced in a rural or an urban area. Hooker and colleagues summarized data from a variety of sources and reported that the number of PAs continues to increase, with the greatest expansion occurring since 2000.[2] Currently, nearly 60% of practicing PAs are women, compared with 16% in 1974.[2] More PAs are now concentrated in the upper Midwest, Maine, and Montana.[2] Muma and colleagues found that minority PAs practiced more frequently in rural areas and were more likely to care for people living in underserved areas.[11]

Using data from Texas, Jones found that 44% of PAs in rural and remote Texas counties were female. The author suggests that this finding challenges the assumption that women are not attracted to

remote clinical practice sites. He called for additional research to help identify predictors of successful recruitment and retention of PAs within rural and remote counties.[5]

Evans and colleagues surveyed graduates of the first 32 PA program cohorts from the University of Washington in Seattle through 2000. Respondents with no academic degree were significantly more likely to demonstrate a commitment to primary, rural, and underserved health care.[12]

In a 1998 study, Grumbach and colleagues analyzed administrative and survey data about primary care physicians, PAs, and other health care providers in Washington State and California. Seventy percent of PAs who practiced in rural areas in these two states practiced in an HPSA, while only 28% of urban PAs practiced in an HPSA. Female clinicians had a lower odds ratio of practicing in rural areas and HPSAs, and Latino and African American clinicians had a higher odds ratio of practicing in HPSAs and vulnerable population areas.[3]

Analyses of large databases (from 1967 to 2000) of US PAs showed that in 2000, more than 18% of PAs practiced in rural settings compared with 20% in 1980. Primary care participation remains at approximately 47% for active PAs with a known specialty.[1]

Morgan and Hooker used data from the AAPA (1992-2008), American Medical Association (1991-2005), and Association of American Medical Colleges (no dates given) to analyze choices of PA specialty.[8] According to their study, PAs have assumed increasing roles in subspecialties. The number of PAs grew more rapidly in surgical and medical subspecialties than in primary care. The authors found that salaries relate loosely to specialty. Some factors in PA specialty choices may be similar to those affecting physicians' choices. These include financial considerations (salary, student debt load, and opportunity for debt forgiveness); personal factors, such as a wish to control one's lifestyle; and educational factors, such as emphasis on primary care training.[8]

Studies with small sample populations and those using the interview format concentrate on factors influencing practice choice, such as proximity to family and scope of practice. In 2003, Lindsay used semi structured interviews to examine how the location of "midlevel" practitioners (nurse practitioners, PAs, and nurse anesthetists from New York and Pennsylvania) varied by gender. Family and community ties played a key role in influencing practice location. Men liked the broad scope and the autonomous nature of rural practice. Women cited the more personable environment and greater respect from colleagues and patients found in rural areas, although some were concerned about being professionally isolated. Both genders preferred their location choice because of fewer turf issues.[13]

Among Pennsylvania PA licensees, a rural PA was more likely than an urban PA to practice in an underserved area. Rural and urban primary care PAs were significantly more willing to practice in rural underserved areas than were PAs who did not practice primary care.[10]

Armour and colleagues evaluated variables that influenced the choice of first practice location in graduates of a Midwestern rural-focused PA program from 2003 to 2005. Support of a location by the PA's significant other was the most important factor in location choice. Other factors, not ranked, were quality of life, employment opportunities for the significant other, scope of practice, and availability of recreational activities.[9]

Henry and Hooker used semi structured interviews in 2005 to explore the views of PAs and community residents in eight rural Texas towns. Among the improvements suggested by PAs were a pharmacy, visiting specialists, and additional medical equipment. The authors concluded that retention rates might be increased if PAs who are committed to autonomous, rural primary care had access to additional training, particularly in emergency medicine; realized the positive aspects of community involvement; and adapted to the local culture.[14]

Efforts have been made at the national level to increase recruitment and retention of PAs for underserved areas.[15] Some schools encourage PA students to fulfill the nation's need by mandating clinical rotations in underserved communities, recruiting persons who are driven to work in these areas, and teaching a curriculum that prepares students for general family practice settings.[3]

In addition to efforts encouraging PAs to practice in underserved areas, a great need exists to change the distribution of PAs from specialists in urban settings to primary care providers in rural areas. A better understanding of the factors that influence where a PA chooses to practice would be an important step in recruiting new graduates to underserved areas.

METHODS

Design and research questions

This study surveyed a cross-sectional, random sampling of practicing US physician assistants. The research questions were as follows:

- Are selected demographic variables related to choice of a rural or urban practice?
- What factors influence US PAs in their choice of first practice location, and how do these factors relate to selected demographic variables?

Participants

The AAPA database was queried in the spring of 2009 to obtain a randomized sample of PAs. In order to achieve the largest sample size, we assumed that 50% of the respondents would answer "extremely important/important" and 50% would choose "not important at all/minimally important" to each factor statement. A 5% margin of error and a 95% confidence level were also assumed, requiring 382 responses based on a population of 85,000. A response rate of 25% to 30% was expected. Therefore, 2,000 PAs were surveyed to ensure approximately 382 responses.

