

## A Longitudinal Study of Determinants of Career Satisfaction in Medical Students

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**Abstract: Context:** There is evidence of significant career dissatisfaction among practicing physicians and those considering medicine as a profession. Most research on career satisfaction has examined practicing physicians. This study was undertaken to look at determinants of satisfaction in those at the earliest stage of their medical careers – medical students.

**Methods:** As part of a larger study, students comprising one class at the University of Washington School of Medicine were surveyed three times over the course of their medical education. For the present study we examined measures specifically related to determinants of career satisfaction.

**Findings:** Over time, students' sense of the importance of most measured determinants of satisfaction showed significant change, the majority of which were in the direction of decreased importance. However, most of the change was relative. That is, factors that students considered to be most important at the start of medical school continued to be most important throughout the educational experience and those factors students considered to be least important at Year 1 continued to be least important at Years 2 and 4.

**Discussion:** These findings have implications for medical education, a time when students are forming expectations that will impact their career satisfaction. In addition to information on career satisfaction, students should understand the professional values of medicine, their own values and expectations, current practice patterns, economics, and the role of advocacy.

**Key Words:** job satisfaction, career choice, medical education

In the early 1990s, Schroeder<sup>1</sup> described medicine as a 'troubled profession,' citing a seeming paradox. The past quarter century had seen a virtual explosion of scientific and technological advances leading to improvements in patient care and outcomes. Additionally, an increasing number of women and underrepresented minorities had entered the profession, leading to a more accurate representation of the demographic distribution in the country. Yet at the same time, health care costs had skyrocketed and there was evidence of significant career dissatisfaction among practicing physicians and those considering medicine as a profession.

The recent decade has not resolved the paradox. In fact, there is evidence that suggests that, at least in some states, physicians may be becoming less satisfied over time.<sup>2</sup> The number of students applying to medical school may just now be starting to reverse a six-year decline, during which applications dropped by nearly 30%.<sup>3</sup> While there are undoubtedly multiple factors associated with this trend, there has been

speculation that increasing media coverage of physician career dissatisfaction has been a likely influence.<sup>4</sup>

Physician career satisfaction is a concern for a number of reasons in addition to its impact on those considering medicine as a profession. Physician satisfaction is associated with patient satisfaction,<sup>5</sup> and it has been linked to good patient outcomes.<sup>6</sup> Conversely, physician dissatisfaction is a significant factor in turnover that is both disruptive and expensive for the health care system.<sup>7,8</sup>

Interest in understanding what contributes to physician satisfaction or dissatisfaction has increased over the past few years. A recent MEDLINE search showed that half of all articles on the topic have been published in the past five years. In the mid 1990s, the Robert Wood Johnson Foundation (RWJ) funded a project designed to study physician career satisfaction, particularly as it related to primary care physicians.<sup>9</sup> The Society of General Internal Medicine

(SGIM) Career Satisfaction Study Group, the recipients of the RWJ grant, took on three tasks: (a) defining a physician career satisfaction model, (b) creating a survey instrument, and (c) conducting a national survey to collect information that could be used to influence health care policy related to primary care. At least two large-scale studies have used information from this project to explore physician career satisfaction from a number of points of view. The Community Tracking Study was a cross-sectional study of 12,000+ physicians that utilized the project's conceptual model of physician satisfaction.<sup>10</sup> Findings from this study have shown that physician satisfaction and dissatisfaction vary across region, specialty, age, and income,<sup>11</sup> and that being in a small or solo practice is associated with dissatisfaction.<sup>12, 13</sup> Further, Stoddard and his colleagues<sup>14</sup> found that the most important determinants of satisfaction with a career in medicine were autonomy and professional values such as altruism, the maintenance of high ethical standards, a commitment to the needs of society, and humanistic values such as empathy, integrity, and trustworthiness. Landon and his colleagues<sup>15</sup> studied changes in physician satisfaction between 1997 and 2001. They found great regional variation in the percentage of dissatisfied physicians. They also found that changes in satisfaction were most strongly associated with threats to autonomy, physicians' ability to manage time and patient interactions, and their perception of their ability to provide quality care.

