Careers in Medicine | AAMC

The Psychometric Properties of the GlaxoSmithKline Pathway Evaluation Program Self-Assessment Instrument

George V. Richard, Ph.D.
Carissa A. Englert, M.S.

Association of American Medical Colleges
Division of Medical School Affairs
Section for Student Affairs and Programs

This study has been funded by a grant from the North Carolina GlaxoSmithKline Foundation.

Careers in Medicine® is a program of the
Association of American Medical Colleges

www.aamc.org/careersinmedicine

Abstract

Purpose

In the late 1980s, the GlaxoSmithKline Pathway Evaluation Program for Medical Professionals was created to provide more organized career planning services to medical schools, and included the Pathway Self-Assessment (PSA) instrument to measure the importance of a number of variables considered important in choosing a medical specialty. This study assesses the validity and reliability of the PSA as a viable career assessment instrument.

Method

The results of two studies are presented in the report. The first study examined physician data to assess concurrent validity of the PSA and the degree to which factors measured by the instrument can differentiate between six major medical specialties. The second study utilized student data to analyze the test–retest reliability and convergent validity of the instrument.

Results

Only a 20% level of predictive accuracy of the PSA was found in physician data, and only three of the instrument's 18 items differentiated substantially between the major medical specialties. Test–retest reliability was low to moderate, ranging from 0.39 to 0.88, with only a 38% match rate and low to moderate correlations (ranging from 0.29 to 0.75) found between scales on the PSA and other similar instruments measuring physician values and interests.

Conclusions

Study results demonstrate only minimal psychometric strength of the PSA and point to problems inherent in its design. This restricts the authors' original plan to consider the PSA for inclusion in the CiM™ assessment battery and to provide support for its continued use in medical schools' career guidance activities.

The Psychometric Properties of the GlaxoSmithKline Pathway Evaluation Program Self-Assessment Instrument

Until recently, the availability of formal career guidance services in U.S. medical schools has been limited. Zimny and Senturia[1] found little or no formal career planning services in medical schools at the beginning of the 1970s. Almost two decades later, medical students continued to express a need for more information and guidance to help them select an appropriate specialty.[2] This need spurred development of a brief career planning workshop, the "Pathway Evaluation Program for Medical Professionals," offered to third-year medical students by GlaxoSmithKline. Resources geared toward helping students select a medical specialty included an 18-item self-assessment instrument that "…assesses their goals, values, strengths, skills, interests, and preferences" (p. 62).[3]

Research conducted on the overall usefulness of the Pathway program indicated only moderate success,[4, 5] and even as recently as 2000, the Pathway program had not successfully raised student satisfaction with career counseling services, as measured by the AAMC's Graduation Questionnaire.[6] This lack of satisfaction suggests that the Pathway Program has had a limited effect on improving the quality of medical school career guidance services. More specifically, little formal research has been conducted on the psychometric properties of the self-assessment instrument—considered to be a significant component of the Pathway Program—nor is information available that describes its development and evolution. Orientale and Rodney[7] presented a critique of the instrument and its physician profiles, and offered minimal support for its utility in the field of family medicine. Despite the absence of a formal, comprehensive analysis of the validity of the self-assessment instrument, many medical schools continued to utilize the Pathway Program until very recently.

In late 1999, a new career planning program was launched by the Association of American Medical Colleges.[8] The Careers in Medicine ® (CiM™) Program is more comprehensive than the Pathway Program, and it is offered throughout all four years of medical school. It contains extensive online resources for self-understanding and specialty career exploration, and offers a variety of training and development resources to assist school personnel in program administration. CiM online career assessment instruments that show sound psychometric promise include the Medical Specialty Preference Inventory (MSPI)[9, 10, 11] and the Physician Values in Practice Scale (PVIPS).[12] This paper presents the results of two studies, in part using these CiM resources, conducted to analyze psychometric properties of the Pathway Program self-assessment instrument to address this lack of research. The first study examined physician data collected by Duke University School of Medicine in the development of the most recent Pathway Program resource materials, and included an assessment of a) the concurrent validity of the Pathway Program's self-assessment instrument and b) the degree to which the factors measured by the instrument can differentiate between major medical specialties. The second study utilized data recently collected from medical students to analyze a) test–retest reliability and b) convergent validity of the instrument. These study results will help determine the instrument's viability for possible inclusion in the CiM assessment battery and address the question of its continued use in medical schools' career guidance activities.

