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A Comprehensive National Survey on Thoughts of Leaving Residency, Alternative Career Paths, and Reasons for Staying in General Surgery Training

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Abstract

Background: General surgery residencies continue to experience high levels of attrition.

Methods: Survey of general surgery residents administered with the 2018 American Board of Surgery In-Training Examination. Outcomes were consideration of leaving residency, potential alternative career paths, and reasons for staying in residency.

Results: Among 7,409 residents, 930 (12.6%) reported considering leaving residency over the last year. Residents were more likely to consider other general surgery programs (46.2%) if PGY 2/3 (OR: 1.93, 95%CI 1.34-2.77) or reporting frequent duty hour violations (OR: 1.58, 95%CI 1.12-2.24). Consideration of other specialties (47.0%) was more likely if dissatisfied with being a surgeon (OR 2.86, 95%CI 1.92-4.26).

Residents were more likely to consider leaving medicine (49.7%) if female (OR: 1.54, 95%CI 1.16-2.06) or dissatisfied with a surgical career (OR: 2.81, 95%CI 1.85-4.27). Common reasons for remaining in residency included a sense of too much invested to leave (65.3%) and career satisfaction (55.5%).

Conclusion: Profiles of trainees considering leaving residency exist based on factors associated with alternative careers. This may be a target for future interventions to reduce attrition.

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INTRODUCTION

The rate of attrition in general surgery residency remains high despite duty hour regulations, with nearly 1 in 4 categorical general surgery residents leaving their program before completion.¹⁻⁷ While some attrition is expected in all fields, rates of attrition in general surgery training remain higher than those seen in other specialties.⁸⁻¹³ This poses a problem for both the individuals who leave and the programs that have trained them, as significant time and resources have already been invested. Departing residents must find new positions while their former programs must find replacements or increase the workload on remaining trainees. More broadly, attrition affects the public due to the shortage of surgeons in the U.S.¹⁴

Significant literature exists identifying the reasons underlying surgical resident attrition. Research to date has largely focused on predictors of surgical attrition by evaluating individuals who have left and programs with high rates of attrition.¹⁵⁻¹⁹ Many individual resident factors (e.g., resident sex and relationship status) and program characteristics (e.g., program type, location) were identified as risk factors for attrition.¹⁵ However, there is a relative paucity of data on residents who may be contemplating attrition, but who have not yet left. Although nearly 60% of residents may have considered attrition in previous surveys,²⁰ this work has been limited in scope and response rate. To our knowledge, no comprehensive analysis has been performed to date.

More detailed data on thoughts of leaving residency in active residents could help to better understand attrition in surgical training and guide targeted interventions. As such, the objectives of this study were to (1) characterize the frequency of thoughts of leaving residency and alternative career paths being considered by clinically active general surgery residents, (2) assess resident- and program-level factors associated with considering different career paths, and (3) assess reasons that those with thoughts of leaving residency had not left training.

METHODS

Study Design and Participants

A voluntary, multiple-choice survey was administered immediately following the January 2018 American Board of Surgery In-Training Examination (ABSITE). The ABSITE is an annual computer-based examination administered to U.S. general surgery residents to evaluate knowledge and management of clinical problems. The study population was limited to clinically active residents. Residents at programs with fewer than one resident per class were excluded from the analysis. All responses were de-identified prior to analysis. The Northwestern University Institutional Review Board office determined that this study constitutes non-human subjects research.

Survey Development

Survey items were adapted from previously published validated surveys.^{21,22} Pretest cognitive interviews were conducted with general surgery residents, collecting feedback on survey coherence and clarity. The survey was then iteratively revised and re-tested.^{22,23}

Evaluation of Thoughts of Leaving Residency

Residents were asked if they agreed with the following statement, “I have considered leaving my program in the last year,” on a 5-point Likert scale (strongly agree to strongly disagree). Responses of agree or strongly agree were considered to have had thoughts of leaving residency. Residents answering agree or strongly agree were then asked what alternative career plans they had considered: another general surgery residency, another medical or surgical specialty, or a non-medical profession. Finally, residents endorsing thoughts of leaving residency were asked to identify reasons that they had remained in their current residency training program: financial concerns, pressure from friends/family, pressure from training program, unsure of alternate career path, feeling trapped, feeling of too much invested to leave, satisfaction with surgery as a career, and enjoying taking care of patients. More than one response was allowed for both the questions on alternative career paths and reasons for remaining in surgical training.

