



Tomorrow's Doctors, Tomorrow's Cures

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Lead

Careers in Medicine Update: Status of the GSK Pathway Evaluation Program

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Association of
American Medical Colleges

Session Objectives

Current events

GSK grant project

- Self Assessment Exercise validation research
- Examination of Other Resources
- Open discussion: Next steps

Current Events

Training and PDC

- Next training session: March 8-9, 2007 at Rush Medical College in Chicago, IL
- PDC: June 11-12, 2007 in Salt Lake City, UT
- PDC Proposals due 11/20/06

Web developments

Specialty Indecision Scale

GSK Grant Project

Literature Review

- Introduction of Pathway Program
 - GSK 1987
 - Sogol 1990
- Program Outcomes
 - Stearns, Wallick, Jobe, 1993
 - Binder (unpublished research)
- Pathway Self Assessment (PSA) Exercise
 - Orientale & Rodney

Initial Concerns with PSA

- No rigorous quantitative research on PSA psychometric properties
- Concerns about measuring multidimensional critical factors with a single item
- Available research indicates only modest support for PSA use

PSA Validation Study

Two studies:

- Study 1: Analysis of Duke University Physician Survey Data
 - Differentiation
 - Concurrent validity
- Study 2 CiM Student Study
 - Test-retest reliability
 - Convergent validity – 2 analyses
 - Correlation between PSA factors and MSPI/PVIPS scales
 - Match between PSA Compatibility Scores and MSPI Preference Scores

Study 1, Duke Data: Differentiation

1. One-way Multivariate Analysis of Variance

- 18 PSA Critical Factors by six major specialties (Internal Medicine, Family Medicine, Pediatrics, General Surgery, Psychiatry, Ob-Gyn)
 - Wilks' Lambda: $F(80, 3432) = 14.5, p < .001$
 - 17 of the 18 PSA Critical Factors found significant
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2. Pairwise Comparisons to test differences between individual pairs of specialties, using Bonferroni post hoc test

# Significant Pairwise Differences	# of Critical Factors
11 or more	3 (Certainty of Outcomes; Manual/Mechanical Activities; Pressure)
5 – 10	6
2 – 4	8
No differences	1 (Security)

Means tend to be in the right direction and make sense

Study 1: Concurrent Validity

Specialty	PSA Hit Rates		MSPI Hit Rates	
	Predicted/ Obtained	%	Zimny (N=463)	Savickas, et al (N=64)
Family Medicine	205/39	19%	73%	70%
Internal Medicine	119/41	34%	38%	33%
Obstetrics & Gynecology	108/12	11%	38%	33%
Pediatrics	135/25	19%	75%	33%
Psychiatry	105/15	14%	59%	64%
Surgery	44/12	27%	43%	65%
Total	716/ 144	20%	51%	59%

Study 2, Student Data: Test-Retest Reliability

CF Item	r	CF Item	r
Expertise	0.88	Personal Time	0.73
Pressure	0.85	Security	0.73
Manual/Mechanical Activities	0.83	Clinical Decision-Making	0.69
Schedule	0.78	Creativity	0.68
Continuity of Care	0.77	Certainty of Outcomes	0.64
Income Satisfaction	0.75	Autonomy	0.58
Sense of Accomplishment	0.75	Interacting with Other Physicians	0.56
Caring for Patients	0.74	Patient Decision-Making	0.47
Diversity	0.73	Responsibility	0.39

Study 2: Convergent Validity

1. Correlation between PSA Critical Factors and similar PVIPS Scales

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

2. Correlation between PSA Critical Factors and similar MSPI Scales

PSA Critical Factor	MSPI	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

Study 2: Convergent Validity

Number of students with same specialty in most preferred position on both MSPI and PSA

Specialty	# Matches
Family Medicine	3 (10.7%)
Internal Medicine	0 (0%)
Ob/Gyn	2 (7.1%)
Pediatrics	5 (17.9%)
Psychiatry	2 (7.1%)
Surgery	16 (57.1%)
Total (N=78)	28 (37.8%)

Number of MSPI Areas of Practice and PVIPS Values that Correlate with PSA Critical Factors

Critical Factors	MSPI	PVIPS	Total	Critical Factors	MSPI	PVIPS	Total
AUTONOMY	4	1	5	INTERACTING WITH OTHER PHYSICIAN	7	2	9
CARING FOR PATIENTS	14	4	18	MANUAL/MECHANICAL ACTIVITIES	14	2	16
CERTAINTY OF OUTCOMES	8	1	9	PATIENT DECISION-MAKING	3	0	3
CLINICAL DECISION-MAKING	5	0	5	PERSONAL TIME	8	3	11
CONTINUITY OF CARE	14	4	18	PRESSURE	14	4	18
CREATIVITY	2	2	4	RESPONSIBILITY	4	2	6
DIVERSITY	6	2	8	SCHEDULE	15	3	18
EXPERTISE	14	2	16	SECURITY	0	1	1
INCOME SATISFACTION	7	4	11	SENSE OF ACCOMPLISHMENT	5	1	6

Summary

- Minimal psychometric strength of the PSA.
 - Test-retest reliability is low to moderate
 - Low to moderate correlations between the PSA Critical Factors and MSPI and PVIPS equivalents
 - Different operationalization of similar constructs
 - Support concern about use of a single item to measure a multidimensional construct.
- Little or no predictive validity

Summary – cont'd

- PSA: Short, easily administered
- Face validity
- But our results...
 - DO NOT support its use in the current format
 - DO NOT support development of an online version of the PSA as part of the CiM Web-based assessment battery

Options:

- Build a new assessment instrument using valid PSA Critical Factors?
- Incorporate valid PSA Critical Factors into existing CiM assessment instruments?
- Incorporate critical factors into an “icebreaking” tool or exercise?
- Others?

GSK grant project

Examination of Other Resources

- Duke survey data
 - Incorporate patient characteristics into Nature of the Work
- Workshop activities and resources
 - Modify the decision balance sheet
 - Modify the pre and post clerkship evaluations

Open Discussion

Next steps?



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