Study 1

Method

Instruments

Pathway Evaluation Program Self-Assessment Instrument. The Pathway Evaluation Program Self-Assessment (PSA) contains 18 items ("critical factors"), each of which assesses a separate construct representing either a value, an interest, or a skill relevant to the practice of medicine. Development of the current version of the instrument was led by Duke University School of Medicine staff.[13] While most of these critical factors had been included in previous versions of the PSA, a review by the Duke researchers resulted in a revision designed to "…clarify the questions and to reflect the changes in the practice of medicine since the most recent update in 1998." Responses to each of the critical factors are based on a 10-point Likert-type scale, ranging from a low of 1 to a high of 10 with varying descriptions of the "low" and "high" anchors for each item. Appendix A presents a description of the 18 critical factors and their corresponding anchors. As previously stated, no information exists about the psychometric properties of this instrument. The PSA is provided on a CD-ROM as part of the complete Pathway Evaluation Program. Users are instructed to rate their preference for each of the critical factors using the same descriptions provided to the physician sample, and then rate the perceived importance of each critical factor in making their specialty decision. These results can then be compared to physician profiles, also available on the CD-ROM, containing average critical factor scores for 42 physician specialties. A compatibility score for each of the 42 specialties is also calculated for the user by squaring the difference between the user's rating of each factor and the average physician specialty rating, multiplying the difference by the user's rating of importance for that critical factor, and then summing the resulting values. Low scores indicate a higher preference (or compatibility) for that specialty.

Participants

Participants were practicing physicians who classified themselves in one of six major medical specialties: Family Medicine, Internal Medicine, Obstetrics and Gynecology, Pediatrics, Psychiatry, and General Surgery. While data for other specialties were collected in the Duke study, they were not a focus of this project. These six specialties were selected for a number of reasons. First, they represent a large proportion of physicians in the United States. Second, they represent the major specialties students enter in residency training upon completion of medical school. Finally, since these six are the only specialties measured by other instruments used in this research, inclusion of other specialties would not provide any additional information about the psychometric properties of the PSA.

Procedure

For the original Duke data collection, the subjects were randomly selected from an American Medical Association (AMA) database of practicing physicians. Surveys were distributed in three rounds, yielding a total sample size of 28,574 physicians. These physicians were sent a brochure containing an explanation of the Pathway Program physician specialty profiles and were provided a URL for a Web site with directions for completing a Web-based survey. After the initial mailing, postcards were sent to remind them to complete the online survey. They were asked to respond to each item as it pertains to their practice area. They were then asked to weight each item on its importance to their personal job satisfaction.