Measurement and procedures

In 2008, Armour and colleagues developed an instrument for a pilot project to assess factors that influenced PA's choice of practice location, such as work hours/compensation and support of or for a significant other.[9] Permission was obtained to use those factors for the current survey, which was designed to measure the level of factor importance in choosing the responding PA's first practice location. A factor consists of a cluster of variables or items that are highly correlated among themselves but poorly correlated with variables of other factors. For our survey, respondents used a 5-point Likert scale, ranging from "extremely important" to "not important at all," to rate the importance of such items as salary in choosing the first practice location. Additionally, respondents were asked to provide their current age, age at graduation from PA training, gender, specialty at PA graduation, size of their high-school community, size of their first employment community as a PA, degree, relationship status, and race/ethnicity.

Data analysis

Frequency distributions were generated to depict the respondents. Chi-square analyses determined if relationships existed between selected demographic variables and between these demographic variables and the factor items. The areas of medicine were divided into three groups: *primary care* included family practice, internal medicine, and pediatrics; *specialty* comprised all other clinical areas, such as emergency medicine, cardiology, obstetrics/gynecology, psychiatry, and general and specialty surgery; and *other* represented those individuals not in clinical practice and academic PAs. Based on midpoint ranges, the demographic variables were divided as follows: age at graduation (20-27 years and 28-60 years), high-school community size and first place-of-employment community size (urban >50,000 people versus rural ≤50,000 people), PA degree level (undergraduate or graduate), and race (nonminority or minority).

Factor analysis of 20 items determined whether common themes existed in the data, using principal component analysis with varimax rotation. Items were retained if they had factor loadings of greater than 0.40. Factor analysis is commonly used in exploratory studies, such as this one, to gain insight

into a relatively abstract concept (choice of first practice location). The alpha level was set at 0.05. IBM-SPSS software, version 19, was used to analyze the data.

RESULTS

Demographic profile and chi-square analyses

Usable responses were received from 312 respondents (16% response rate). Characteristics of the respondents are shown in Table 1. Specialty practitioners and single PAs were more likely to choose an urban setting for their first practice. Graduation from a rural high school was significantly related to practice in a rural setting (Table 2).

Factor analyses

Six identifiable factors emerged from the factor analyses (Table 3). Chi-square analyses determined if significant relationships existed between these factors and demographic variables (Tables 4-9, available online). Gender influenced the greatest number of items; specialty and PA degree level influenced the fewest. Factor 2 (support of/for significant other) carried the most sway in the decision about first employment location. The only demographics not influenced by at least one variable in factor 2 were degree and specialty. None of the demographics influenced variables in factor 5 (e.g. scope of practice, responsibility).

Table 1. Demographic characteristics of survey respondents (n = 312)	
Demographic	**Mean (SD); range**
Current age	41.63 (11.96); 21-69 y
Graduation age	29.36 (6.24); 20-60 y
Years in clinical practice	12.3 (10.6); 0-41 y
Demographic	**Percent[a]**
Gender	
Male	33.0
Female	67.0
Specialty	
Primary care (internal medicine, family medicine, and pediatrics)	28.2
Nonprimary care (e.g., cardiology, surgery)	63.8
Other (not in clinical practice or academic PAs)	8.0
High-school community size	
Urban (>50,000 population)	53.1
Nonurban (≤50,000 population)	46.9
First place of employment community size	
Urban (>50,000 population)	67.9
Nonurban (≤50,000 population)	32.1
Current practice community size	
Urban (>50,000 population)	69.0
Nonurban (≤50,000 population)	31.0
Degree	
Certificate without degree	10.9
Associate	10.0
Bachelor	32.5

Table 1. cont.	
Master	46.6
Relationship status	
Married	53.9
Not married	46.1
Race/ethnicity	
Nonminority	88.7
Minority	11.3
Language	
English	96.8
Spanish	1.3
Other	1.9
Key: SD, standard deviation. [a]Percentages for each characteristic may not add up to 100% because of rounding and respondent omissions.	

DISCUSSION

Factor 1: Hours of work/compensation

Females and PAs with a graduate degree considered hours of work required per week to be important. Hours required as well as on-call hours have been negative predictors of PA practice choice.[16] In this survey, salary was important only to those with a graduate degree. Moreover, importance of salary was not related to age-group. In the study by Muus and colleagues, however, salary was important.[16] Area of specialization did not influence salary in this study, but in their survey, Morgan and Hooker found that salaries loosely correlate with specialty choice, especially for higher-income specialties.[8]

Factor 2: Support of/for significant other

Demographic data affected this factor more than any other. Married PAs felt that all four items comprising this factor were important. Intuitively, this makes sense because married persons have a spouse and, possibly, children to consider in their selection of practice location. A PA from a rural Texas town may have summed up the matter best: "I just want my kids to be in a small town."[14]

Females considered three of the four items in Factor 2 to be less essential than males did. Gender was unrelated to quality of life for the entire family. However, using semi structured interviews, Lindsay found that females often chose a particular geographic area because their significant other was located there.[13] Minority PAs felt that the quality of surrounding schools was important. Older graduates also felt that the variables comprising this factor were important. Older graduates are more apt to be married than younger ones. Quality of life, support by the significant other for a location, and employment opportunities for the significant other were important to the PAs in the pilot study by Armour and colleagues.[9] Married PA respondents preferred rural practice. This result, plus the importance that married PAs place on variables in this factor, may mean that attracting a married PA to a rural community will depend on support of or for the significant other.

