

Impact of Longitudinal Behavioral Science Curriculum on Resident Competencies

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Agenda

1. Review residency education literature to date regarding effectiveness of behavioral science
2. Introduce our questionnaire--a new way of measuring effectiveness of behavioral science education
4. Review preliminary data

Review of Literature

- Behavioral science curriculum:
 - Required in family medicine
 - Not required in internal medicine
 - Required in podiatry

- There is still insufficient data on the effectiveness of behavioral science teaching, and its long term effectiveness

Review of Literature

- Previous research showed that behavioral science training (measured as short-term effects) had a positive impact on how residents and physicians report their own skills
- Studies of practice activity post residency is also an important indicator of longer-term change
 - Graduates of a family practice residency with a structured behavioral science curriculum showed changes in perceived competence and practice activity

Research Questions

1. Which ACGME competency areas are most impacted by the presence of behavioral science exposure in residency education?
2. What is the impact of behavioral science exposure on integration of behavioral science interventions into daily practice?
3. What is the longitudinal impact of behavioral science exposure on family medicine, internal medicine/podiatry?

Methods

Subjects:

Family Medicine Residents (N=16)

- 'Exposure' to Behavioral Science

Internal Medicine/Podiatry Residents (N=21)

- 'No Exposure' to Behavioral Science

Methods

Measure:

- Questionnaire developed by research team
- Examine residents' self-perceptions re: elements of competency related to the 6 ACGME Core Competencies
- Assess frequency with which residents use behavioral science interventions

Methods

Modified questions from 3 existing measures:

- Physician Belief Scale (Ashworth, Williamson & Montano, 1984)
 - Measures Primary Care Physicians' beliefs about psychosocial aspects of patient care
- Survey of graduates' understanding of behavioral health concepts, competence to manage behavioral conditions and practice activity (Prislin, Lenahan, Shapiro & Radecki, 1997)
- Behavioral science ACGME evaluation tool (Ivey, 2004)
- Additional questions were developed by the research team

Please circle your resident year: PGY1 PGY2 PGY3

Please indicate your degree of agreement with the following statements about patient care:

1 = Strongly Disagree 2 = Somewhat Disagree 3 = Somewhat Agree 4 = Agree 5 = Strongly Agree

I assess psychosocial problems	1	2	3	4	5
If I address psychosocial issues, patients will never return	1	2	3	4	5
Mind and brain influence physical disease and body perception	1	2	3	4	5
I am intruding when I ask psychosocial questions	1	2	3	4	5
I am too pressed for time to routinely investigate psychosocial issues	1	2	3	4	5
Patients will become more dependent on me if I open up psychosocial concerns	1	2	3	4	5
I focus on organic disease because I cannot treat the psychosocial	1	2	3	4	5
Making treatment plans for patients with psychosocial / psychiatric issues comes with ease	1	2	3	4	5
I feel comfortable counseling patients even if they do not present medical problems	1	2	3	4	5

Please indicate your degree of agreement with the following statements about interpersonal and communication skills:

1 = Strongly Disagree 2 = Somewhat Disagree 3 = Somewhat Agree 4 = Agree 5 = Strongly Agree

I ask patient-centered, open-ended questions	1	2	3	4	5
I accurately reflect information back to patients	1	2	3	4	5
I demonstrate empathy towards my patients	1	2	3	4	5
I talk to my patients about their mental health problems	1	2	3	4	5
I engage in limit setting and negotiation with my patients	1	2	3	4	5
I thoroughly communicate with my patients while being time efficient	1	2	3	4	5
I manage angry patients effectively	1	2	3	4	5

Please indicate your degree of agreement with the following statements about professionalism:

1 = Strongly Disagree 2 = Somewhat Disagree 3 = Somewhat Agree 4 = Agree 5 = Strongly Agree

I recognize when to treat, when to consult with mental health specialists, and when to refer	1	2	3	4	5
I understand my reporting responsibilities re: child abuse, domestic violence & elder abuse.	1	2	3	4	5
I understand how cultural issues impact treatment compliance	1	2	3	4	5
I understand my responsibilities regarding patients who are suicidal and homicidal	1	2	3	4	5
I understand the different ways that cultural and gender issues will impact presentation of medical and psychological issues	1	2	3	4	5

Please indicate your degree of agreement with the following statements about systems based practice:

1 = Strongly Disagree 2 = Somewhat Disagree 3 = Somewhat Agree 4 = Agree 5 = Strongly Agree