Analysis

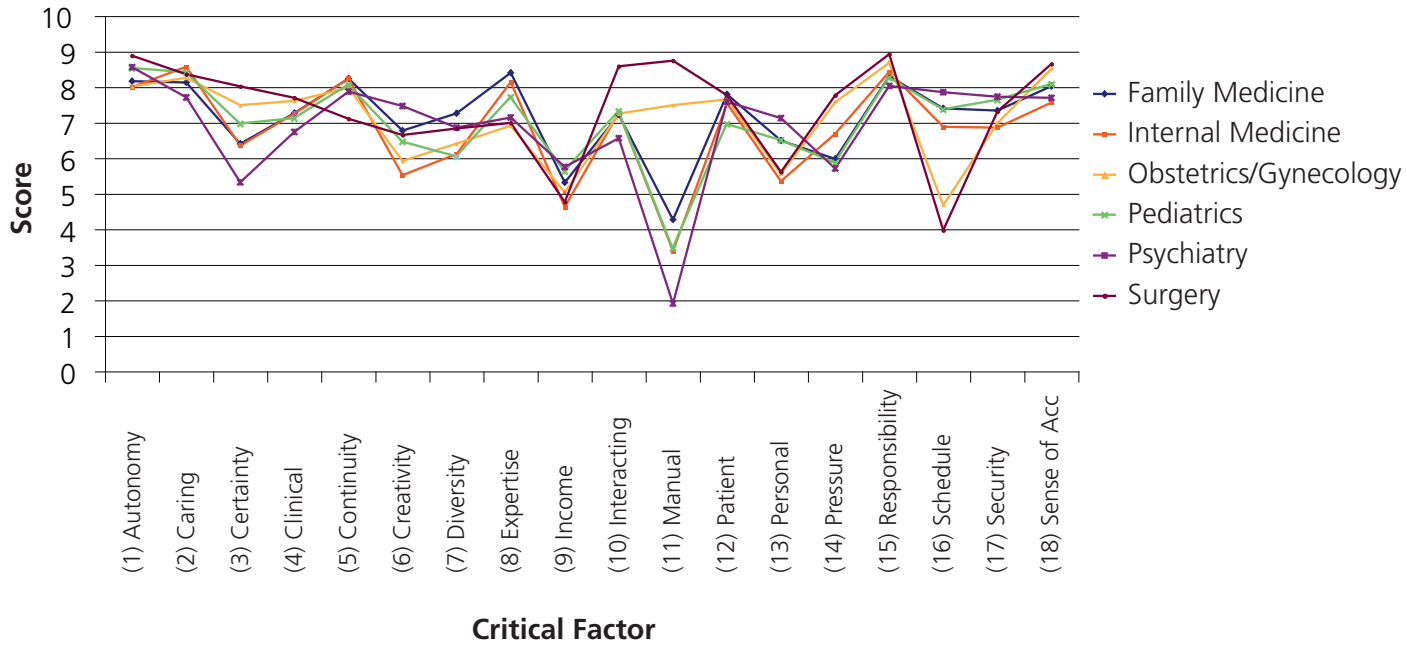
Psychometric analysis of these survey responses included an evaluation of the predictive validity of the PSA critical factors and their ability to differentiate among six major medical specialties. A multivariate analysis of variance (MANOVA) was conducted to determine the amount of differentiation among the six major medical specialties (Family Medicine, Internal Medicine, Obstetrics and Gynecology, Pediatrics, Psychiatry, and Surgery) achieved by the PSA instrument. Concurrent validity of the PSA was examined by determining "hit rates," or the percentage of cases in which physician PSA compatibility scores predicted the physician's chosen specialty.

Results

A total of 2,746 surveys were completed in the Duke study, for an overall response rate of 9.6%. For the purposes of this study, surveys were retained if the specialty area selected was one of six major specialties: Family Medicine, General Internal Medicine, Obstetrics and Gynecology, Pediatrics, Psychiatry, and General Surgery. Based on this criterion, 763 surveys were retained, and the proportion of six specialties represented was: Family Medicine (29%), General Internal Medicine (17%), Obstetrics and Gynecology (15%), Pediatrics (19%), Psychiatry (14%), and General Surgery (6%). These percentages generally followed the actual proportion of physicians found in the workforce (Family Medicine = 24%, Internal Medicine = 31%, Obstetrics and Gynecology = 10%, Pediatrics = 15%, Psychiatry = 11%, Surgery = 9%), with the exception of Internal Medicine, where the research sample was significantly smaller than the actual rate. The remaining surveys were completed by physicians representing other specialties not a part of this study. The sample included 203 women (27%) and 554 men (73%) and was distributed adequately across length of time in practice: 1–10 years (24%), 11–25 years (53%), 25+ years (22%). Participants also practiced in a variety of settings, with 28% in a large metropolitan area, 18% in a large city, 37% in a small city, and 14% in rural areas.