Factor 3: Community and job amenities

Males were more interested in the location's recreational and cultural activities. This item was another of the five variables that was important to PAs in the pilot study by Armour and colleagues.[9] No other previous reports have looked at this factor and its possible effects on PA recruitment or retention.

Factor 4: Educational resources/access to care growing up

Difficulty in accessing health care while the PA was growing up influenced male respondents. Males were more concerned about distance to continuing medical education opportunities than females. The availability of these opportunities was a positive predictor of satisfaction among rural PAs.[16] With the explosion of online continuing education opportunities, the "distance factor" may become less important. Primary care and minority PAs considered the practice site's designation as "underserved" in their location choice. This is in agreement with findings by Muma and colleagues.[11]

Factor 5: Practice opportunities

Wide scope of practice, level of responsibility, and long-term relationships with patients showed no association with the demographic factors in our study. However, reports in the literature disagree with our results. Armour and colleagues found scope of practice to be one of five factors that influenced choice of practice location.[9] Lindsay's interviews revealed that males enjoyed the ability to work independently in a rural practice. Some females preferred urban practice because they felt that a wider breadth of practice was available.[13] Rural PAs identified the importance of knowing their patients on a personal level—both in the clinic setting and in the community. These same PAs enjoyed the flexibility and autonomy of a rural practice.[15] Muus and colleagues reported that variety in the PA's duties and number of PA roles were positive predictors for job satisfaction.[16]

Table 2. relationship of demographics to urban or rural first employment

Demographic variable	Urban n (%)	Rural n (%)	X^2
Degree (n = 302)			1.71
Undergraduate	104 (50.7)	57 (58.8)	
Graduate	101 (49.3)	40 (41.2)	
Specialty (n = 302)			13.65[a]
Primary care	45 (21.9)	41 (42.3)	
Specialty	147 (71.7)	50 (51.5)	
Other	13 (6.4)	6 (6.2)	
Race (n = 301)			0.06
Nonminority	181 (88.7)	87 (89.7)	
Minority	23 (11.3)	10 (10.3)	
Gender (n = 294)			2.366
Male	64 (31.2)	39 (40.2)	
Female	141 (68.8)	58 (59.8)	
Marital status (n = 301)			3.96[b]
Single	102 (49.8)	36 (37.1)	
Married	103 (50.2)	61 (62.9)	
High-school community size (n = 301)			20.75[a]
Urban	126 (61.5)	32 (33.3)	
Rural	79 (38.5)	64 (66.7)	
Age at graduation (n = 295)			0.80
20-27 y	101 (50.5)	46 (48.4)	
28-60 y	99 (49.5)	49 (51.6)	

[a] Degree of freedom (df) = 4, $P < .001$.
[b] df = 4, $P < .05$

Factor 6: Location

Geographic location (urban versus rural) of the respondent's hometown was more important to females than to males and to younger PAs than to older PAs. Lindsay's interviews suggested that community and family ties were key factors for both men and women.[13] None of the demographic data in our survey related to family proximity, so determining whether proximity to family was a positive or negative factor was not possible. Interviews allow the researcher to determine if respondents consider these items positively or negatively. Lindsay noted that 12 of 14 rural female providers considered proximity to family a positive influence.[13] However, Muus and colleagues found that family proximity was a negative predictor of practice location.[16]

Table 3. Factor analysis of the 20 variables		
Factor	**Eigen value**	**Factor loading**
1. Hours of work/compensation	5.500	
Amount of call time required		.804
Hours of work required per week		.787
Benefits and incentive programs		694
Salary		672
2. Support of/for significant other	2.028	
Significant other's support of location		.880
Employment opportunities for significant other		.829
Quality of surrounding schools		.624
Quality of life for entire family		.564
3. Community and job amenities	1.514	
Location's wealth and aesthetics		.824
Location's recreational/cultural activities		.819
Availability of personal/practice technology		.489
4. Educational resources/access to care	1.392	

LIMITATIONS/FUTURE RESEARCH

The survey response rate of 16% was less than expected. However, our respondents closely fit the profile of the 2010 AAPA census report.[7] Even though the number of respondents was less than optimal, the respondents fit the "average" PA according to AAPA. Thus, sample size alone is no reason to discount the results.

The variables used in the factor analysis require validation. The statements were from a pilot study of 55 respondents from one Midwestern university.[9] This is the first time that these items were used with a larger sample population. Time will tell whether other researchers will use this type of survey.

The biggest limitation is the timing of the survey in relation to graduation. Future studies should query only those PAs who have graduated within the past year and who are presumably still at their first practice location. Memories of older graduates may be tempered by passing time. These data did not address the question of how much the availability of practice opportunities influenced the choice of first practice location, and this topic could be the subject of future studies.

