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Gender differences in career dissatisfaction among Pennsylvanian physicians

Brandon Vick*

Department of Economics, Indiana University of Pennsylvania, United States

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ABSTRACT

Objective: The physician workforce is quickly changing from one that was once male dominated to one that is more gender equal. The relationship between being female and physician career satisfaction is unclear despite a large body of research on the subject. I analyze the relationship between gender, career dissatisfaction, and plans to leave patient care. Female-male differences are calculated for various demographic, specialty, and practice setting subgroups of physicians; particular attention is paid to how various factors interact with gender.

Methods: Data comes from the 2012 Pennsylvania Health Workforce Survey of Physicians. I use multivariate, logistic regression to estimate associations between a number of covariates, including gender, and two outcomes: (1) career dissatisfaction, and (2) plans to leave patient care.

Results: Female physicians have 12% lower odds than males of reporting career dissatisfaction but no statistically significant difference in plans to leave patient care. Practicing in a hospital setting and in a rural county is associated with higher odds of dissatisfaction among male physicians but lower dissatisfaction among female physicians. Although female physicians own their practice at much lower rates, female owners have much lower odds of planning to leave patient care.

Conclusions: Factors associated with career dissatisfaction and plans to leave patient care affect male and female physicians differently, across race, rural practice, specialty, and practice ownership. Policy and research related to physician retention and quality of care should consider the interaction between gender and these factors in the future.

Key Words: Female physicians, Career satisfaction, Retention, Practice ownership

1. INTRODUCTION

The physician workforce is rapidly shifting from one that has been highly male-dominated in numbers to one that is gender-equal. In Pennsylvania, a state of nearly 13 million residents, only 21% of physicians ages 50 years and older are female, compared to 36% of those in their forties and 46% of those in their thirties.[1] Given the growing demand for healthcare services in the United States, along with provider shortages in many areas and among many low-income populations,[2] physician career satisfaction and retention take on an important public health role. A recent review of studies found that physician career and job satisfaction was related to patient satisfaction, yielded better patient adherence to treatment, and had positive effects on the quality of overall care.[3] Potential differences in physician satisfaction and attrition across gender, and how other factors affect female and male satisfaction differently, can inform policies and programs seeking to improve both the access to and quality of healthcare provision.

*Correspondence: Brandon Vick; Email: brandon.vick@iup.edu; Address: McElhaney Hall, Room 213, 441 North Walk, Indiana, PA 15705, United States.

The relationship between physician satisfaction and gender is unclear despite a large body of research; the direction of the relationship differs across datasets, countries, and/or specialties. For instance, a study of general practitioners in Germany found that being female was associated with higher odds of satisfaction,[4] while another group of recent studies found that female physicians had higher dissatisfaction rates and higher odds of work-life dissatisfaction than their male counterparts.[5,6] Female physicians may have to contend with patients' gender perceptions that can hinder their ability to offer effective advice or care and potentially lead to work dissatisfaction.[7] Despite these findings, a study of primary care pediatricians in Connecticut and a number of national studies, focused across a broader set of specialties, found similar levels of satisfaction between male and female doctors.[8–10]

The consequences of dissatisfaction can be upsetting to both patients and fellow practitioners when they lead one to leave her career in patient care. Controlling for dissatisfaction, a study on physician retirement found that being female is associated with earlier retirement.[11] A study of hospital doctors found that work practices affected the out-of-work activities of female physicians more than male physicians and that females had higher odds of experiencing burnout.[12] This result supported previous findings showing that female physicians were found to have higher odds of reporting burnout among primary and non-surgical care specialties.[13] While it is true that the various regions studied above differ in their medical environments and their outcomes regarding career satisfaction, continued research in this field can help uncover various mechanisms leading to physician dissatisfaction.

The objective of this exploratory analysis is to analyze the relationship between being female, career dissatisfaction, and plans to leave patient care among Pennsylvania physicians. I estimate how various factors affect career dissatisfaction and plans to leave differently for female and male physicians. Finally, I test for male-female differences in these relationships across separate physician subgroups (i.e. demographic and specialty) and for differences in the primary source of dissatisfaction.