Differentiation. To test the PSA's ability to differentiate among six major medical specialties, a one-way MANOVA was conducted using the physician data from the 2003 Duke study. MANOVA was used to assess whether scores on each of the 18 PSA critical factors varied significantly by the specialty practiced. Using Wilkes lambda, the results of the MANOVA indicated significant differences in PSA critical factors scores by specialty, $F(80, 3432) = 14.5$, $p < .001$. Bonferroni post hoc tests indicated significant differences in critical factor scores by specialty on 17 of the 18 critical factors at the $p < .05$ level. Only scores on the Security factor were not significantly different across the six specialties. When analyzing the15 possible pairwise comparisons for each critical factor, nine of the 18 had five or more significant pairwise differences, and only three factors resulted in 11 or more significant pairwise comparisons (Certainty of Outcomes with 11 significant differences, Manual/Mechanical Activities with 14, and Pressure with 11). See Figure 1 for a graphical display of the mean critical factor scores by specialty.

Figure 1. Mean PSA Critical Factor Scores by Specialty



Concurrent Validity (Hit Rates). Similar to Zimny's[10] work in the development of the MSPI, this study assessed the predictive validity of the PSA. Compatibility scores with the six major specialties were computed for each of the physician participants in the Duke study. These scores were then compared to the actual specialty practiced by the physician to determine whether the most compatible specialty score on the PSA was their practice specialty. This yielded a "hit rate" to indicate predictive accuracy. Data were available for 716 physicians. The number of predicted specialties obtained (predicted/obtained) and the percentage obtained for each specialty were, as follows: Family Medicine, 205/39 or 19%; Internal Medicine, 119/41 or 34%, Obstetrics and Gynecology, 108/12 or 11%; Pediatrics, 135/25 or 19%; Psychiatry, 105/15 or 14%; and Surgery, 44/12 or 27%. Of the 716 specialty predictions made on the basis of the PSA scores, 144 (20%) were accurate when compared with the physician's actual practice specialty. Unlike the MSPI, which achieved a 50% level of predictive accuracy in Zimny's study, the 20% level of predictive accuracy for the PSA is only slightly higher than the 17% level of accuracy expected by chance alone.

Study 2

Method

Instruments

In addition to a Web-based version of the PSA, the following Web-based assessment instruments were used in Study 2:

Medical Specialty Preference Inventory. The Medical Specialty Preference Inventory (MSPI) is a 150-item instrument designed to measure interest in various areas of medical practice.[10, 11] It provides overall preference scores for each of six major medical specialties (Family Medicine, Internal Medicine, Obstetrics and Gynecology, Pediatrics, Psychiatry, and Surgery), as well as scores on 38 scales organized into five groups relevant to the practice of medicine: Diseases and Problems, Patients, Types of Treatment, Knowledge, and Procedures and Services. Board-certified physicians from the six specialties rated each scale on its relevance to general clinical practice in their specialty. Reliability coefficients for each specialty ranged from 0.70 to 0.90,[9] and the level of predictive accuracy over all specialties ranged from 50% to 59%, much higher than that based on chance alone.[10, 14]

Physician Values in Practice Scale. The Physician Values in Practice Scale (PVIPS)[15] is a 60-item instrument designed to measure personal values related to the practice of medicine. Factor analysis has identified six important values: Prestige, Service, Autonomy, Lifestyle, Management, and Scholarly Pursuits. Reliability is estimated at 0.83 overall, and ranges from 0.77 to 0.89 for the individual scales.

Subjects

Subjects were medical students registered with the CiM Program who completed the MSPI and PVIPS self-assessments on the CiM Web site within the 45 days prior to the beginning of the study. Students from approximately 142 allopathic and osteopathic medical schools in the United States and Canada are represented in the CiM system. Application of these criteria yielded 412 possible study participants.

Procedure

A Web-based adaptation of the PSA was developed using the SurveyMonkey.com survey generation program. Participants were instructed to rate the 18 critical factors on a Likert-type scale ranging from 1 to 10, with high and low descriptions varying across the 18 factors. Subjects were contacted via e-mail, informed of the purpose and voluntary nature of the study, and invited to participate. Those who agreed to participate were sent to the SurveyMonkey.com Web site and instructed to complete the survey. The consenting participants were contacted six weeks later and asked to complete the Web-based PSA instrument again to assess its test–retest reliability. For those subjects continuing in the study, results of their MSPI and PVIPS assessments were obtained from the CiM database, and available demographic data were acquired from other AAMC databases.