A second large-scale study conducted by members of the SGIM Career Satisfaction Study Group was actually a group of studies using the survey instrument that resulted from the RWJ project, the Physician Worklife Survey.<sup>16, 17</sup> Studies using this instrument have examined physician career satisfaction in general internists,<sup>18</sup> pediatric generalists and subspecialists,<sup>19</sup> and women.<sup>20</sup>

This group of studies points out an important facet of the literature on physician satisfaction: that studies may be grouped by perspective. Many studies have approached satisfaction from the most obvious perspective, specialty choice. For example, as previously mentioned, Shugerman<sup>19</sup> studied pediatrics and Sturm<sup>13</sup> studied surgeons, while Leigh<sup>11</sup> examined satisfaction across specialties. Eliason and Schubot<sup>21</sup> surveyed family physicians who had been nominated for the American Academy of Family Physicians Family Doctor of the Year award over a five-year period. Their finding that satisfaction was associated with a set of values denoted as benevolence was among the first to show a relationship between practice satisfaction and values.

Other studies have used a variety of cross-sectional approaches to the study of physician career satisfaction. For example, a number of studies have examined differences in contributors to career satisfaction between male and female physicians.<sup>20, 22</sup> Other researchers, such as Frank and her colleagues,<sup>23</sup> have taken a slightly different approach and have looked at a variety of characteristics associated with career satisfaction in women. Yet another cross-sectional approach is to study career satisfaction by looking at particular roles physicians may take on. For example, Gerrity and her colleagues<sup>24</sup> synthesized the literature on career satisfaction and medical teaching, while Coyle and his colleagues<sup>25</sup> studied predictors of academic generalists' work satisfaction.

Another approach to the study of physician satisfaction is to view the subject relative to particular environmental influences, such as managed care. A number of studies<sup>8, 12, 14, 26, 27</sup> have taken this approach and have reported that managed care has had significant impacts on practicing physicians' job satisfaction.

Interest in physician career satisfaction has not been limited to the United States. The British Medical Association cohort study of 1995 medical graduates<sup>28</sup> noted that 21% of those surveyed had changed specialty area within the most recent year. The study also noted that while 44% of respondents had initially described their desire to practice medicine as very strong (at the time of graduation), only 13% used that descriptor at the time of the most recent survey. Studies in Australia<sup>29</sup> and the Netherlands<sup>30</sup> are among other examples of international concern about physician satisfaction.

Most studies of career satisfaction have surveyed participants at a single point in time. While this technique provides a wealth of useful information, it does not provide the opportunity to see how either satisfaction or its determinants evolve over time. A few longitudinal studies, showing conflicting results, have been reported. Nadler and his colleagues<sup>27</sup> surveyed 500+ physicians affiliated with an urban teaching hospital twice over two years. They found no change in overall satisfaction among physicians who participated at both survey points. Landon and his colleagues<sup>2</sup> conducted a cross-sectional survey of Massachusetts physicians affiliated with large health plans in 1996 and 1999. They found increasing dissatisfaction with practice and with managed care. As previously mentioned, Landon and his colleagues<sup>15</sup> assessed overall career satisfaction using national

data collected at three points during the Community Tracking Study Physician Survey. They found little overall change in physician satisfaction over the four years of the study.

While the vast majority of studies of physician career satisfaction have examined practicing physicians, a very few have focused on those in earlier stages of career development. Girard and his colleagues<sup>31</sup> examined residents' emotions and attitudes throughout the three years of internal medicine training. They surveyed two classes of residents at 2-3 month intervals to assess the level of satisfaction with their career decision and to look at aspects of training that were satisfying or dissatisfying. Girard and his colleagues noted that residents' levels of satisfaction varied over the course of training, first decreasing during internship, then gradually improving to the original level over the next two years. In a study fo-

cused on satisfaction with career and parenting, Cujec and her colleagues<sup>32</sup> surveyed a group of medical students, residents, and faculty at the University of Saskatchewan. They found that medical trainees and teachers who had children were more satisfied with their careers than were similar groups who did not have children.