2. METHODS

Data for the analysis comes from the 2012 Pennsylvania Health Workforce Survey of Physicians. The Pennsylvania State Board of Medicine is responsible for licensing physicians in the state, who are required to renew their license to practice every two years.[14] The Pennsylvania Department of Health surveyed 46,715 physicians renewing their licenses in 2012 and supplied a modified data file to the author, withholding identifying information. Survey participation was on a voluntary basis and the response rate was 90% of all physicians in the state.

In order to focus on career plans of the active Pennsylvania physician workforce, I placed a number of restrictions on the data related to age, active practice and missing observations, reducing the number of observations analyzed. First, I removed observations for physicians nearing retirement (56 years and over), since the factors related to retention of younger physicians are likely different from those related to retirement. This removed approximately 40% of all physicians. Second, since the focus is on the provision of patient care in Pennsylvania, I removed those who do not practice in Pennsylvania or who are not active in direct patient care, over 30% of the remaining physicians in the dataset. Third, I removed less than 1% of remaining observations due to missing data of a variable of interest used in the analysis. After incorporating these restrictions, this report analyzes the survey data on 17,444 physicians under 55 years old who were actively practicing patient care in Pennsylvania at the time of the survey.

Logistic regression is used to estimate the relationships between the two outcome areas (measures of dissatisfaction and plans to leave) and a number of explanatory variables. First, regressions are performed on a measure of career dissatisfaction. Physicians were asked how satisfied they have been with their overall careers and given options of answering very satisfied, satisfied, dissatisfied, or very dissatisfied. The dependent variable for dissatisfaction used in the logistic analyses equal one for responses of dissatisfied or very dissatisfied and zero otherwise. Second, logistic regressions are performed on a binary variable equal to 1 for those responding that they anticipate leaving patient care in the next six years and equal to 0 otherwise. Three regressions are performed on the dependent variables of dissatisfaction and plans to leave: the full sample of physicians, female physicians only, and male physicians only. In the full sample, a binary variable for female is included to test for gender differences in the odds of reporting dissatisfaction or plans to leave. In the female- and male-only samples, differences in the coefficient estimates for other covariates highlight how factors affect dissatisfaction and the plans to leave differently across gender.

To compliment the analysis of the full physician workforce, additional regressions were run to estimate whether being female is associated with career dissatisfaction and plans to leave among specific subgroups of physicians: by demographic, specialty, and practice setting characteristics. The goal is to identify whether gender differences vary across subgroups, among white vs. black physicians or rural vs. ur-

ban ones, for instance. However, conducting statistical tests simultaneously across various subgroups increases the probability of type I error. To correct for multiple comparisons, the false discovery rate is restricted to 5%, which is similar to Bonferroni correction in that it requires a *p*-value less than .05 for rejecting the null hypothesis.[15] Additionally, to compare the gender coefficients across two subgroups, the Delta method is used to estimate *p*-values of a Wald test of equality.

A final analysis estimates gender differences across the primary sources of career dissatisfaction. Physicians were asked to name which characteristic is the greatest source of career dissatisfaction and, separately, of career satisfaction. Among the characteristics are the availability of leisure time, salary/income, and patient relationships. Binary variables for each characteristic were created and coded 1 if the physician named that characteristic as the greatest source of dissatisfaction and 0 otherwise. Logistic regressions are run on each source to estimate gender differences in the odds of reporting a particular source of dissatisfaction. The procedure was repeated for the question on sources of satisfaction.

Regression controls include the following: gender, race (white, black, Asian, and other), Hispanic ethnicity, age categories, primary care specialization, hospital practice, rural county practice, practicing in the western vs. eastern half of the state, the ratio of hours in non-practice activities (administration and research) to hours in patient care, total hours of work, and practice characteristics including ownership, employment of physician assistants and nurse practitioners, provision of safety net services, Medicaid/Medicare coverage, and delivery of babies as part of practice. A county is defined as rural in Pennsylvania if it has a population density lower than the statewide average. Primary care practitioners (PCPs) are defined by the American Academy of Family Physicians to include physicians whose primary specialty consists of one of the following: family practice physicians; internal medicine or general practice; and general pediatrics.