Analysis

Responses from CiM-registered medical students to the PSA, MSPI, and PVIPS instruments comprise the dataset for Study 2. Psychometric analyses of the survey responses in Study 2 included test–retest reliability and tests of convergent validity of the PSA critical factors. PSA critical factor data collected at Time 1 and Time 2 were correlated to determine the test–retest reliability of the PSA critical factors. Next, the PSA critical factors were correlated with MSPI scales and PVIPS values to establish convergent validity for the PSA. In a second test of convergent validity, an analysis of the congruence between students' PSA compatibility scores and MSPI Preference Scores was also conducted for each of the six major medical specialties.

Results

Four hundred and twelve registered CiM Web site users were contacted by e-mail to participate in the study. Ninety-six users agreed to participate in the study, but subsequent analysis revealed that only 72 users actually submitted completed survey forms at Time 1. For the second round of data collection, 48 completed surveys were received from the 96 students who agreed to participate.

Because demographic data were gathered from an external AAMC database and not from the SurveyMonkey.com instrument, demographic data were only available for 27 respondents (34%). This group ranged in age from 23 to 32 years and 70.4% were female, 29.6% were male. These students attended 38 medical schools (allopathic and osteopathic) in the United States and Canada. Year-in-school data collected in the survey indicated representation across all four years of medical school, as follows: 51% first-year, 28% second-year, 46% third-year, and 8% fourth-year students.

Test–Retest Reliability. Results from the test–retest reliability analyses are shown in Table 1. Correlations between the Time 1 and Time 2 data demonstrated test–retest reliability estimates of 0.56 to 0.69 for five of the 18 critical factors and test–retest correlations ranging from 0.73 to 0.88 for 11 of the 18 scales. Test–retest correlations for Patient Decision-Making and Responsibility were low (0.47 and 0.39, respectively).

Convergent Validity. In the first test of convergent validity of the PSA, student rankings of the compatible specialties predicted by both the PSA and the MSPI were computed. Each of the six major specialties studied received a rank from 1 to 6 for both instruments based on students' compatibility or Preference Scores for that specialty. For the PSA, the specialty with the lowest, most compatible score was assigned a rank of 1, while the specialty with the least compatible score was assigned a rank of 6. Similarly with the MSPI, the highest Preference Score was assigned a rank of 1 and the lowest Preference Score was assigned a rank of 6. The focus of this effort was to determine how frequently the specialty receiving the most compatible PSA score would correspond to the specialty receiving the highest MSPI Preference Score. For example, if the top-ranked specialty compatibility score according to the PSA (indicated by a rank of 1) was Internal Medicine and the top-ranked specialty according to the MSPI (indicated by a rank of 1) was also Internal Medicine, a match was established. Of 74 students with complete PSA and MSPI data, 28 received the same, or "matched," specialty compatibility predictions from both assessment instruments. The overall match rate was 37.8%, with General Surgery accounting for the greatest number of matches (16, 57.1%), followed distantly by Pediatrics with five matches (17.9%). The other specialties had only a few matches: Family Medicine (3, 10.7%), Obstetrics and Gynecology and Psychiatry (both with 2 matches, 7.1% each), and no matches on PSA and MSPI scores for Internal Medicine.

Table 1.
Means, Standard Deviations, Test–Retest Reliability Coefficients, and *t* Tests for Scores on the PSA Administered 42 Days Apart