Covariates

Additional resident and program characteristics collected at the time of the survey included gender, clinical post graduate year (PGY; categorized as 1, 2/3, or 4/5), marital status (categorized as married/relationship, no relationship, or divorced/widowed), program size (total number of surgical residents, categorized into quartiles: 6-25, 26-37, 38-51, 58-81 residents), program type (academic, community, or military), and program location (Northeast, Southeast, Midwest, Southwest, West).

In addition, residents reported the number of months in which they had violated the 80 hour per week duty hour restriction (i.e., averaging >80 hours/week over a four-week period) over the last 6 months (dichotomized as 0-2 vs. 3+ months). Residents also assessed their satisfaction with time for rest, satisfaction with resident education, satisfaction with being a surgeon, and satisfaction with time for family on a five-point Likert scale (grouped for analysis into Very Dissatisfied or Dissatisfied vs Neutral vs Satisfied or Very Satisfied).

Statistical Analysis

Bivariate associations between resident- and program-level characteristics and thoughts of leaving residency were examined using Chi-square tests. Multivariable logistic regression models with robust standard errors were constructed to examine associations between resident- and program-level characteristics and alternative career paths considered. All analyses were adjusted for residents clustering within programs. Missing data were rare (<1%) and excluded from analyses as noted in the tables. Level of significance was set to 0.05. Data analyses were performed at Northwestern University using STATA 14.1 (StataCorp LP, College Station TX).

RESULTS

A total of 7,464 clinically active residents took the 2018 ABSITE and were eligible for analysis. Residents at one new program (n=2) were excluded from the analysis, and fifty-three residents were excluded for missing data. The final study cohort included 7,409 residents, yielding a response rate of 99.3% (7,409/7,462).

Among these residents, 59.9% were male and 73.8% were either married or in a relationship. More than one in eight residents (13.8%) reported violating the 80-hour rule in three or more of the last six months. Dissatisfaction with resident education was reported by 12.8%, dissatisfaction with being a surgeon was reported by 6.9%, dissatisfaction with time for rest was reported by 22.7%, and dissatisfaction with time for family was reported by 33.5%. Additional cohort characteristics may be found in Table 1.

Subtypes of Thoughts of leaving residency

Thoughts of leaving residency within the last year were reported by 930 (12.6%) clinically active residents. Among those residents endorsing general thoughts of leaving residency, 46.2% had considered leaving for another general surgery residency, 47.0% had considered other medical/surgical specialties, and 49.7% had considered non-medical professions (Table 2).

On bivariate analysis, factors associated with consideration of other general surgery residency programs included PGY training level ($P=0.008$), relationship status ($P=0.015$), program size ($P<0.001$), program type ($P=0.001$), frequency of duty hour violations ($P=0.018$), satisfaction with resident education ($P<0.001$), and satisfaction with being a surgeon ($P<0.001$). Factors associated with considering other medical/surgical specialties included PGY training year ($P<0.001$), satisfaction with time for rest ($P=0.006$), satisfaction with being a surgeon ($P=0.001$), and satisfaction with time for family ($P=0.011$). Factors associated with considering non-medical careers included gender ($P=0.015$), program size ($P<0.001$), program type ($P=0.020$), satisfaction with being a surgeon ($P<0.001$), and satisfaction with time for family ($P=0.003$). Additional details are shown in Table 2.