A number of robustness checks were performed and are available on request. Respondents answered questions on job experience, but this variable was withheld from the regression analysis due to high correlation with the age categories. Robustness checks found that experience controls had no substantive effect on coefficient estimates. As career dissatisfaction has been found to be associated with plans to leave,[11] I performed additional robustness checks by including career dissatisfaction in all regressions on plans to leave patient care. Since the addition of dissatisfaction also had little effect on coefficient estimates for plans to leave, I present only results from the original model. The data analysis was performed using STATA version 12.1, a leading software package commonly used by social scientists performing statistical analyses, including multiple regression.[16]

Table 1. Descriptive characteristics of Pennsylvanian physicians under 55 years old

Variable	Male (%) n = 10,784	Female (%) n = 6,660
Specialty		
• All Primary Care	26.1	40.3
• General Pediatric & Pediatric Specialist	5.1	14.2
• Pediatric Specialist	2.1	3.8
• Emergency	6.2	4.8
• OB/GYN	2.5	7.8
• Surgery	13.3	3.9
• Psychiatry	4.5	5.5
• Anesthesiology	6.7	4.2
• Radiology	5.7	3.5
• Cardiology	5.0	1.4
• Other Specialties	28.0	24.8
Practice Setting		
• Multi-Specialty Office	7.7	7.7
• Single-Specialty Office	28.1	34.2
• Solo Office	5.7	4.7
• Inpatient Hospital	35.2	26.1
• Outpatient Hospital	12.8	16.6
Weekly Hours Ratios		
• Administration / Patient Care	22.3	19.9
• Research / Patient Care	38.6	39.5
• Average Total Weekly Hours Worked	56.9	49.3
Other Practice Characteristics		
• Owns Practice	28.3	14.6
• Set in Rural Pennsylvania	17.9	12.8
• Employs Physician Assistants	49.9	40.8
• Accepts Medicaid Patients	88.0	87.4
• Accepts Medicare Patients	94.2	87.0
• Currently Delivers Babies	5.2	9.2

Note. Source: Authors' calculations, Pennsylvania Health Workforce Surveys (2012). All gender differences are statistically significant at the .01 level

3. RESULTS

Female physicians make up 38% of the physician workforce under 55 years old in Pennsylvania (6,660 of 17,444 physicians). On average, female physicians are younger (45% vs. 32% under 40-years old) and more racially diverse (32% vs. 25% non-white) than their male counterparts. The female physician workforce is distributed more heavily toward PCPs, pediatricians, and obstetricians and gynecologists (OB/GYNs), while having a lower fraction of surgeons than males, as shown in Table 1. Such crowding into different specialties by gender has been found in previous studies.[17] A larger percentage of female physicians work in single-specialty offices and outpatient hospital settings than male physicians, while a larger proportion of male physicians practice in inpatient hospital settings. Additionally, a smaller percentage of female physicians locate in rural practices.

A number of other large male-female differences should be

noted. First, male physicians work 8 more hours per week than females do on average ($p < .01$). As shown in a recent study of work hours, surgery specialties tend to have higher average work hours than others.[18] Second, while 28% of male physicians own their practice, only 15% of female physicians are owners ($p < .01$). Third, likely related to differences in specialty and setting, a larger proportion of male physicians work in practices that employ physician assistants and accept Medicare patients, while a larger proportion of female physicians deliver babies as part of their practice ($p < .01$ for each difference).

Female versus male differences in the rates of career dissatisfaction and plans to leave patient care in the next six years are small but statistically significant, as shown in Table 2. A higher percentage of males report being dissatisfied or very dissatisfied in the past year (14% to 12%, $p < .01$) and overall (10% to 8%, $p < .01$). The largest source of career dissatisfaction for both groups is the availability of leisure time, while the greatest source of satisfaction for both groups is patient relationships. A higher proportion of female physicians report plans to leave patient care in the next six years (19% to 17%, $p < .01$), despite lower reports of dissatisfaction.

Table 2. Rates of career dissatisfaction and plans to leave among Pennsylvanian physicians under 55 years old

Variable	Male (%) n = 10,784	Female (%) n = 6,660
Dissatisfied or Very Dissatisfied		
• With Career, Past Year	13.8	11.7
• With Career, Overall	9.6	7.9
Very Dissatisfied		
• With Career, Past Year	2.6	1.6
• With Career, Overall	1.5	0.8
Greatest Source of Dissatisfaction		
• Availability of Leisure Time	28.9	31.2
• Decision Making Autonomy	8.2	6.4
• Salary/Income	9.7	10.7
• Other Financial Reasons (incl.Insurance)	16.0	12.8
• Patient Relationships	5.3	6.2
• Practice Environment	13.4	13.5
• Other	15.9	16.7
Greatest Source of Satisfaction		
• Decision Making Autonomy	15.0	9.9
• Salary/Income	4.8	3.3
• Intellectual Challenge	24.8	21.7
• Patient Relationships	41.9	51.3
• Practice Environment	7.9	8.0
Has Plans to Leave Patient Care in Next Six Years		
• Any Reason	17.4	19.1
• Stress/Demands	2.3	2.3
• Relocation	6.0	7.7
• Family Reasons	2.6	3.9