I educate patients about the mental health system when appropriate	1	2	3	4	5
I communicate with my patients' mental health professional(s)	1	2	3	4	5
I consult with my patients' family members when appropriate	1	2	3	4	5



Please indicate your degree of agreement with the following statements about practice based learning and improvement:

1 = Strongly Disagree 2 = Somewhat Disagree 3 = Somewhat Agree 4 = Agree 5 = Strongly Agree

I base psychotropic medication recommendations on up-to-date information	1	2	3	4	5
I utilize the doctor-patient relationship as a healing tool	1	2	3	4	5
Through precepting, I recognize areas for improving my behavioral science knowledge	1	2	3	4	5

How competent do you feel in the following areas with respect to your behavioral science knowledge:

1 = Not at all 2 = Somewhat 3 = Moderately 4 = Very 5 = Extremely

Managing (assessing, diagnosing, and treating/referral) depression	1	2	3	4	5
Managing bipolar disorder	1	2	3	4	5
Managing anxiety disorders (generalized, social, PTSD, OCD)	1	2	3	4	5
Managing personality disorders	1	2	3	4	5
Managing psychotic disorders (e.g. schizophrenia, psychotic disorder NOS)	1	2	3	4	5
Managing emotional aspects of medical disorders (e.g. chronic pain)	1	2	3	4	5
Managing psychosocial aspects of death and dying	1	2	3	4	5
Managing psychopharmacology	1	2	3	4	5
Managing alcoholism and other substance abuse	1	2	3	4	5
Developing and sustaining the physician/patient relationship	1	2	3	4	5
Patient interviewing skills and counseling skills	1	2	3	4	5
Addressing the factors influencing patient compliance	1	2	3	4	5

Please estimate the frequency with which you integrate the following behavioral science interventions into your general practice:

1 = Never 2 = Rarely 3 = Occasionally 4 = Frequently 5 = Very Frequently

Managing (assessing, diagnosing, and treating/referral) depression	1	2	3	4	5
Managing bipolar disorder	1	2	3	4	5
Managing anxiety disorders (generalized, social, PTSD, OCD)	1	2	3	4	5
Managing personality disorders	1	2	3	4	5
Managing psychotic disorders (e.g. schizophrenia, psychotic disorder NOS)	1	2	3	4	5
Managing emotional aspects of non-psychiatric disorders (e.g. chronic pain)	1	2	3	4	5
Managing psychosocial aspects of death and dying	1	2	3	4	5
Managing psychopharmacology	1	2	3	4	5
Managing alcoholism and other substance abuse	1	2	3	4	5
Using interviewing and counseling techniques	1	2	3	4	5
Being sensitive to gender, age, and cultural differences in patients	1	2	3	4	5
Assessing family violence including child, partner, and elder abuse	1	2	3	4	5
Using your communication skills to enhance patient compliance	1	2	3	4	5

Methods

5-point Likert scale measuring:

- Self perceptions of ACGME Competencies
 - patient care
 - interpersonal communication
 - professionalism
 - systems based practice
 - practice based learning
 - behavioral science knowledge

- Practice activity (integration of behavioral science interventions)