	April 21, 2006		June 2, 2006			
CF Item	***M***	***SD***	***M***	***SD***	***r***	***t***
Autonomy	7.49	1.50	7.55	1.30	.58**	0.21
Caring for Patients	7.53	1.88	7.27	1.88	.74**	1.38
Certainty of Outcomes	6.94	1.55	6.60	1.45	.64**	0.96
Clinical Decision-Making	6.46	1.70	6.33	1.65	.69**	1.35
Continuity of Care	6.55	2.18	6.39	2.18	.77**	0.00
Creativity	6.78	1.94	6.47	1.91	.68**	0.10
Diversity	7.16	1.91	7.07	1.86	.73**	1.02
Expertise	5.77	2.28	5.89	2.18	.88**	–0.71
Income Satisfaction	7.16	1.71	7.09	1.57	.75**	0.38
Interacting with Other Physicians	6.94	1.63	6.67	1.55	.56**	1.20
Manual/Mechanical Activities	6.59	2.09	6.33	2.12	.83**	0.69
Patient Decision-Making	7.25	1.51	6.84	1.50	.47**	1.98*
Personal Time	7.78	1.61	8.02	1.60	.73**	–0.72
Pressure	5.86	1.85	5.52	2.04	.85**	0.55
Responsibility	6.89	1.38	6.84	1.23	.39**	–0.48
Schedule	3.20	1.71	3.18	1.88	.78**	–0.70
Security	8.01	1.68	8.20	1.63	.73**	–0.49
Sense of Accomplishment	7.71	1.38	7.73	1.28	.75**	1.79

*$p < .05$
**$p < .01$

In the second test of convergent validity, Tables 2 and 3 present the intercorrelations between the PSA critical factors and the items on the MSPI and PVIPS, respectively. Close attention was paid to the intercorrelations that would demonstrate convergent validity of the PSA critical factors. Specifically, one would expect that items assessing the same construct on two different measures—such as the Autonomy item on the PSA and the Autonomy scale from the PVIPS—would be highly correlated. However, only 10 of the 18 critical factors were found to have corresponding constructs in the MSPI and PVIPS, with low to moderate correlations (ranging from $r = 0.29$ to 0.65) found in most cases. Only one critical factor, Personal Time, was correlated higher than 0.70.

Table 2
Correlations Between PSA Critical Factors and Similar MSPI Scales

PSA Critical Factor	MSPI Scale	*r*
Diversity	Many major diseases	0.434**
Pressure	Life-threatening problems	0.647**
Pressure	High-risk procedures	0.606**
Expertise	Comprehensive care	0.613**
Patient Decision-Making	Patient participation	0.449**
Sense of Accomplishment	Beneficial treatment results	0.368**
Manual/ Mechanical Activities	Complex equipment	0.495**
Manual/ Mechanical Activities	Use hands	0.463**
Manual/ Mechanical Activities	Outpatient operative procedures	0.641**

*$p < .05$
**$p < .01$

Table 3
Correlations Between PSA Critical Factors and Similar PVIPS Values

PSA Critical Factor	PVIPS Value	*r*
Income Satisfaction	Prestige	0.302**
Autonomy	Autonomy	0.290*
Schedule	Lifestyle	–0.634**
Personal Time	Lifestyle	0.749**

*$p < .05$
**$p < .01$

Discussion

The results of this study demonstrate only minimal psychometric strength of the PSA. Test–retest reliability is moderate and, given the format of the instrument, other statistical tests used to assess reliability (e.g., Cronbach's alpha) cannot be computed. Concurrent validity is low, convergent validity estimates were low to moderate, and only three of 18 PSA critical factors were found to differentiate well among the six major specialties. These findings do not support the continued use of the PSA instrument in advising medical students on specialty choice.

Two of the three factors that seemed to differentiate among the six specialties also showed good test–retest reliability (Manual/Mechanical Activities and Pressure), and could be considered for possible inclusion in the MSPI or PVIPS. Closer examination of the MSPI and PVIPS would be required to determine whether other variables may already be measuring those constructs in some manner. As a partial answer to this question, we found that each of these constructs correlated with numerous other MSPI and PVIPS variables, suggesting that they may already by adequately represented in these existing instruments.

Because of the low to moderate correlations between the PSA factors and their MSPI and PVIPS equivalents, concern must be expressed about the continued use of these factors as they currently exist. While a high correlation between like variables would indicate that the two instruments are measuring similar constructs, the current results suggest that the two measures may not be tapping into the same operationalization of the selected constructs. This finding highlights a psychometric flaw in the design of the PSA—the use of a single item to measure a multidimensional construct. If more than one item were used to measure each critical factor, perhaps a stronger correlation would exist between these variables and those measured by the MSPI and PVIPS. Assessment instruments that employ multiple statements or items designed to tap into the same multidimensional construct—such as the MSPI and the PVIPS—have been shown to be more psychometrically sound than those with only a single item used to measure that construct.[10, 15] While development of new items that address the multidimensionality of each PSA critical factor might enhance the psychometric properties of the instrument, this effort may not address problems pertaining to the ability of the instrument to differentiate among specialties. A more thorough examination of what constructs are needed to match individuals to specialties is required before fully establishing the validity of the PSA in this arena.