Note. Source: Authors' calculations, Pennsylvania Health Workforce Surveys (2012). All gender differences are statistically significant at the .01 level

Table 3 presents estimates from logistic regressions on career dissatisfaction and plans to leave patient care in Pennsylvania. The table reports odds ratios; those greater (less) than one suggest that a characteristic is related to higher (lower) odds of reporting dissatisfaction or plans to leave than its reference category. Despite similar response rates of career dissatisfaction shown in the previous section, female physicians have 12% lower odds of reporting dissatisfaction than their male counterparts, controlling for individual and practice characteristics (Column 1: OR = 0.88, $p < .05$). Column 1 highlights a number of other factors associated with lower odds of dissatisfaction, including being non-white; working in a practice that employs physician assistants; working in a practice that accepts Medicaid patients; and having a higher research-to-patient care hours ratio. On the other hand, being a PCP, practicing medicine in a rural county, and higher weekly work hours are associated with higher dissatisfaction.

Estimating regression odds ratios of dissatisfaction for male and female physicians separately, I attempt to highlight differences in the factors associated with dissatisfaction, shown in Columns 2 and 3. For instance, being black is associated with lower odds of dissatisfaction among male physicians but not female physicians. While most of the covariates associate with dissatisfaction in a similar manner to estimates of the full sample (in Column 1), two other factors differ between male and female doctors. Practicing in a hospital setting is associated with higher odds of dissatisfaction for male physicians but lower odds for female physicians. Similarly, practicing in a rural county is associated with higher odds of dissatisfaction for male physicians but lower odds for female physicians, although the latter finding is not statistically significant. As shown in Columns 4-6, estimates suggest no statistically significant male-female differences in the odds of reporting plans to leave patient care.

In the next phase of the analysis, I performed logistic regressions on separate physician subgroups based on demographic characteristics, practice specialty, setting and ownership. Table 4 shows the estimated female-to-male odds ratios for each regression, suggesting that the relationship between gender and dissatisfaction varies across race, specialty, and setting. Among the subgroup of white physicians, females have 14% lower odds of dissatisfaction than males (OR = 0.861, $p < .05$). The opposite is true when analyzing only black physicians — female physicians have over twice the odds of reporting dissatisfaction than males (OR = 2.237, $p < .05$). Results of Wald test of equality between the two subgroups suggest that the statistical relationship between gender and dissatisfaction are indeed different for black physicians compared to the relationship among white physicians ($p = .016$; this is also suggested by the non-overlapping confidence intervals of the estimates of both groups).

Table 3. Characteristics associated with reporting career dissatisfaction and plans to leave patient care

Independent Variables	Dependent Variables					
	Dissatisfied or Very Dissatisfied with Medical Career (OR)			Has Plans to Leave Patient Care in Next Six Years (OR)		
	(1)	(2)	(3)	(4)	(5)	(6)
	All	Male	Female	All	Male	Female
Female	0.884*			0.954		
Hispanic	0.778	0.668	0.983	1.666**	1.547**	1.851**
Race (Reference is White)						
• Black	0.641**	0.382**	0.910	1.999**	1.636**	2.408**
• Asian	0.522**	0.510**	0.545**	1.525**	1.508**	1.559**
• Other	0.966	0.992	0.887	1.490**	1.530**	1.433*
Primary Care Practitioner (PCP)	1.381**	1.443**	1.274*	0.853**	0.934	0.767**
Practices in Hospital Setting	1.058	1.201*	0.813	1.644**	1.571**	1.751**
Practice in Rural County	1.175*	1.357**	0.792	1.241**	1.295**	1.146
Owns Practice	1.031	1.033	1.038	0.640**	0.683**	0.495**
Employs Physician Assistants	0.801**	0.801**	0.817*	1.055	1.050	1.077
Accepts Medicaid Patients	0.744**	0.682**	0.886	0.896	0.918	0.866
Accepts Medicare Patients	1.405**	1.098	1.861**	0.857*	0.807	0.889
Currently Delivers Babies	1.738**	1.997**	1.418*	1.184*	1.172	1.192
Hrs. Ratio: Administration / Patient Care	1.021	1.017	1.044	1.083**	1.100**	1.064
Hrs. Ratio: Research / Patient Care	0.777**	0.704**	0.864*	1.030*	1.010	1.059*
Log: Average Total Weekly Hours Worked	1.253**	1.271*	1.233	1.159*	1.237*	1.052
Observations	17,444	10,784	6,660	17,444	10,784	6,660