Multivariable Analysis

In adjusted analyses, residents endorsing thoughts of leaving residency were more likely to consider other general surgery programs if PGY 2-3 (52.5% vs 38.7% if PGY-1; aOR: 1.93, 95%CI 1.34-1.77, $P<0.001$), not in a relationship (55.3% vs 42.6% if married/relationship; aOR: 1.72, 95%CI 1.24-2.38, $P=0.001$), in a small program (60.5% if <26 residents vs 37.1% if >51 residents; aOR 2.87, 95%CI 1.64-5.03; $P<0.001$), training in the northeast (51.2% vs 37.6% in southeast; aOR 1.72, 95%CI 1.10-2.70; $P=0.017$), reporting frequent duty hour violations (53.0% vs 43.1% if less frequent; aOR 1.58, 95%CI 1.12-2.24; $P=0.009$), or dissatisfied with resident education (55.6% vs 38.5% if satisfied; aOR 3.14, 95%CI 2.14-4.60; $P<0.001$). Residents considering attrition were less likely to consider other general surgery training programs if dissatisfied with being a surgeon (33.0% vs 60.0% if satisfied; aOR 0.44, 95%CI 0.29-0.55; $P<0.001$; Table 3).

Residents were more likely to consider other medical or surgical specialties if dissatisfied with being a surgeon (60.1% vs 35.0% if satisfied, aOR 2.86, 95%CI 1.92-4.26; $P<0.001$). Decreasing consideration of other medical or surgical specialties was observed with increasing time spent in training, from 59.8% in PGY1 residents to 47.3% in PGY 2-3 (aOR 0.60 vs PGY1, 95%CI 0.43-0.84; $P=0.003$) to 31.6% if PGY4-5 (aOR 0.28 vs PGY1, 95%CI 0.18-0.41; $P<0.001$, Table 3)

Residents contemplating attrition were more likely to consider non-medical careers if female (54.6% vs 44.9% in males; aOR 1.54, 95%CI 1.16-2.06; P=0.003), PGY 4-5 (56.4% vs 45.2% if PGY1; aOR 1.51, 95%CI 1.01-2.27; P=0.045) or dissatisfied with being a surgeon (62.9% vs 36.4% if satisfied; aOR 2.81, 95%CI 1.85-4.27; P<0.001). Residents were less likely to consider non-medical professions if training in smaller programs (35.9% in programs with <25 residents vs 61.6% in programs with >51 residents; aOR 0.31, 95%CI 0.17-0.55; P<0.001).

Reasons for Continuing General Surgery Training

The most common reasons cited for not acting on thoughts of leaving residency included a feeling of too much invested to leave (65.3%), satisfaction with surgical career (55.5%), and enjoying patient care (51.7%). A substantial minority endorsed pressure from family/friends (19.5%) or the training program (11.2%). Female residents were more likely to report being unsure with alternative career paths (52.9% vs 45.3% in males; P=0.037), enjoying taking care of patients (55.6% vs 47.8%, P=0.019), and a feeling of too much invested to leave (69.4% vs 60.7%; P=0.007).

DISCUSSION

In a national survey of clinically active general surgery residents, 12.6% endorsed thoughts of leaving residency within the last year. Among those residents considering attrition, 46.2% considered other general surgery programs, 47.0% considered other medical/surgical specialties, and 49.7% considered non-medical professions. Multivariable analysis demonstrated distinct resident, program, and educational factors associated with consideration of each of these three alternative career paths. The most common reasons cited for continuing training included having invested too much to leave (65.3%) and satisfaction with surgery as a career (55.5%). Female residents were more likely to endorse concern about alternative career paths, a sense of too much invested to leave, and continued enjoyment of patient care. To our knowledge, this study represents the most comprehensive analysis of thoughts of leaving residency in active general surgery residents performed to date.

This work contributes significantly to our understanding of attrition in general surgery training. This survey demonstrates a 12.6% rate of thoughts of leaving residency among general surgery residents, a number significantly lower than previous studies. For example, Gifford et al found that 58% of residents had considered leaving residency at some point in their training.²⁰ There are a few reasons for this discrepancy. Gifford et al inquired about considering attrition at any point in training, while the survey question in this study asked residents only if they had considered attrition during that academic year. Additionally, this study incorporated nearly all general surgery training programs and had an extremely high response rate (99.3%). Non-response bias in previous studies may have led to an over-estimation of thoughts of leaving residency. Similarly, the rate of thoughts of leaving residency in this study is lower than previously published rates of actual attrition. This may reflect some level of underreporting of thoughts of leaving residency on the survey, but is

also likely driven by the relatively short timeframe of our survey question and the fact that the survey does not capture residents who had already left training.