Most research involving medical students and career satisfaction has focused on specialty choice. In their review of the literature on specialty choice using decision theory as a referent, Reed and her colleagues<sup>33</sup> identified two ways that researchers have explored relationships between determinants of satisfaction and career choice: (a) rating components of medical practice and (b) indicating interest in specialties. Rating components of medical practice involves asking students to rate the importance of various practice components and, at the same time, asking

**Table 1**

**Scores over the Course of Medical Education on Determinants of Satisfaction as a Physician<sup>\*\*†</sup>**

Item	Year 1	Year 2	Year 4	F <sub>(df)</sub>	P
Balanced professional and family life	4.55±0.74	4.71±0.60	4.59±0.74	2.10 <sub>(2, 184)</sub>	0.125
Financial security	3.38±0.82	3.77±0.81	3.61±0.83	11.77 <sub>(2, 184)</sub>	< 0.005 <sup>‡</sup>
Long-term relationship with patients	3.5±0.94	3.58±0.84	3.43±0.98	1.25 <sub>(2, 184)</sub>	0.29
Curing patients	3.41±0.77	3.44±0.74	3.10±0.86	9.01 <sub>(2, 184)</sub>	< 0.005 <sup>‡</sup>
Being a good communicator with patients	4.64±0.54	4.60±0.49	4.39±0.64	8.66 <sub>(2, 184)</sub>	< 0.005 <sup>‡</sup>
Emphasizing prevention and wellness	4.58±0.63	4.35±0.62	4.01±0.76	30.63 <sub>(2, 184)</sub>	< 0.005 <sup>‡</sup>
Involvement in teaching in professional medical education settings	2.82±1.11	3.11±1.13	3.16±1.09	4.34 <sub>(2, 184)</sub>	0.014 <sup>‡</sup>
Involvement in teaching in community or patient education settings	3.55±0.96	3.67±0.85	3.65±0.86	0.80 <sub>(2, 182)</sub>	0.45
Professional or intellectual growth	4.14±0.75	4.37±0.62	4.24±0.70	3.81 <sub>(2, 184)</sub>	0.024 <sup>‡</sup>
Respect from colleagues, the community, and others	3.80±0.74	3.89±0.87	3.54±0.87	6.89 <sub>(2, 182)</sub>	0.001 <sup>‡</sup>
Working regular and predictable hours	3.01±0.93	3.09±0.82	3.01±0.85	0.49 <sub>(2, 184)</sub>	0.615
Working in a specialty for which there is a clear national need	3.19±0.94	3.09±0.97	3.05±0.94	0.98 <sub>(2, 184)</sub>	0.378
Contributing important discoveries to medicine	2.23±1.07	2.43±1.07	2.45±1.05	3.39 <sub>(2, 184)</sub>	0.036 <sup>‡</sup>

\*Five-point scale items where scores represent the degree to which students rated the importance of the item in determining her or his satisfaction as a physician, ranging from 1 (not at all important) to 5 (extremely important).

†Mean±standard deviation

‡Indicates significance at the level of 0.05 based on F (GLM repeated measures) or t (paired t-tests).

**Table 1 continued**

**Scores over the Course of Medical Education on Determinants of Satisfaction as a Physician\*†**

Item	Year 1	Year 2	Year 4	t <sub>(df)</sub>	p
Being in a career whose primary goal is service to humankind	4.25±0.77	4.05±0.84	4.05±0.84	2.13 <sub>(91)</sub>	0.036 <sup>‡</sup>
Serving my community medically beyond the normal duties of my practice	3.62±0.88	3.55±0.91	3.55±0.91	0.61 <sub>(90)</sub>	0.543
Peer relationships within the medical community	3.84±0.87	3.50±0.91	3.50±0.91	3.38 <sub>(91)</sub>	0.001 <sup>‡</sup>
Working with other health care professionals as part of a team	3.86±0.82	3.77±0.84	3.77±0.84	0.98 <sub>(91)</sub>	0.332
Having a great deal of diversity in my work: different cases, tasks, activities, and experiences	4.17±0.71	4.02±0.78	4.02±0.78	1.62 <sub>(92)</sub>	0.109
Working with a patient population that has a clear national need	3.38±0.90	3.30±0.96	3.30±0.96	0.74 <sub>(92)</sub>	0.461
Providing care that considers the mental, emotional, spiritual, and social aspects of the patient	4.17±0.86	3.89±0.93	3.89±0.93	2.84 <sub>(92)</sub>	0.006 <sup>‡</sup>
Involving patients in making choices about their medical care	4.44±0.71	4.24±0.80	4.24±0.80	2.42 <sub>(92)</sub>	0.018 <sup>‡</sup>

\*Five-point scale items where scores represent the degree to which students rated the importance of the item in determining her or his satisfaction as a physician, ranging from 1 (not at all important) to 5 (extremely important).