Note. Source: Authors' calculations, Pennsylvania Health Workforce Surveys (2012). Table shows odds ratios estimated by logistic regression. Odds ratios greater than one suggest that a characteristic has higher odds of reporting dissatisfaction or plans to leave than its reference category. Full results (standard errors, confidence intervals, etc.) are available upon request; * significant at 5%; ** significant at 1%

Across different specialist groups in Table 4, estimated odds ratios consistently point toward lower odds of dissatisfaction for female physicians, with the sole exception of psychiatry. However, estimates are statistically significant only for PCPs and pediatricians, both of which associate being female with lower odds of dissatisfaction. Female physicians practicing in single-specialty offices and inpatient hospitals also have lower odds of reporting dissatisfaction while females in "other" settings have higher odds. Additionally, female physicians have 41% lower odds of dissatisfaction than males in rural practices but similar odds in urban practices. Wald tests comparing the rural vs. urban odds ratios suggest significant statistical differences in female-to-male odds ratios across the two areas (p = .006; also shown by non-overlapping confidence intervals).

A number of practice specialty and setting subgroups also show female-male differences in the odds of reporting plans to leave patient care. For instance, among PCPs, female physicians have 17% lower odds of reporting plans to leave than male. Among surgeons however, females have 41% higher odds of having plans to leave than male surgeons, however this is not statistically significant at 5%. Wald test estimates suggest that the lower female-to-male odds ratio for PCPs is a statistically significant difference from all non-PCP specialties (p = .024). No statistically significant male-female differences are found in other specialties or across demographic groups.

Two findings related to practice setting should be highlighted. First, among physicians practicing in an outpatient hospital setting, females have 28% higher odds of planning to leave patient care. Second, females who own their practice have 32% lower odds of planning to leave patient care than male owners while non-owners have no gender difference.

To gain insight into the reasons for gender differences in career dissatisfaction, logistic regressions were run on the probability of giving various answers to questions related to the greatest source of career dissatisfaction and career satisfaction. Table 5 reports the female-to-male odds ratio estimates signifying gender differences in the reporting of each given source. Female physicians have 22% higher odds than males of reporting the lack of leisure time as the greatest source of dissatisfaction. They have lower odds than males of reporting decision-making autonomy and other financial reasons as the greatest source dissatisfaction. Regarding the greatest source of satisfaction, females have higher odds of

reporting patient relationships than males but lower odds of citing decision-making autonomy, salary, and intellectual challenge as the greatest source.

Table 4. Female-to-male odds ratios of reporting career dissatisfaction and plans to leave patient care