How the data are collected is important. More PAs might respond if the survey was electronic. With the use of an electronic survey, additional statements could be included to better understand why graduates make their practice location choices. Another avenue might be to survey soon-to-be graduates in their respective educational settings.

CONCLUSION

Physician assistants who responded to the survey felt that support of and for the significant other was the most important factor in their choice of a first practice location. More PA programs are developing graduate curricula. Graduates of these programs will be older and may be married and have a family. Recruiters with hard-to-fill positions may wish to pay closer attention to spousal opportunities and should not underestimate the impact of family in the decision about work location.

Specialty and race were not associated with choice of practice location. Perhaps the recruitment of minorities who wish to practice primary care in rural areas is no longer as important as policy makers and school administrators believe. Moreover, the educational institution should not single-handedly bear the burden of recruiting graduates for primary care in rural areas. Rural health facility managers and administrators need to increase their involvement in educational programs that encourage rural practice, giving them a high priority. If the faculty of family practice-oriented PA training programs work with clinic/hospital managers and rural community leaders, recruitment to these locations may be more successful.

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Table 4. Perceptions of factors influencing first employment as a PA (%) by gender (n = 294)

	Importance[a]					
Factor	**1**	**2**	**3**	**4**	**5**	**x^2**
1. Hours of work/compensation						
Amount of call time required						6.926
Male	13.7	31.4	33.3	11.8	9.8	
Female	16.5	44.2	24.3	7.8	7.3	
Hours of work required per week						16.744[b]
Male	10.8	39.2	33.3	9.8	6.9	
Female	15.9	57.5	17.4	5.8	3.4	
Benefits and incentive programs						1.499
Male	18.6	52.9	18.6	6.9	2.9	
Female	16.9	58.9	14.0	7.2	2.9	
Salary						1.367
Male	19.0	59.0	15.0	6.0	1.0	
Female	15.0	58.7	18.0	6.3	1.9	
2. Support of/for significant other						
Significant other's support of location						12.380[c]
Male	22.5	37.3	19.6	2.9	17.6	
Female	22.7	23.7	15.5	2.9	35.3	
Employment opportunities for significant other						16.487[b]
Male	13.7	27.5	25.5	7.8	25.5	
Female	15.9	21.3	12.1	5.3	45.4	
Quality of surrounding schools						31.763[d]
Male	11.8	35.3	16.6	4.9	28.4	
Female	5.3	12.6	20.8	9.2	52.2	
Quality of life for entire family						7.414
Male	36.6	47.5	9.9	0.0	5.9	
Female	27.9	44.6	14.2	3.4	9.8	
3. Community and job amenities						
Location's wealth and aesthetics						9.180
Male	6.9	23.5	39.2	15.7	14.7	
Female	2.9	22.0	33.2	13.2	28.8	
Location's recreational/cultural activities						12.725[c]
Male	11.8	35.3	35.3	8.8	8.8	

Table 4. cont.						
Female	11.2	29.3	23.9	11.7	23.9	
Availability of personal/practice technology						2.332
Male	9.8	27.5	40.2	8.8	13.7	
Female	6.8	29.8	36.1	8.3	19.0	
4. Educational resources/access to care						
Underserved designation of practice site						1.905
Male	3.9	5.9	37.3	14.7	38.2	
Female	4.8	10.1	34.8	12.6	37.7	
Student loan reimbursement						1.098
Male	5.9	7.8	35.3	13.7	37.3	
Female	3.9	7.3	35.1	17.1	36.6	
Access to health care growing up						12.870[c]
Male	3.9	23.5	40.2	12.7	19.6	
Female	1.5	17.5	35.0	7.8	38.3	
Distance to higher education resources						11.355[c]
Male	3.9	15.7	42.2	21.6	16.7	
Female	4.9	12.6	32.5	15.5	34.5	
5. Practice opportunities						
Level of responsibility						7.905
Male	18.6	52.9	21.6	4.9	2.0	
Female	18.4	64.7	13.0	1.4	2.4	
Wide scope of practice						4.924
Male	24.5	47.1	18.6	6.9	2.9	
Female	17.0	45.6	27.2	5.3	4.9	
Long-term relationships with patients						1.156
Male	8.8	30.4	37.3	12.7	10.8	
Female	8.3	35.1	31.7	13.7	11.2	
6. Location						
Geographic location where you grew up						11.920[c]
Male	2.9	24.5	26.5	20.6	25.5	
Female	10.2	23.4	26.8	9.3	30.2	
Proximity of family to practice location						9.431
Male	8.8	41.2	26.5	14.7	8.8	
Female	15.9	33.8	26.6	7.7	15.9	

[a] 1 = extremely important; 5 = not important.
[b] Degree of freedom (df) = 4, $P < .01$.
[c] df = 4, $P < .05$.
[d] df = 4, $P < .001$.