†Mean±standard deviation

‡Indicates significance at the level of 0.05 based on F (GLM repeated measures) or t (paired t-tests).

them to indicate the specialty in which they are most interested. Using this approach, researchers have found, for example, that students who chose primary care specialties were more likely to be interested in longitudinal patient care<sup>34, 35</sup> and to consider opportunities to provide care involving psychosocial aspects of medicine as important.<sup>36</sup> The second type of relationship, interest in specialties, begins with identifying students as interested in a particular specialty, then surveying them for their ratings of particular practice influences or characteristics. For example, Herman and Veloski<sup>37</sup> found that a larger proportion of students interested in family medicine intended to practice in small communities than did students interested in other specialty areas.

**Research Questions**

The current study is part of the Medical Education Assessment Project (MEAP), a longitudinal, multi-site, comprehensive study of the relationships between medical students' skills, knowledge, and personal characteristics, and their medical education

experiences.<sup>38</sup> This current study examines the development of determinants of satisfaction in medical students from one institution over the course of their education. Based on the almost complete lack of previous satisfaction research focused on medical students, there were no *a priori* hypotheses.

**Methods**

Students comprising the class of 1999 at the University of Washington School of Medicine were surveyed three times over the course of their medical education: during first-year orientation, midway through Year 2, and during Year 4. Students received information about the voluntary and confidential nature of their participation and were assigned confidential ID numbers so that results from all three administration points could be joined. The protocol used was approved by Dartmouth College's Committee for the Protection of Human Subjects.

A principal measure used in the MEAP is the Core Survey, an extensive questionnaire that assesses

medical students' activities, attitudes, beliefs, values, personalities, and demographic characteristics.<sup>39</sup> The questionnaire is made up of both previously validated scales or portions thereof and new measures of attitudes and beliefs, developed according to principles of self-report outlined by Shrauger and Osberg.<sup>40</sup> The survey was adjusted during this four-year evaluation, resulting in the fact that some items were assessed only during years 2 and 4.

For the present study, we chose survey items specifically related to determinants of career satisfaction. These items assessed students' attitudes towards 21 characteristics related to career satisfaction, as shown in Table 1, by asking students how important each of the characteristics was in determining their satisfaction as a physician. Most of the items were derived from the Glaxo Pathway Evaluation Program.<sup>41</sup>

### Statistical Methods

A General Linear Modeling repeated measures procedure<sup>42</sup> was used as an omnibus test to examine the development of determinants of satisfaction over time. In instances where the omnibus test identified such change, pairwise comparisons were used to determine the time course of the change. The significance levels of these tests were adjusted for multiple comparisons using the Bonferroni inequality.<sup>42</sup> For those items where only two survey points were available (Years 2 and 4), paired t-tests provided the necessary information.

### Results

At Year 1, 165 of 168 (98%) students enrolled completed the survey. Of those 165 students, 109 (66%) participated during Year 2 and 121 (73%) participated during Year 4.

**Table 2**

**Summary of Direction of Change in Importance of Determinants of Satisfaction over Time\***

Item	Years 1 - 2	Years 2 - 4	Years 1 - 4
Balanced professional and family life	→	→	→
Financial security	↑	→	↑
Long-term relationship with patients	→	→	→
Curing patients	→	↓	↓
Being a good communicator with patients	→	↓	↓
Emphasizing prevention and wellness	↓	↓	↓
Involvement in teaching in professional medical education settings	↑	→	↑
Involvement in teaching in community or patient education settings	→	→	→
Professional or intellectual growth	↑	→	→
Respect from colleagues, the community, and others	→	↓	↓
Working regular and predictable hours	→	→	→
Working in a specialty for which there is a clear national need	→	→	→
Contributing important discoveries to medicine	→	→	→

\*Note: Direction of change based on pairwise comparisons, adjusted for multiple comparisons with the Bonferroni inequality. Arrows pointing up or down indicate change significant at the 0.05 level.

**Table 2 (continued)**  
**Summary of Direction of Change in Importance of Determinants of Satisfaction over Time \***

Item	Year 2 – 4
Being in a career whose primary goal is service to humankind	↓
Serving my community medically beyond the normal duties of my practice	→
Peer relationships within the medical community	↓
Working with other health care professionals as part of a team	→
Having a great deal of diversity in my work: different cases, tasks, activities, and experiences	→
Working with a patient population that has a clear national need	→
Providing care that considers the mental, emotional, spiritual, and social aspects of the patient	↓
Involving patients in making choices about their medical care	↓

\*Note: Direction of change based on pairwise comparisons, adjusted for multiple comparisons with the Bonferroni inequality. Arrows pointing up or down indicate change significant at the 0.05 level.