In establishing the predictive validity of the PSA, the use of the same physician sample as the basis for both the criterion group and the predictor group represents a serious limitation of Study 1. Using the same sample was necessary because additional physician data were not collected for this study. However, it would have been more advantageous to use a new group of physicians to establish predictive validity. Another limitation in this study is the lack of demographic data for approximately two-thirds of the subjects in the Study 2 survey. These data do not provide adequate information about the representative nature of the sample, especially in the absence of information pertaining to Canadian medical students and students at U.S. osteopathic medical schools.

The PSA offers users a brief, easily administered instrument that matches results to compatibility with a number of medical specialties. The constructs, or critical factors, that comprise the instrument seem to offer face validity in an environment where sound career decisions are especially important. Unfortunately, results from these studies do not support continued use in its current format, nor do they support development of an online version of the PSA as part of the CiM Web-based assessment battery. One area of possible development involves selecting those factors with greater demonstrated validity and building a new assessment instrument that could more successfully measure these constructs. A more likely scenario would be to consider the incorporation of the stronger components of the PSA into existing CiM assessment instruments, such as the MSPI or PVIPS. Still other potential uses of the PSA critical factors could be explored, such as incorporating these critical factors into an "icebreaking" tool to stimulate student consideration of important aspects of the specialty decision-making process during career planning workshops. Additional research and development are needed for any of these activities to be more fully supported.

References

1. Zimny GH, Senturia AG. (1973, April). Medical specialty counseling: A survey. Journal of Medical Education. 48:336–342.

2. GlaxoSmithKline (1987). Nationwide Survey of Medical Students. In: Pathway Evaluation Program for Medical Professionals, Appendix A [Online]. http://pathway.mc.duke.edu/appendix.htm. Accessed August 19, 2003.

3. Sogol, EM. (1990, July/August). Students' Pathway to Groups. Group Practice Journal. 39:61–65.

4. Binder, L. (2001). Pathway Evaluation Program Impact Study: Summary of Project Data. Unpublished manuscript, Case Western Reserve University School of Medicine.

5. Stearns MA, Wallick MM, Jobe AC. (1993, August). Senior students' evaluations of the usefulness of the Glaxo Pathway Evaluation Program. Academic Medicine. 68(8):638–640.

6. Association of American Medical Colleges. (2000). 2000 Medical Student Graduation Questionnaire: All Schools Report. Washington DC: Association of American Medical Colleges.

7. Orientale E, Rodney WM. (1996, January). The Original Glaxo Pathway Evaluation Program: A Proposal for Improvement. Family Medicine. 28(1):59–62.

8. Association of American Medical Colleges. (2006). Careers in Medicine Student Guide. Washington DC: Association of American Medical Colleges.

9. Richard GV. (2005). Manual for the Medical Specialty Preference Inventory, 2nd Edition. Washington DC: Association of American Medical Colleges.

10. Zimny GH. (1979). Manual for the Medical Specialty Preference Inventory. St. Louis, MO: St. Louis University School of Medicine.

11. Zimny GH. (2002). Updating the Medical Specialty Preference Inventory. Unpublished manuscript.

12. Hartung PJ, Taber BJ, Richard GV. (2005). The physician values in practice scale: Construction and initial validation. Journal of Vocational Behavior. 67(2):309–320.

13. GlaxoSmithKline, Inc. (2003). Pathway Evaluation Program for Medical Professionals. CD-ROM. Research Triangle Park, NC: GlaxoSmithKline, Inc.