Table 5. Perceptions of factors influencing first employment as a PA (%) by race (n = 301)						
	Importance[a]					
Factor	1	2	3	4	5	x^2
1. Hours of work/compensation						
Amount of call time required						4.228
Nonminority	15.0	41.4	27.5	8.4	7.7	
Minority	20.6	26.5	26.5	14.7	11.8	
Hours of work required per week						9.225
Nonminority	12.4	51.8	23.7	6.9	5.1	
Minority	29.4	47.1	14.7	8.8	0.0	
Benefits and incentive programs						9.621[b]
Nonminority	15.0	58.8	15.7	7.3	3.3	
Minority	35.3	44.1	14.7	5.9	0.0	
Salary						3.323
Nonminority	15.8	57.9	17.9	6.6	1.8	
Minority	21.9	65.6	9.4	3.1	0.0	
2. Support of/for significant other						
Significant other's support of location						4.071
Nonminority	21.9	29.6	16.1	2.6	29.9	
Minority	26.5	17.6	23.5	5.9	26.5	
Employment opportunities for significant other						9.084
Nonminority	15.0	25.5	15.0	6.2	38.3	
Minority	14.7	5.9	29.4	5.9	44.1	
Quality of surrounding schools						11.785[b]
Nonminority	6.6	21.5	18.6	8.4	44.9	
Minority	14.7	5.9	35.3	2.9	41.2	
Quality of life for entire family						2.570
Nonminority	29.9	47.2	12.2	2.2	8.5	
Minority	36.4	33.3	18.2	3.0	9.1	
3. Community and job amenities						
Location's wealth and aesthetics						2.873
Nonminority	4.4	22.7	33.7	14.3	24.9	
Minority	3.0	18.2	48.5	12.1	18.2	
Location's recreational/cultural activities						
Nonminority	11.8	32.4	26.8	9.9	19.1	
Minority	8.8	20.6	35.3	17.6	17.6	
Availability of personal/practice technology						3.994
Nonminority	7.0	29.4	36.4	9.2	18.0	
Minority	11.8	26.5	47.1	2.9	11.8	
4. Educational resources/access to care						
Underserved designation of practice site						17.921[c]
Nonminority	3.3	7.3	36.1	13.5	39.8	
Minority	14.7	20.6	32.4	11.8	20.6	
Student loan reimbursement						9.263

Table 5. cont.						
Nonminority	3.3	7.4	35.7	16.2	37.5	
Minority	14.7	8.8	29.4	14.7	32.4	
Access to health care growing up						11.749[b]
Nonminority	1.5	18.3	36.3	10.3	33.7	
Minority	8.8	26.5	41.2	2.9	20.6	
Distance to higher education resources						
Nonminority	3.7	13.6	34.4	18.7	29.7	
Minority	8.8	14.7	47.1	8.8	20.6	
5. Practice opportunities						
Level of responsibility						4.450
Nonminority	17.2	62.4	16.1	2.6	1.8	
Minority	26.5	50.0	14.7	2.9	5.9	
Wide scope of practice						3.800
Nonminority	19.4	45.4	25.6	5.9	3.7	
Minority	17.6	52.9	14.7	5.9	8.8	
Long-term relationships with patients						3.893
Nonminority	7.7	34.6	32.7	13.6	11.4	
Minority	14.7	26.5	41.2	11.8	5.9	
6. Location						
Geographic location where you grew up						.861
Nonminority	7.7	24.3	26.8	12.9	28.3	
Minority	8.8	17.6	26.5	14.7	32.4	
Proximity of family to practice location						2.241
Nonminority	13.1	36.1	25.9	10.6	14.2	
Minority	17.6	35.3	32.4	5.9	8.8	

[a] 1 = extremely important; 5 = not important.
[b] Degree of freedom (df) = 4, $P < .05$.
[c] df = 4, $P < .01$.

Table 6. Perceptions of factors influencing first employment as a PA (%) by specialty (n = 302)						
	Importance[a]					
Factor	1	2	3	4	5	x^2
1. hours of work/ compensation						
Amount of call time required						7.148
Primary care	12.8	34.9	31.4	8.1	12.8	
Specialty	16.1	41.7	25.6	9.5	7.0	
Other	21.7	43.5	26.1	8.7	0.0	
Hours of work required per week						2.110
Primary care	12.8	52.3	23.3	7.0	4.7	
Specialty	15.1	51.3	21.6	7.0	5.0	
Other	12.5	50.0	29.2	8.3	0.0	
Benefits and incentive programs						5.195
Primary care	12.8	58.1	18.6	7.0	3.5	
Specialty	18.1	57.3	14.1	7.5	3.0	