Descriptive statistics and results of the omnibus tests are presented in Table 1.

Students' sense of the importance of 11 of the 21 determinants of satisfaction showed significant change over time, as shown in Table 2. The majority of those changes were in the direction of decreased importance.

Exceptions to this trend were the importance of involvement in teaching in professional medical education settings (mean difference 0.290,  $p = 0.047$ , 95% CI 0.002, 0.578), the importance of professional or intellectual growth (mean difference 0.226,  $p = 0.02$ , 95% CI 0.028, 0.424), and the importance of financial security (mean difference 0.387,  $p = <0.005$ , 95% CI 0.197, 0.577), all of which increased significantly from Year 1 to Year 2. The importance of involvement in teaching in professional medical education settings also increased significantly from Year 1 to Year 4 (mean difference 0.344,  $p = 0.029$ , 95% CI 0.027, 0.662), as did the importance of fi-

nancial security (mean difference 0.226,  $p = 0.025$ , 95% CI 0.021, 0.43).

Most determinants of satisfaction decreased in their importance over time. Significant decreases from Year 1 to Year 2 occurred for the importance of emphasizing prevention and wellness (mean difference -0.226,  $p = 0.002$ , 95% CI -0.385, -0.067).

Significant decreases from Year 2 to Year 4 occurred for the following determinants of satisfaction: (a) curing patients (mean difference -0.344,  $p = <0.005$ , 95% CI -0.553, -0.135), (b) being in a career whose primary goal is service to humankind (mean difference -0.196,  $p = 0.036$ , 95% CI -0.378, -0.013), (c) involving patients in making choices about their medical care (mean difference -0.204,  $p = 0.018$ , 95% CI -0.372, -0.036), (d) emphasizing prevention and wellness (mean difference -0.344,  $p = <0.005$ , 95% CI -0.525, -0.163), (e) peer relationships within the medical community (mean difference -0.348,  $p = 0.001$ , 95% CI -0.552, -0.143), (f) respect from colleagues, the community, and others (mean difference -0.348,  $p = 0.004$ , 95% CI -0.602, -0.094), (g) pro-

viding care that considers the mental, emotional, spiritual, and social aspects of the patient (mean difference -0.28,  $p = 0.006$ , 95% CI -0.475, -0.084), and (h) being a good communicator with patients (mean difference -0.215,  $p = 0.004$ , 95% CI -0.373, -0.057).

Significant decreases from Year 1 to Year 4 occurred for the following determinants of satisfaction: (a) curing patients (mean difference -0.312,  $p = 0.007$ , 95% CI -0.556, -0.067), (b) respect from colleagues, the community, and others (mean difference -0.255,  $p = 0.03$ , 95% CI -0.493, -0.018), (c) emphasizing prevention and wellness (mean difference -0.57,  $p = <0.005$ , 95% CI -0.765, -0.375), and (d) being a good communicator with patients (mean difference -0.258,  $p = 0.001$ , 95% CI -0.429, -0.087).

## Discussion

Students' sense of the importance of 11 of 21 determinants of satisfaction showed significant change over the course of medical school. The majority of those changes were in the direction of decreased importance.

Even though a majority of the assessed determinants of satisfaction changed over time, most of that change was relative. That is, factors that students considered to be most important at the start of medical school continued to be most important throughout the educational experience and factors students considered to be least important at Year 1 continued to be least important at Years 2 and 4. Over the three measurement points, students consistently reported that the five most important determinants of satisfaction for them were: (a) being a good communicator with patients, (b) having a balanced professional and family life, (c) involving patients in making choices about their medical care, (d) engaging in professional or intellectual growth, and (e) being in a career whose primary goal is service to humankind. Similarly, students consistently reported that the five least important determinants of satisfaction for them were: (a) contributing important discoveries to medicine, (b and c) working in a specialty or population for which there is a clear national need, (d) working regular and predictable hours, and (e) being involved in teaching in professional medical education settings.