In addition to providing basic descriptive data on how often residents consider attrition, these results imply distinct profiles of residents that are considering attrition. For example, residents at small programs in the middle training years and without an active relationship may be particularly at risk for leaving for a different general surgery training program. Commensurate with their continued interest in general surgery, residents considering other general surgery programs were also more likely to endorse continued satisfaction with being a surgeon. However, higher rates of duty hour violations and dissatisfaction with resident education in residents considering other programs may imply that local educational and workload factors drive residents that are otherwise enjoying general surgery towards different training environments. This contrasts with residents considering other specialties, who were more likely to be in the early training years and dissatisfied with being a surgeon and associated lifestyle factors (e.g., time for rest). This profile may describe the subset of residents that matched into general surgery and immediately identified shortcomings in personal fit within the specialty. Finally, more senior, female residents that were dissatisfied with being a surgeon were most likely to consider leaving medicine entirely. This may reflect differential social and family stressors that may be experienced by female residents as they progress into later training years. These general profiles provide valuable insight into the pressures faced by surgical trainees and the thought processes that go on when considering attrition.

While individual data in this study may help to identify types of residents at risk for attrition, program-level data may help in developing targeted interventions to reduce attrition. With individualized feedback, training programs may be able to identify internal patterns of residents considering leaving training (e.g., many leave for other general surgery training programs) and empirically address factors outlined herein that have are associated with that type of attrition (e.g., educational conferences and duty hour violations). While many of these interventions have been previously suggested by retrospective attrition data, focusing on those who have considered leaving training but have not yet done so may be a more proactive method of reducing subsequent attrition.

Finally, the results regarding reasons for staying in residency are unique and provide insight into additional mechanisms that may help residents who are struggling in training. The most common reason for staying in surgical training was recognition of the time spent in training to date. This is a troubling finding, especially in the context of reports of burnout and suicidality among surgical trainees.^{24,25} It is possible that residents who continue training for reasons other than personal and professional gratification may be at higher risk of these outcomes; further research is needed to assess this association. This group may also directly reflect those individuals who matched into general surgery with an inadequate understanding of the career demands. However, it is reassuring that the second and third most common reasons cited for remaining in training were career satisfaction and continued enjoyment of patient care. Many residents considering attrition continue their training because they continue to find their work fulfilling. These results may also explain the higher than expected rate of residents considering leaving for other programs; these residents are

generally satisfied with surgery overall, while dissatisfaction with the local program may be transient and correctable.

This study has important limitations. First, as a cross-sectional study, it can identify data associations but cannot draw causal inferences. Second, the timing of the survey (immediately following the ABSITE examination) is stressful and may affect survey responses. However, the directionality of any effects of survey timing is unclear (e.g., a resident may be acutely elated or aggravated upon finishing the exam). Moreover, the results discussed above (e.g., residents considering attrition that continued to be satisfied with a surgical career were most likely to consider other general surgery training programs) demonstrate some evidence of internal structure validity, implying that the survey was robust to these exam-related stresses. The timing of the survey could also be considered a strength, as all respondents take the survey in the exact same context. Finally, these results have not been linked to actual attrition data. Future studies comparing thoughts of leaving residency as an active resident with subsequent actual attrition would further validate this work.

CONCLUSION

More than one in ten active general surgery residents have recently considered attrition, with nearly half considering leaving medicine altogether. Dissatisfaction with some aspect of training was common among all considering attrition, but different factors are associated with consideration of different career routes. Many residents cited continued enjoyment of surgery and patient care as reasons for continuing training. Future work should assess how efforts targeted at these areas may alter the attrition rate in general surgery training.