Results

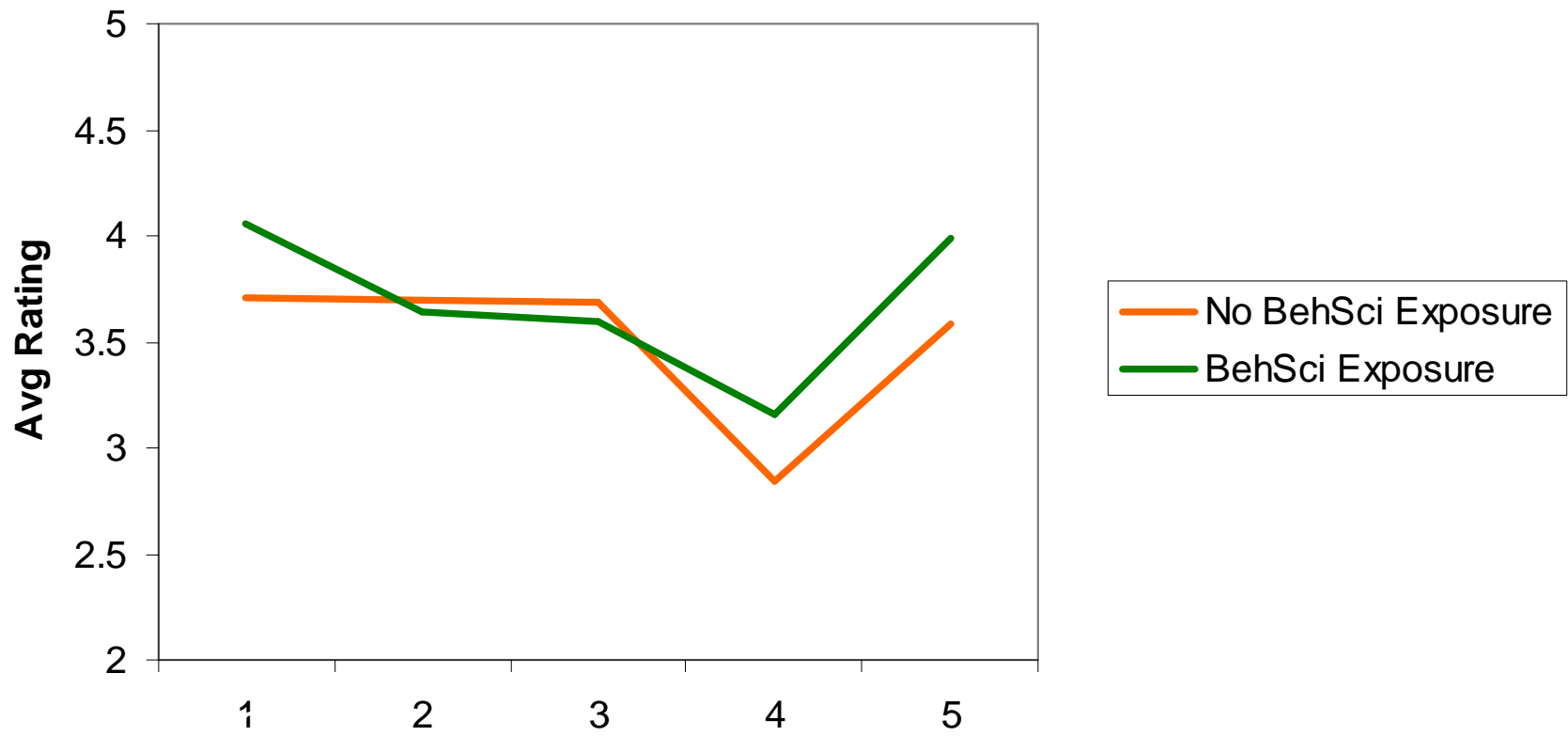
Results examined using 3 separate analyses:

1. An analysis of the average ratings for the 5 competencies:
 - Patient Care
 - Interpersonal and Communication Skills
 - Professionalism
 - Systems-Based Practice
 - Practice-Based Learning
2. An analysis of ratings for 12 identified areas of behavioral science knowledge (BSK)
3. An analysis of ratings for the use of 13 behavioral science interventions (BSI)

Which ACGME competency areas are most impacted by the presence of behavioral science exposure (BSE) in residency education?

- 3-factor ANOVA revealed a significant main effect of Competency ($p < .05$)
 - Post hoc analyses → average ratings for **Systems-Based Practice** < ratings for the other 4 competencies
- Interaction between Competency and Behavioral Science Exposure was significant ($p < .05$)
 - Post hoc analyses → residents with BSE rated selves as more competent than those without for:
 - Patient Care**
 - Systems-Based Practice**
 - Practice-Based Learning**