Table 6. cont.						
Other	29.2	50.0	16.7	4.2	0.0	
Salary						1.290
Primary care	15.3	60.0	16.5	7.1	1.2	
Specialty	16.6	58.4	16.8	6.1	2.0	
Other	16.7	58.3	20.8	4.2	0.0	
2. Support of/for significant other						
Significant other's support of location						7.694
Primary care	26.7	24.4	22.1	3.5	23.3	
Specialty	21.1	28.1	15.1	3.0	32.7	
Other	20.8	41.7	12.5	0.0	25.0	
Employment opportunities for significant other						3.973
Primary care	17.4	23.3	17.4	2.3	29.5	
Specialty	14.6	22.6	16.1	7.5	29.2	
Other	12.5	29.2	16.7	8.3	33.3	
Quality of surrounding schools						7.913
Primary care	8.1	18.6	19.8	12.8	40.7	
Specialty	7.5	19.1	21.6	6.0	45.7	
Other	4.2	33.3	12.5	4.2	45.8	
Quality of life for entire family						2.240
Primary care	32.9	42.4	12.9	2.4	9.5	
Specialty	31.0	45.7	12.7	2.5	8.1	
Other	21.7	56.5	13.0	0.0	8.7	
3. Community and job amenities						
Location's wealth and aesthetics						8.851
Primary care	1.2	17.4	34.9	18.6	27.9	
Specialty	6.1	24.2	35.4	11.6	22.7	
Other	0.0	26.1	34.8	17.4	21.7	
Location's recreational/cultural activities						13.464
Primary care	7.0	25.6	29.1	11.6	26.7	
Specialty	14.1	33.8	26.3	9.1	16.7	
Other	4.3	30.4	34.8	21.7	8.7	
Availability of personal/practice technology						7.538
Primary care	7.0	25.6	28.4	9.3	19.8	
Specialty	7.1	29.8	39.4	7.6	16.2	
Other	17.4	34.8	17.4	13.0	1.4	
4. Educational resources/access to care						16.432[b]
Underserved designation of practice site						
Primary care	9.3	14.0	31.4	15.1	30.2	
Specialty	3.0	6.5	35.2	13.1	42.2	
Other	0.0	8.3	54.2	8.3	29.2	
Student loan reimbursement						5.987
Primary care	5.9	4.7	38.8	16.5	34.1	
Specialty	3.5	9.1	34.8	16.2	36.4	

Table 6. cont.						
Other	8.3	4.2	25.0	12.5	50.0	
Access to health care growing up						10.396
Primary care	3.5	15.1	38.4	11.6	31.4	
Specialty	2.0	18.7	37.4	9.1	32.8	
Other	0.0	41.7	25.0	4.2	29.2	
Distance to higher education resources						5.467
Primary care	5.8	14.0	32.6	12.8	34.9	
Specialty	3.5	13.6	37.2	19.1	26.6	
Other	8.7	13.0	34.8	21.7	21.7	
5. Practice opportunities						
Level of responsibility						10.437
Primary care	23.3	62.8	9.3	1.2	3.5	
Specialty	15.1	60.8	18.6	3.5	2.0	
Other	29.2	54.2	16.7	0.0	0.0	
Wide scope of practice						13.580
Primary care	27.9	50.0	17.4	2.3	2.3	
Specialty	16.1	43.2	27.6	7.5	5.5	
Other	17.4	56.5	21.7	4.3	0.0	
Long-term relationships with patients						14.787
Primary care	14.1	38.8	29.4	8.2	9.4	
Specialty	5.5	31.7	33.7	16.6	12.6	
Other	13.0	30.4	47.8	4.3	4.3	
6. Location						
Geographic location where you grew up						8.543
Primary care	8.2	21.2	30.6	9.4	30.6	
Specialty	8.5	24.1	24.1	13.6	29.6	
Other	0.0	30.4	34.8	21.7	13.0	
Proximity of family to practice location						10.415
Primary care	15.1	33.7	31.4	5.8	14.0	
Specialty	14.6	35.2	25.1	11.1	14.1	
Other	0.0	54.2	20.8	16.7	8.3	

[a] 1 = extremely important; 5 = not important.
[b] Degree of freedom = 8, P < .05.

Table 7. Perceptions of factors influencing first employment as a PA (%) by degree at graduation from PA school (n = 302)						
	Importance[a]					
Factor	1	2	3	4	5	x^2
1. Hours of work/ compensation						
Amount of call time required						7.576
Undergraduate	11.6	37.8	29.3	11.6	9.8	
Graduate	19.6	42.7	25.2	6.3	6.3	
Hours of work required per week						11.100[b]
Undergraduate	7.9	53.7	35.6	7.9	4.9	