The findings indicate that the factors contributing to satisfaction that are important to students at the start of medical education tend to be those that are important at the end of the undergraduate medical education experience. The findings also indicate that there is change over time in that most of the factors

become less important to satisfaction. It is not known whether the decrease in the importance of factors is related to an overall decrease in satisfaction or whether there are other, untested factors that assume greater importance over time. Determining the first possibility would require assessing overall satisfaction. Such a measure would not make sense for medical students, who are involved primarily in education and not practice, and hence, who would have little basis for answering questions about their current state of satisfaction with medical practice. However, asking students to report on the degree to which they are committed to the profession could be a useful adjunct. Determining the second possibility — questioning students about the importance of additional factors — could be considered in future research.

The degree to which the findings of the present study can be generalized is constrained by the fact that the study examined students at only one school. However, the great majority of students at the University of Washington School of Medicine come from a four-state area—Washington, Alaska, Montana, and Idaho—and these students are expected to attend the university of their home state for their first year of medical school. Additionally, about 20 students who are residents of Washington spend their first year not at the main campus but at another campus within the state. This diversity of geography and educational experience provides a measure of heterogeneity that, combined with the excellent rate of participation at all measurement points, constitutes a strength of the study, although further study at additional schools is needed. Additional benefits of the study include the fact that MEAP is a longitudinal project, allowing us to follow the same group over time, and that it extended the examination of satisfaction to medical students, a previously almost completely unstudied population.

While previous work has examined trends in overall satisfaction,<sup>15</sup> the current study viewed determinants of satisfaction themselves as dynamic constructs. The reported most important determinants of satisfaction for the first- and fourth-year students (being a good communicator with patients, having a balanced professional and family life, involving patients in making choices about their medical care, engaging in professional or intellectual growth, and being in a career whose primary goal is service to humankind), varied in absolute, but not relative, importance over time. The determinants reported as most important by medical students are not dissimilar from those identified by practicing physicians (autonomy and professional values such as altruism, the maintenance of high ethical standards, a com-

mitment to the needs of society, and humanistic values such as empathy, integrity, and trustworthiness).<sup>14</sup> If, as has been reported,<sup>11, 15</sup> there is great variation in physician dissatisfaction across region, specialty, age, and income brackets, it seems likely that satisfaction depends, in part, on what else is happening at the time. Landon and his colleagues<sup>15</sup> found that changes in satisfaction were most strongly associated with threats to autonomy, physicians' ability to manage time and patient interactions, and physicians' perception of their ability to provide quality care. These threats relate less to values than to real-life situations that impinge on values.

The current study contributes to the understanding of the development of physician satisfaction over time by providing information from the stage at which physician training starts. Other questions to be explored in the future include questions about the nature of the most important determinants of satisfaction for medical students as well as for practicing physicians. What impacts these factors? Where does control for them lie? What roles do the individual and the profession play? What is the impact of groups and forces outside the profession?

The results of this study also point to more fundamental questions about the impact of medical education on students. Reported decreases in the importance of being a good communicator with patients, involving patients in making choices about their medical care, providing care that considers the mental, emotional, spiritual, and social aspects of the patient and being in a career whose primary goal is service to humankind are in conflict with many of the goals of medical education, such as altruism, accountability, and respect for others, which have been defined as elements of professionalism by the American Board of Internal Medicine.<sup>43</sup> Thus, the current study's findings would be in line with a number of studies which have found that the process of medical education tends to inhibit or moderate students' development of moral reasoning.<sup>44-46</sup> It is likely that issues of the informal and hidden curriculum<sup>47-48</sup> contribute to this inhibition, in that students receive mixed messages about the importance of such attitudes and attributes. If that proves to be the case, faculty development and curricular reform aimed at reinforcing professional values could be important in helping to shape students' expectations for professional satisfaction.

Leigh and his colleagues<sup>11</sup> pointed out that the results of their study could be useful to medical students as they considered specialty and career decisions, opining that students would undoubtedly be

inclined to favor specialties in which satisfaction was high for a large proportion of its current incumbents. We believe that students need more information to make wise decisions about their future. Souba<sup>49</sup> reminds us that dissatisfaction arises from unmet expectations. So, students should know the literature on both career and specialty satisfaction, as Leigh suggests. In addition, they should know the values of the profession both as espoused by professional associations and as modeled by faculty and mentors. They should know themselves: their values, their expectations, and their feelings. They should understand current medical practice patterns and economics. Communication between students, medical educators, and advisors should be clear and designed to help students balance their expectations with frequent reality checks. Where control of determinants of satisfaction is external, both students and faculty should understand the role of advocacy and take the opportunity to make a difference.

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