Average Ratings for Five Basic Competencies by BehSci Exposure



PC

IC

PR

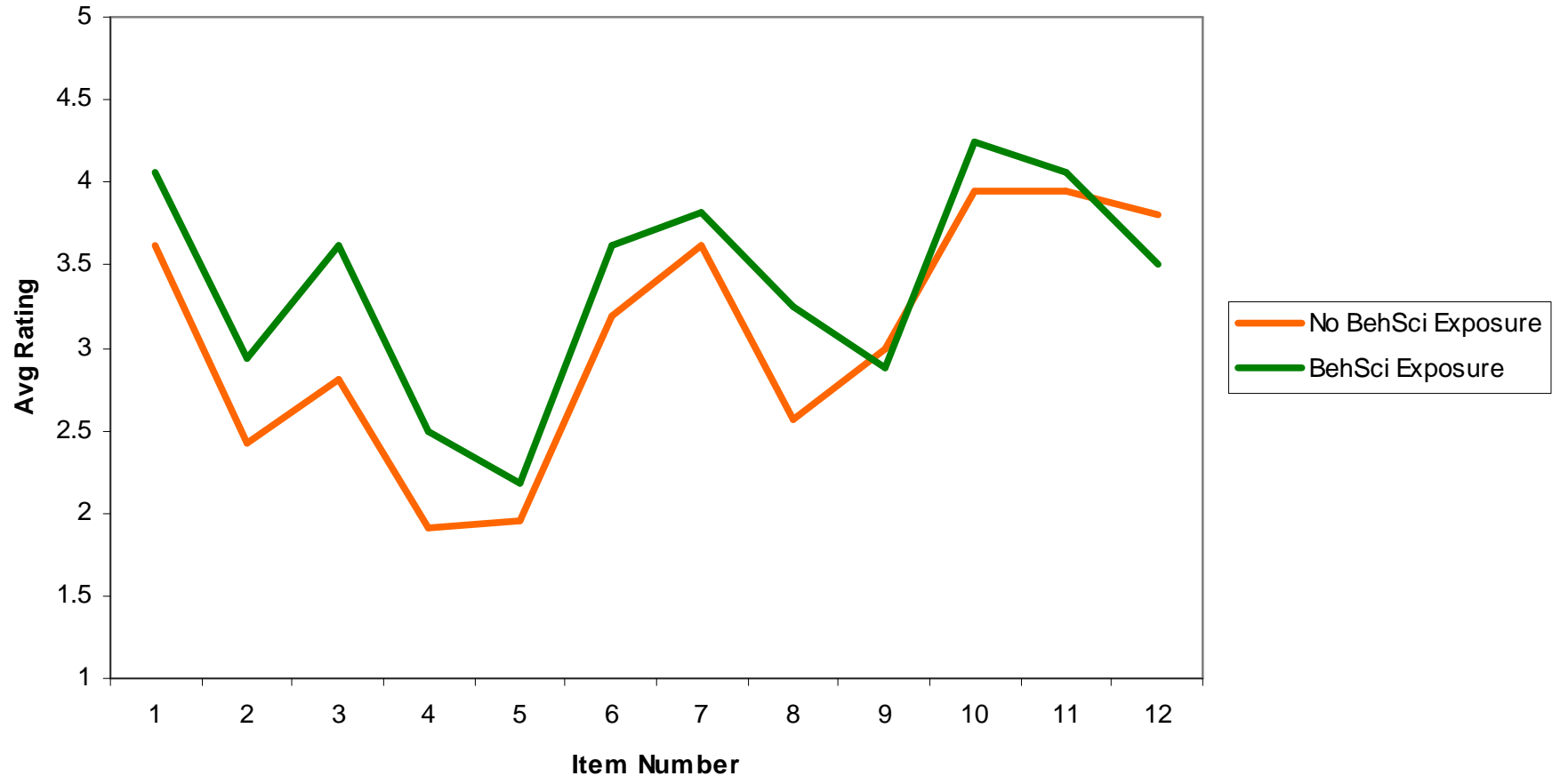
SB

PB

Behavioral Science Knowledge

- 3-factor ANOVA of competence ratings for 12 areas of BSK → a main effect of Item ($p < .05$)
 - Post hoc analyses → the items for BSK were significantly different from each other:
 - Highest = Sustaining Dr/PT relationship & Pt Interviewing/Counseling skills
 - Lowest = Personality Disorders & Psychotic Disorders
- Interaction found between BSE & Item ($p < .05$)
 - Post hoc between cell means across the two levels of BSE → Residents with BSE produced higher ratings for:
 - Anxiety Disorders
 - Personality Disorders
 - Psychopharmacology