Subgroup of Physicians	Dissatisfied or Very Dissatisfied with Medical Career		Has Plans to Leave Patient Care in Next Six Years		*n*
	Female-to-Male [OR]	95% CI	Female-to-Male [OR]	95% CI	
All Physicians	0.884*	[0.785 - 0.994]	0.954	[0.873 - 1.041]	17,444
Demographic					
• Hispanic	1.069	[0.493 - 2.318]	0.930	[0.600 - 1.441]	555
• White	0.861*	[0.754 - 0.984]	0.964	[0.863 - 1.076]	12,594
• Black	2.237*	[1.064 - 4.703]	1.258	[0.833 - 1.899]	631
• Asian	0.889	[0.645 - 1.226]	0.911	[0.766 - 1.082]	3,587
• Other	0.722	[0.363 - 1.437]	0.838	[0.532 - 1.320]	603
Specialty					
• All PCPs	0.841	[0.697 - 1.015]	0.825*	[0.701 - 0.970]	5,503
• All Pediatric	0.575*	[0.352 - 0.939]	1.019	[0.746 - 1.392]	1,493
• Emergency	0.904	[0.580 - 1.407]	1.134	[0.811 - 1.586]	991
• OB/GYN	0.920	[0.581 - 1.456]	0.924	[0.608 - 1.404]	787
• Surgery	0.970	[0.551 - 1.708]	1.410	[1.000 - 1.988]	1,686
• Psychiatry	1.584	[0.891 - 2.816]	1.033	[0.692 - 1.542]	847
• Anesthesiology	0.686	[0.375 - 1.255]	0.906	[0.602 - 1.362]	957
• Radiology	0.745	[0.418 - 1.330]	0.878	[0.586 - 1.315]	855
• Cardiology	0.670	[0.220 - 2.036]	1.240	[0.656 - 2.344]	625
• Other Specialties	0.918	[0.704 - 1.196]	0.865	[0.729 - 1.026]	4,670
Practice Setting					
• Multi-Specialty Office	1.323	[0.831 - 2.108]	1.075	[0.728 - 1.586]	1,300
• Single-Specialty Office	0.840	[0.685 - 1.029]	0.871	[0.716 - 1.061]	5,308
• Solo Office	0.815	[0.534 - 1.243]	0.713	[0.443 - 1.146]	928
• Inpatient Hospital	0.744*	[0.584 - 0.948]	0.926	[0.804 - 1.067]	5,538
• Outpatient Hospital	0.921	[0.668 - 1.270]	1.277*	[1.028 - 1.586]	2,490
Urban	0.946	[0.832 - 1.077]	0.957	[0.870 - 1.054]	14,655
Rural	0.590**	[0.432 - 0.805]	0.904	[0.720 - 1.134]	2,789
Practice Ownership					
• Owns Practice	0.846	[0.662 - 1.083]	0.679**	[0.506 - 0.911]	4,025
• Does not Own Practice	0.892	[0.779 - 1.022]	0.975	[0.888 - 1.070]	13,419

Note. Source: Authors' calculations, Pennsylvania Health Workforce Surveys (2012). Table shows odds ratios estimated by logistic regression. Odds ratios greater than one suggest that a characteristic has higher odds of reporting dissatisfaction or plans to leave than its reference category. Full results (standard errors, confidence intervals, etc.) are available upon request; * significant at 5%; ** significant at 1%

4. DISCUSSION

Approximately 9% of physicians under 55 years old are dissatisfied with their overall careers, and 18% have plans to leave patient care in Pennsylvania in the next six years. Regression estimates find that female physicians have lower odds of reporting dissatisfaction than males but have no statistically significant difference in the plans to leave patient care. Utilizing a large physician dataset and focusing on younger physicians, this paper is one of the few studies to focus on female-male differences across physician subgroups, by demographic, specialty, and practice setting, finding significant differences in a number of areas.[19] For instance, being female is associated with lower dissatisfaction among white physicians but higher dissatisfaction among black physicians. Female physicians have lower odds of dissatisfaction than male physicians in rural settings, but this difference is not found in urban ones. Female PCPs have lower odds of planning to leave patient care while female surgeons have higher odds. While other studies have found little career satisfaction differences across gender, the current focus on younger physicians may account for the different findings here.

This study supports previous research that attempted to isolate various reasons for differences in female vs. male physician career satisfaction. A recent study of Dutch physicians

found that females were less satisfied than their male counterparts in terms of their own professional accomplishments, while younger female physicians were more satisfied with opportunities for career development.[20] Similar to the results shown in Table 5, the Dutch study also found male physicians to be more satisfied with income than females. A systematic review of the subject found that women physicians generally had similar levels of career satisfaction compared to men but were more concerned with a lack of time for relationships with family, similar to the results found here.[19] Another study found most women physicians to be generally satisfied with their careers, similar to results from Table 2. The strongest factor related to satisfaction among women physicians was work control and the youngest physicians were found to have less control.[21] As most female physicians are younger than males in the current study, it is not surprising that they are also less likely to cite decision-making autonomy as a source of satisfaction in Table 5.