Table 7. cont.						
Graduate	20.8	49.3	19.4	6.3	4.2	
Benefits and incentive programs						8.980
Undergraduate	11.6	60.4	16.5	7.9	3.7	
Graduate	24.3	52.8	14.6	6.3	2.1	
Salary						10.029[b]
Undergraduate	14.3	55.9	23.0	5.6	1.2	
Graduate	18.8	62.5	9.7	6.9	2.1	
2. Support of/for significant other						
Significant other's support of location						3.457
Undergraduate	23.8	26.8	19.5	1.8	28.0	
Graduate	21.5	29.2	13.9	4.2	31.3	
Employment opportunities for significant other						1.614
Undergraduate	15.2	23.2	18.3	4.9	38.4	
Graduate	15.3	22.9	14.6	7.6	39.6	
Quality of surrounding schools						2.325
Undergraduate	8.5	22.0	19.5	6.7	43.3	
Graduate	5.6	18.1	21.5	9.0	45.8	
Quality of life for entire family						1.576
Undergraduate	31.5	46.9	12.3	2.5	6.8	
Graduate	30.3	43.7	13.4	2.1	10.6	
3. Community and job amenities						
Location's wealth and aesthetics						2.152
Undergraduate	3.7	23.9	36.2	11.7	24.5	
Graduate	4.9	21.0	33.6	16.8	23.8	
Location's recreational/cultural activities						2.870
Undergraduate	9.8	34.8	26.2	11.6	17.7	
Graduate	13.4	27.5	28.9	9.9	20.4	
Availability of personal/practice technology						3.746
Undergraduate	8.0	26.4	37.4	7.4	20.9	
Graduate	7.7	31.5	37.8	9.8	13.3	
4. Educational resources/access to care						
Underserved designation of practice site						2.598
Undergraduate	3.7	9.8	37.8	11.6	37.2	
Graduate	5.6	6.9	33.3	15.3	38.9	
Student loan reimbursement						8.241
Undergraduate	4.3	7.3	35.4	11.0	42.1	
Graduate	4.9	7.7	34.5	21.8	31.0	
Access to health care growing up						
Undergraduate	2.4	23.2	36.0	7.3	31.1	
Graduate	2.1	14.7	37.8	11.9	33.6	
Distance to higher education resources						2.815
Undergraduate	4.9	15.9	36.6	17.1	25.6	
Graduate	3.5	11.2	35.0	18.2	32.2	

Table 7. cont.						
5. Practice opportunities						
Level of responsibility						1.159
Undergraduate	20.1	59.8	15.9	2.4	1.8	
Graduate	16.0	62.5	16.0	2.8	2.8	
Wide scope of practice						1.147
Undergraduate	20.7	47.0	22.6	6.1	3.7	
Graduate	18.2	44.8	26.6	5.6	4.9	
Long-term relationships with patients						2.529
Undergraduate	8.0	35.6	33.7	14.1	8.6	
Graduate	8.4	31.5	33.6	12.6	14.0	
6. Location						
Geographic location where you grew up						3.062
Undergraduate	6.7	25.8	28.8	11.0	27.6	
Graduate	9.1	21.7	23.8	15.4	30.1	
Proximity of family to practice location						1.257
Undergraduate	14.0	37.2	26.8	10.4	11.6	
Graduate	13.2	35.2	25.7	9.7	16.0	

[a] 1 = extremely important; 5 = not important.
[b] Degree of freedom = 4, $P < .05$.

Table 8. Perceptions of factors influencing first employment as a PA (%) by marital status at graduation from PA school (n = 301)						
	Importance[a]					
Factor	1	2	3	4	5	x^2
1. Hours of work/compensation						
Amount of call time required						2.472
Single	17.9	41.4	24.3	7.9	8.6	
Married	13.9	38.0	30.1	10.2	7.8	
Hours of work required per week						6.051
Single	18.4	52.5	17.7	6.4	5.0	
Married	10.8	50.6	26.5	7.8	4.2	
Benefits and incentive programs						4.236
Single	19.9	56.7	13.5	8.5	1.4	
Married	15.7	56.6	17.5	6.0	4.2	
Salary						2.491
Single	17.9	60.0	16.4	5.0	0.7	
Married	15.2	57.3	17.7	7.3	2.4	
2. Support of/for significant other						
Significant other's support of location						83.932[b]
Single	10.6	14.2	17.7	5.7	51.8	
Married	32.5	39.8	16.3	0.6	10.8	
Employment opportunities for significant other						58.061[b]
Single	7.8	13.5	11.3	5.7	61.7	

Table 8. cont.						
Married	21.1	31.3	21.1	6.6	19.9	
Quality of surrounding schools						28.403[b]
Single	2.8	9.9	22.0	9.2	56.0	
Married	11.4	27.7	19.3	6.6	34.9	
Quality of life for entire family						21.277[b]
Single	21.0	47.1	18.8	0.7	12.3	
Married	38.2	44.8	7.9	3.6	5.5	
3. Community and job amenities						
Location's wealth and aesthetics						3.763
Single	5.0	23.6	36.4	15.7	19.3	
Married	3.6	21.8	33.3	12.7	28.5	
Location's recreational/cultural activities						4.721
Single	13.7	33.8	26.6	11.5	14.4	
Married	9.6	28.9	28.3	10.2	22.9	
Availability of personal/practice technology						3.191
Single	8.6	32.9	33.6	9.3	15.7	
Married	7.3	25.5	40.6	7.9	18.8	
4. Educational resources/access to care						
Underserved designation of practice site						4.846
Single	4.3	7.8	31.2	12.1	44.7	
Married	4.8	9.6	39.2	13.9	32.5	
Student loan reimbursement						4.945
Single	3.5	9.9	34.0	18.4	34.0	
Married	5.5	4.9	36.0	14.0	39.6	
Access to health care growing up						3.718
Single	1.4	21.3	32.6	9.2	35.5	
Married	3.0	17.0	40.6	9.7	29.7	
Distance to higher education resources						2.659
Single	5.7	15.0	31.4	17.1	30.7	
Married	3.6	12.7	39.2	17.5	27.1	
5. Practice opportunities						
Level of responsibility						5.337
Single	19.1	58.9	19.1	2.1	0.7	
Married	18.1	62.7	12.7	3.0	3.6	
Wide scope of practice						4.673
Single	18.6	52.1	20.7	5.7	2.9	
Married	20.5	41.0	27.1	6.0	5.4	
Long-term relationships with patients						5.049
Single	7.2	30.9	32.4	18.0	11.5	
Married	9.6	35.5	34.3	9.6	10.8	
6. Location						
Geographic location where you grew up						1.211
Single	9.3	25.0	25.0	12.9	27.9	
Married	6.7	22.4	27.9	13.3	29.7	