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Research Highlights:

- More than one in ten general surgery residents have considered leaving training in the last year
- Different resident profiles are associated with different potential alternative career paths
- Residents often stay in training due to continued satisfaction with surgery

Table 1:

General surgery resident characteristics

	n (%)
Overall	7409
<i>General Characteristics</i>	
Gender	
Male	4441 (59.9)
Female	2936 (39.6)
Clinical post graduate year	
1	2109 (28.4)
2/3	2895 (39.1)
4/5	2409 (32.5)
Relationship Status	
Married/Relationship	5470 (73.8)
No Relationship	1812 (24.4)
Divorced/Widowed	131 (1.8)
Program size *	
Quartile 1 (6-25)	2044 (27.6)
Quartile 2 (26-37)	1722 (23.2)
Quartile 3 (38-51)	1920 (25.9)
Quartile 4 (52-81)	1727 (23.3)
Program type	
Academic	4442 (59.9)
Community	2730 (36.8)
Military	218 (2.9)
Program location	
Northeast	2424 (32.7)
Southeast	1507 (20.3)
Midwest	1569 (21.2)
Southwest	876 (11.8)
West	1037 (14.0)
<i>Lifestyle Characteristics</i>	
80hr rule violations **	
0-2	6388 (86.2)
3+	1022 (13.8)
Satisfaction with time for rest	
Satisfied	3533 (47.7)
Neutral	2196 (30.0)
Dissatisfied	1680 (22.7)
Satisfaction with resident education	
Satisfied	4824 (65.1)
Neutral	1637 (22.1)

	n (%)
Dissatisfied	948 (12.8)
Satisfaction with being a surgeon	
Satisfied	5622 (75.9)
Neutral	1279 (17.3)
Dissatisfied	508 (6.9)
Satisfaction with time for family	
Satisfied	3012 (40.7)
Neutral	1919 (25.9)
Dissatisfied	2478 (33.5)

*
Total number of residents

**
Within last six months

Table 2.

Bivariate Analysis of Factors Associated with Different Possible Career Paths (N=930)

	Another General Surgery Residency		Another Medical or Surgical Residency		Non-Medical Profession	
	n (%)	P value	n (%)	P value	n (%)	P value
Overall	430 (46.2)		437 (47.0)		462 (49.7)	
General Characteristics						
Gender		0.686		0.077		0.015
Male	204 (45.3)		227 (50.4)		202 (44.9)	
Female	221 (46.9)		206 (43.7)		257 (54.6)	
Clinical post graduate year		0.008		<0.001		0.112
1	101 (38.7)		156 (59.8)		118 (45.2)	
2/3	233 (52.5)		210 (47.3)		217 (48.9)	
4/5	96 (42.7)		71 (31.6)		127 (56.4)	
Relationship Status		0.015		0.709		0.788
Married/Relationship	278 (42.6)		313 (47.9)		330 (50.5)	
No Relationship	141 (55.3)		115 (45.1)		121 (47.5)	
Divorced/Widowed	11 (50.0)		9 (40.9)		11 (50.0)	
Program size*		<0.001		0.310		<0.001
Quartile 1 (6-25)	150 (60.5)		108 (43.6)		89 (35.9)	
Quartile 2 (26-37)	98 (44.3)		117 (52.9)		110 (49.8)	
Quartile 3 (38-51)	99 (41.8)		112 (47.3)		125 (52.7)	
Quartile 4 (52-81)	83 (37.1)		100 (44.6)		138 (61.6)	
Program type		0.001		0.310		0.020
Academic	235 (41.7)		269 (47.8)		304 (54.0)	
Community	18 (55.2)		147 (44.8)		139 (42.4)	
Military	10 (28.6)		21 (60.0)		19 (54.3)	
Program location		0.131		0.220		0.899
Northeast	156 (51.2)		128 (42.0)		145 (47.5)	
Southeast	64 (37.6)		80 (47.1)		90 (52.9)	
Midwest	89 (47.9)		90 (48.4)		90 (48.4)	
Southwest	54 (50.0)		50 (46.3)		55 (50.9)	
West	67 (41.6)		89 (55.3)		82 (50.9)	
Lifestyle Characteristics						
80hr rule violations**		0.018		0.911		0.419
0-2	273 (43.1)		297 (46.9)		308 (48.6)	
3+	157 (53.0)		140 (47.3)		154 (52.0)	
Satisfaction with time for rest		0.272		0.006		0.051
Satisfied	85 (46.7)		68 (37.4)		82 (45.1)	
Neutral	140 (50.7)		121 (43.8)		123 (44.6)	
Dissatisfied	205 (43.4)		248 (52.5)		257 (54.5)	
Satisfaction with resident education		<0.001		0.195		0.097