Average Ratings for BehSci Knowledge by Item



3=Anxiety

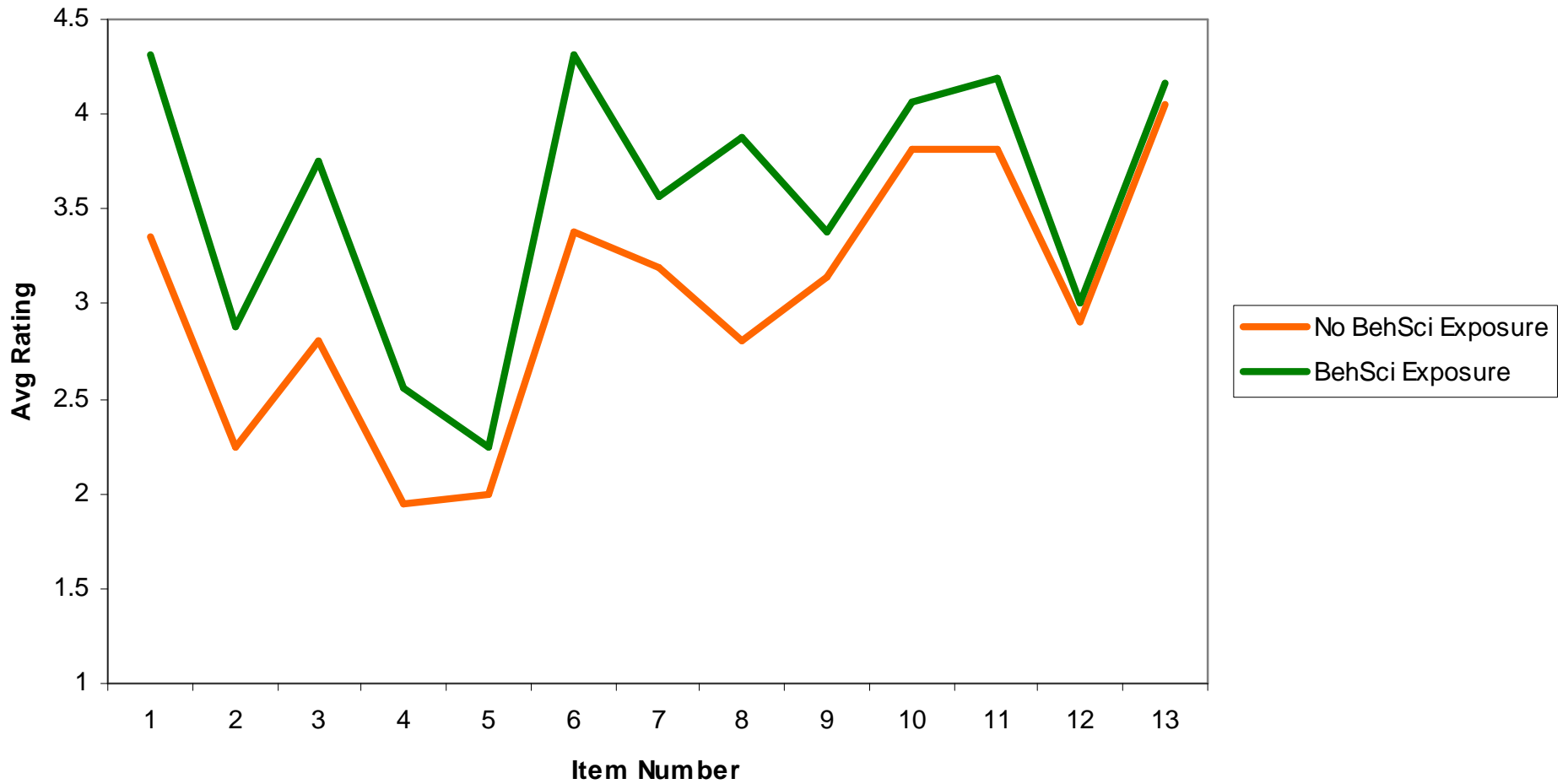
4=Personality Disorder

8=Psychopharmacology

What is the impact of behavioral science exposure on integration of behavioral science interventions into daily practice?

- Main effect of BSE found ($p < .05$): Residents with BSE were more likely to employ BSIs
- Significant interaction was obtained between BSE & Item ($p < .05$).
 - Post hoc analyses → residents with BSE produced higher ratings for:
 - Depression
 - Bipolar
 - Anxiety
 - Emotional Aspects of Non-Psychiatric Disorders
 - Psychopharmacology

Average Ratings for Behavioral Science Intervention by Behavioral Science Exposure



1=Depression

2=Bipolar

3=Anxiety

8=Psychopharmacology

6=Emotional Aspects of Non-Psychiatric Disorders

Discussion

- Exposure to behavioral science curriculum resulted in higher perceptions of competency in:
 - Patient care
 - Systems-based practice
 - Practice based learning and improvement
- Exposure also resulted in higher ratings of perceived knowledge about:
 - Anxiety disorder
 - Personality disorders
 - Psychopharmacology
- Similar relationship was found between exposure and frequency with exposure increasing management of:
 - Depression
 - Bipolar disorder
 - Anxiety
 - Emotional aspects of non-psychiatric disorders
 - Psychopharmacology

Discussion

- Preliminary results confirmed our hypotheses that behavioral science exposure has a relationship with residents' perceptions of competency and practice activity
- Future plans will address whether this relationship holds up longitudinally

Limitations

- small sample size
- lacked a control group--difficult to attribute significant findings to behavioral science curriculum

Future Plans

- The study is longitudinal
- PGY class of 2008 will be reassessed with the same questionnaire in 3 years, and the data analyzed for pre- and post- changes