Table 5. Female-to-male odds ratios of sources of career dissatisfaction and career satisfaction

Dependent Variable	Female-to-Male [OR]	[CI]
Greatest Source of Dissatisfaction		
• Availability of Leisure Time	1.216**	[1.131 - 1.309]
• Decision Making Autonomy	0.771**	[0.676 - 0.879]
• Salary/Income	0.973	[0.872 - 1.086]
• Other Financial Reasons [incl. Insurance]	0.820**	[0.743 - 0.905]
• Patient Relationships	0.900	[0.781 - 1.038]
• Practice Environment	1.042	[0.944 - 1.149]
• Other	0.995	[0.908 - 1.089]
Greatest Source of Satisfaction		
• Decision Making Autonomy	0.704**	[0.634 - 0.781]
• Salary/Income	0.624**	[0.524 - 0.743]
• Intellectual Challenge	0.899*	[0.828 - 0.976]
• Patient Relationships	1.376**	[1.282 - 1.477]
• Practice Environment	0.952	[0.842 - 1.077]

Source: Authors' calculations, Pennsylvania Health Workforce Surveys (2012). n = 17,444 for each regression. Table shows female-to-male odds ratios estimated by logistic regression. Odds ratios greater than one suggest that female physicians have higher odds of reporting dissatisfaction or plans to leave than males. Additional controls are not reported here but are available upon request; * significant at 5%; ** significant at 1%

The precise mechanism leading to female vs. male differences in dissatisfaction and plans to leave is hard to identify and may require additional pieces of information. First, the Health Workforce Surveys used here do not ask questions about income. Previous studies suggest that income plays a role in dissatisfaction and plans to leave, although this may not be the primary driver.[22,23] However, the results presented in Table 5 suggest little difference in dissatisfaction with income across gender. Second, the survey data do not capture information related to family, such as children and the presence of a second earner in the household. If having children is associated with career dissatisfaction or plans to leave, and if female physicians bear a disproportionate family burden compared to males, then the effects of family may be captured by the estimated female-to-male odds ratios and bias these estimates. Alternatively, disproportionate family burdens may lead more female physicians to stop actively practicing medicine, biasing our sample since we removed non-active physicians. However, male and female physicians were removed for not being active for family reasons at similar rates (approximately 2% of each group). Previous work suggests that family life is affected in similar ways across gender. For instance, a study of German gynecologists finds that at least 37% of both female and male physicians reported neglecting their children and families.[24] Third, the survey instrument does not include questions related to the Affordable Care Act (ACA), which has had major impacts on job satisfaction across the health workforce. However, controls for Medicaid and Medicare acceptance may be capturing some effects of changes to the payment models that were being implemented at the time of the survey. Additionally, sources of dissatisfaction, such as the lack of autonomy or financial concerns, may be related to implementation of the ACA, However, specific conclusions about the effects of the ACA on physician satisfaction is beyond the scope of this paper. Despite limitations with the data, results of this exploratory analysis suggest a number of important avenues for further study.

5. Conclusions

Female-male differences in satisfaction and plans to leave may affect health care provision in a number of areas. Further research should investigate the mechanisms underlying the different female responses among white versus black physicians and rural versus urban physicians. The finding that females have higher odds of dissatisfaction among black physicians is troubling given that poverty rates in Pennsylvania are higher for racial minorities, which potentially face greater barriers to healthcare.[25] Two results have implications for rural health policy. On the one hand, fewer female physicians locate rurally than male physicians (13% of female vs. 18% of male physicians); on the other hand, among the group of rural physicians, females have 41% lower odds of dissatisfaction. The lack of female physicians and their relatively higher career satisfaction suggests that policies to increase the number of female doctors in rural areas should focus on recruitment, while seeking to understand and maintain high satisfaction.

Among physicians who own their medical practice, females have 32% lower odds of leaving patient care than male own-

ers. However, a much lower proportion of female physicians own their practices compared to males (15% to 28%). More research should seek to disentangle whether the lower prevalence of female practice ownership is due to either (1) preferences to not own the practice or (2) constraints against owning the practice. While a recent nationally representative profile of physicians suggests that male doctors "favor" small practices,[26] our estimates suggest that ownership has no relation to satisfaction; instead, owners have lower odds of leaving patient care earlier in their careers (compared to non-owners). The low prevalence of female ownership may be indicative of constraints to ownership rather than the preference not to own. Given that female practice owners have lower odds of leaving the practice, ownership incentives for female physicians may be a retention policy worth exploring further.

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CONFLICTS OF INTEREST DISCLOSURE

I have no associations that pose or appear to pose a conflict of interest in connection with this research.

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