	Another General Surgery Residency		Another Medical or Surgical Residency		Non-Medical Profession	
	n (%)	P value	n (%)	P value	n (%)	P value
Satisfied	122 (38.5)		142 (44.8)		159 (50.2)	
Neutral	118 (43.5)		119 (43.9)		150 (55.4)	
Dissatisfied	190 (55.6)		176 (51.5)		153 (44.7)	
Satisfaction with being a surgeon		<0.001		<0.001		<0.001
Satisfied	216 (60.0)		126 (35.0)		132 (36.7)	
Neutral	118 (42.3)		136 (48.8)		147 (52.7)	
Dissatisfied	96 (33.0)		175 (60.1)		183 (62.9)	
Satisfaction with time for family		0.086		0.011		0.003
Satisfied	69 (57.0)		41 (33.9)		44 (36.4)	
Neutral	87 (47.0)		81 (43.8)		80 (43.2)	
Dissatisfied	274 (43.9)		315 (50.5)		338 (54.2)	

Table 3.

Multivariable Analysis of Factors Associated with Different Possible Career Paths (N=930)

	Another General Surgery Residency		Another Medical or Surgical Residency		Non-Medical Profession	
	Overall Rate = 46.2%		Overall Rate = 47.0%		Overall Rate = 49.7%	
	OR (95% CI)	P value	OR (95% CI)	P value	OR (95% CI)	P value
General Characteristics						
Gender						
Male	1.0	REF	1.0	REF	1.0	REF
Female	0.96 (0.73-1.25)	0.737	0.77 (0.57-1.04)	0.085	1.54 (1.16-2.06)	0.003
Clinical post graduate year						
1	1.0	REF	1.0	REF	1.0	REF
2/3	1.93 (1.34-2.77)	<0.001	0.60 (0.43-0.84)	0.003	1.16 (0.81-1.68)	0.415
4/5	1.42 (0.93-2.18)	0.107	0.28 (0.18-0.41)	<0.001	1.51 (1.01-2.27)	0.045
Relationship Status						
Married/Relationship	1.0	REF	1.0	REF	1.0	REF
No Relationship	1.72 (1.24-2.38)	0.001	0.86 (0.64-1.17)	0.347	0.91 (0.66-1.25)	0.567
Divorced/Widowed	1.22 (0.41-3.60)	0.725	0.74 (0.32-1.71)	0.487	1.13 (0.49-2.64)	0.773
Program size*						
Quartile 1 (6-25)	2.87 (1.64-5.03)	<0.001	1.17 (0.70-1.98)	0.547	0.31 (0.17-0.55)	<0.001
Quartile 2 (26-37)	1.67 (0.95-2.95)	0.076	1.51 (0.94-2.45)	0.092	0.53 (0.31-0.89)	0.016
Quartile 3 (38-51)	1.38 (0.88-2.15)	0.158	1.15 (0.77-1.74)	0.493	0.63 (0.42-0.95)	0.028
Quartile 4 (52-81)	1.0	REF	1.0	REF	1.0	REF
Program type						
Academic	1.0	REF	1.0	REF	1.0	REF
Community	0.93 (0.57-1.50)	0.762	0.77 (0.52-1.15)	0.199	1.26 (0.80-2.00)	0.324
Military	0.52 (0.25-1.08)	0.080	1.44 (0.64-3.25)	0.374	1.61 (0.85-3.06)	0.148
Program location						
Northeast	1.72 (1.10-2.70)	0.017	0.87 (0.57-1.30)	0.491	0.76 (0.50-1.17)	0.219
Southeast	1.0	REF	1.0	REF	1.0	REF
Midwest	1.42 (0.87-2.32)	0.155	1.23 (0.78-1.92)	0.374	0.87 (0.55-1.40)	0.571
Southwest	1.66 (0.96-2.87)	0.067	0.96 (0.59-1.55)	0.854	0.93 (0.54-1.60)	0.793
West	1.01 (0.65-1.57)	0.971	1.60 (0.97-2.62)	0.066	0.97 (0.63-1.51)	0.897
Lifestyle Characteristics						
80hr rule violations**						
0-2	1.0	REF	1.0	REF	1.0	REF
3+	1.58 (1.12-2.24)	0.009	0.85 (0.6-1.21)	0.376	1.09 (0.79-1.49)	0.595
Satisfaction with time for rest						
Satisfied	1.0	REF	1.0	REF	1.0	REF
Neutral	1.42 (0.87-2.31)	0.157	1.04 (0.64-1.7)	0.867	0.69 (0.41-1.18)	0.179
Dissatisfied	0.92 (0.54-1.56)	0.753	1.33 (0.81-2.2)	0.259	0.94 (0.54-1.63)	0.827
Satisfaction with resident education						
Satisfied	1.0	REF	1.0	REF	1.0	REF