Table 8. cont.						
Proximity of family to practice location						
Single	12.1	34.0	27.7	9.2	17.0	
Married	15.1	37.3	25.9	10.8	10.8	

[a] 1 = extremely important; 5 = not important.
[b] Degree of freedom = 4 , *P* < .001.

Table 9. Perceptions of factors influencing first employment as a PA (%) by age at graduation (n = 295)

	Importance[a]					
Factor	1	2	3	4	5	x^2
1. Hours of work/compensation						
Amount of call time required						4.189
20-27 y	14.2	43.2	28.4	6.5	7.7	
28-60 y	16.4	35.6	27.4	12.3	8.2	
Hours of work required per week						3.506
20-27 y	13.5	54.8	21.3	5.2	5.2	
28-60 y	14.3	48.3	24.5	9.5	3.4	
Benefits and incentive programs						7.657
20-27 y	14.2	63.9	14.8	4.5	2.6	
28-60 y	20.4	50.3	15.6	10.2	3.4	
Salary						5.956
20-27 y	14.9	61.7	18.2	3.2	1.9	
28-60 y	17.2	56.6	15.2	9.7	1.4	
2. Support of/for significant other						
Significant other's support of location						15.598[b]
20-27 y	16.1	23.9	19.4	3.9	36.8	
28-60 y	29.3	32.7	14.3	2.0	21.8	
Employment opportunities for significant other						5.165
20-27 y	12.9	26.5	13.5	7.7	39.4	
28-60 y	18.4	20.4	19.0	4.8	37.4	
Quality of surrounding schools						16.991[b]
20-27 y	4.5	13.5	20.0	11.0	51.0	
28-60 y	10.2	26.5	21.8	4.8	36.7	
Quality of life for entire family						11.395[c]
20-27 y	22.7	48.1	16.2	2.6	10.4	
28-60 y	39.6	42.4	9.7	2.1	6.3	
3. Community and job amenities						
Location's wealth and aesthetics						1.507
20-27 y	4.5	24.5	34.8	12.9	23.2	
28-60 y	4.1	19.3	35.9	15.9	24.8	
Location's recreational/cultural activities						2.327
20-27 y	10.4	33.1	28.6	11.7	16.2	
28-60 y	12.3	28.8	27.4	9.6	21.9	

Table 9. cont.						
Availability of personal/practice technology						1.536
20-27 y	9.1	30.5	36.4	7.8	16.2	
28-60 y	6.2	27.4	40.4	8.2	17.8	
4. Educational resources/access to care						
Underserved designation of practice site						1.614
20-27 y	3.2	7.7	36.8	14.8	37.4	
28-60 y	5.4	9.5	34.7	12.2	38.1	
Student loan reimbursement						2.314
20-27 y	5.8	7.1	36.8	14.8	35.5	
28-60 y	2.8	8.3	34.5	17.9	36.6	
Access to health care growing up						1.509
20-27 y	1.9	21.3	38.1	8.4	30.3	
28-60 y	2.1	17.1	36.3	11.0	33.6	
Distance to higher education resources						1.630
20-27 y	3.2	14.2	37.4	16.1	29.0	
28-60 y	5.5	12.3	34.9	19.2	28.1	
5. Practice opportunities						
Level of responsibility						.787
20-27 y	16.1	63.2	15.5	2.6	2.6	
28-60 y	19.7	59.9	15.6	2.7	2.0	
Wide scope of practice						2.522
20-27 y	16.1	46.5	27.7	5.2	4.5	
28-60 y	21.9	45.9	21.9	6.2	4.1	
Long-term relationships with patients						2.883
20-27 y	7.8	35.7	34.4	14.3	7.8	
28-60 y	8.2	32.2	32.9	13.0	13.7	
6. Location						
Geographic location where you grew up						16.533[a]
20-27 y	11.6	27.1	29.0	12.3	20.0	
28-60 y	4.1	19.3	24.1	14.5	37.9	
Proximity of family to practice location						2.215
20-27 y	11.6	38.1	25.8	9.7	14.8	
28-60 y	16.3	33.3	27.2	10.9	12.2	

[a] 1 = extremely important; 5 = not important
[b] Degree of freedom (df) = 4, $P < .01$.
[c] df = 4, $P < .05$.