14. Savickas ML, Brizzi JS, Brisbin LA, Pethtel LL. (1984, October). Predictive validity of two medical specialty preference inventories. Measurement and Evaluation in Counseling and Development. 21:106–112.

15. Hartung PJ. (2004). Manual for the Physician Values in Practice Scale. (Studies of Physician Careers, Technical Report No. 2). Rootstown, OH: Northeastern Ohio Universities College of Medicine.

Appendix A

Description of Pathway Self-Assessment Critical Factors

Instructions: Listed below are 18 factors identified as important when considering a medical field in which to specialize. Please rate your preference for these factors on the continua below in terms of their importance in your career. (1….10)

1. *AUTONOMY:* How much autonomy do you prefer to have in the treatment of your patients? (Very Limited Autonomy.....Great Deal of Autonomy)
2. *CARING FOR PATIENTS:* How much time do you prefer to spend directly seeing and caring for patients? (No Time at All.....Most of my Time)
3. *CERTAINTY OF OUTCOMES:* How much certainty of clinical outcomes must your work provide? (Very Little, Often "Wait and See".....Great Deal, Outcomes Usually Clear)
4. *CLINICAL DECISION-MAKING:* On what basis do you prefer to make clinical decisions? (Application of Theory to a Situation.....Base on Prior Evidence of Clinical Outcomes)
5. *CONTINUITY OF CARE:* Do you prefer to have short-term or long-term relationships with patients? (Short Term.....Long Term)
6. *CREATIVITY:* To what extent must your work provide opportunity for creativity? (Very Little Opportunity.....Great Deal of Opportunity)
7. *DIVERSITY:* How much routine (similar work) or diversity (different tasks/activities) do you prefer in your work? (Great Deal of Routine.....Great Deal of Diversity)
8. *EXPERTISE:* Do you prefer to have a narrow area of expertise or a broad area of expertise? (Narrow Expertise.....Broad Expertise)
9. *INCOME SATISFACTION:* How satisfied must you feel that you are fairly compensated for the amount of time and effort you spend at work? (Very Dissatisfied.....Highly Satisfied)
10. *INTERACTING WITH OTHER PHYSICIANS/MEMBERS OF HEALTHCARE TEAM:* To what extent do you prefer to interact with other physicians/members of a healthcare team? (Very Little.....Great Deal)
11. *MANUAL/MECHANICAL ACTIVITIES:* How often do you prefer to use manual/ mechanical activities for highly skilled tasks (i.e., following procedures, performing operations)? (Never.....Most of the Time)
12. *PATIENT DECISION-MAKING:* To what extent would you prefer for your patients to have an opportunity to have input into decisions about their health care? (Little Opportunity.....Great Deal of Opportunity)
13. *PERSONAL TIME:* How much flexibility must your work allow you to control your schedule and the amount of time you spend on personal activities, (i.e., family, leisure)? (Very Little Flexibility.....Great Deal of Flexibility)
14. *PRESSURE:* How much pressure do you prefer in your work (i.e., dealing with clinical crises, need for immediate decisions about patients, dealing with multiple patients simultaneously)? (Minimal Pressure.....High Pressure)

Appendix A (Continued)

Description of Pathway Self-Assessment Critical Factors

Instructions: Listed below are 18 factors identified as important when considering a medical field in which to specialize. Please rate your preference for these factors on the continua below in terms of their importance in your career. (1….10)

15. *RESPONSIBILITY:* How much responsibility do you prefer to assume for patient outcomes in your work? (Limited Responsibility.....Sole Responsibility)

16. *SCHEDULE:* What type of schedule do you prefer to have in your work? (Regular Hours.....Irregular and Unpredictable Hours)

17. *SECURITY:* How much professional security do you prefer to have in your position, (i.e., know where you stand and are certain of your future professionally, will there be a need for your services in the future)? (Little Security.....Great Deal of Security)

18. *SENSE OF ACCOMPLISHMENT:* How much opportunity to see end results do you need in your work? (Little Opportunity.....Great Deal of Opportunity)

2450 N Street, N.W.
Washington, D.C. 20037-1127
T 202 862 6210 **F** 202 862 6060
www.aamc.org/careersinmedicine