	Another General Surgery Residency		Another Medical or Surgical Residency		Non-Medical Profession	
	Overall Rate = 46.2%		Overall Rate = 47.0%		Overall Rate = 49.7%	
	OR (95% CI)	P value	OR (95% CI)	P value	OR (95% CI)	P value
Neutral	1.72 (1.17-2.53)	0.006	0.78 (0.53-1.13)	0.191	1.00 (0.68-1.47)	0.988
Dissatisfied	3.14 (2.14-4.60)	<0.001	1.03 (0.72-1.47)	0.871	0.51 (0.34-0.76)	0.001
Satisfaction with being a surgeon						
Satisfied	1.0	REF	1.0	REF	1.0	REF
Neutral	0.23 (0.15-0.36)	<0.001	1.97 (1.35-2.87)	<0.001	1.75 (1.18-2.58)	0.005
Dissatisfied	0.44 (0.29-0.65)	<0.001	2.86 (1.92-4.26)	<0.001	2.81 (1.85-4.27)	<0.001
Satisfaction with time for family						
Satisfied	1.0	REF	1.0	REF	1.0	REF
Neutral	0.79 (0.42-1.48)	0.467	0.96 (0.56-1.65)	0.888	1.10 (0.58-2.10)	0.775
Dissatisfied	0.74 (0.38-1.44)	0.375	0.93 (0.57-1.52)	0.774	1.58 (0.86-2.91)	0.140

Table 4:

Reasons for continued pursuit of surgical training (n=930)

	n (%)	By Gender*		P value
		Male, n (%)	Female, n (%)	
<i>Reasons for Staying in Surgery Residency</i>				
Financial Concerns	421 (45.3)	212 (47.1)	207 (44.0)	0.356
Pressure from family/friends	181 (19.5)	88 (19.6)	92 (19.5)	0.994
Pressure from training program	104 (11.2)	57 (12.7)	46 (9.8)	0.206
Unsure of alternative career path	455 (48.9)	204 (45.3)	249 (52.9)	0.037
Satisfaction with surgical career	516 (55.5)	247 (54.9)	262 (55.6)	0.824
Enjoy taking care of patients	481 (51.7)	215 (47.8)	262 (55.6)	0.019
Feel trapped	353 (38.0)	164 (36.4)	186 (39.5)	0.362
Too much invested to leave now	607 (65.3)	273 (60.7)	327 (69.4)	0.007

* Nine individuals (1.0%) with missing gender answer omitted from gender comparisons (N=921)