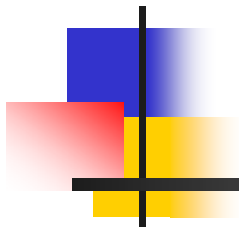


Using Complementary Medicine to Foster both *Science* and *Professionalism*



Aviad Haramati, PhD

Professor of Physiology & Biophysics
Georgetown University School of Medicine
Washington, DC USA

Medical Education Grand Rounds
University of Pittsburgh School of Medicine
June 12, 2009



Outline

- Rationale for including Complementary Medicine (CAM) in the medical curriculum
- CAM and the learning of Science
- CAM and Professionalism



Definitions

- **Conventional Medicine**

- that practiced by MDs or DOs and other allied health professionals

- **Alternative Medicine**

- Used **in place of** conventional medicine

- **Complementary Medicine**

- Used **together with** conventional medicine

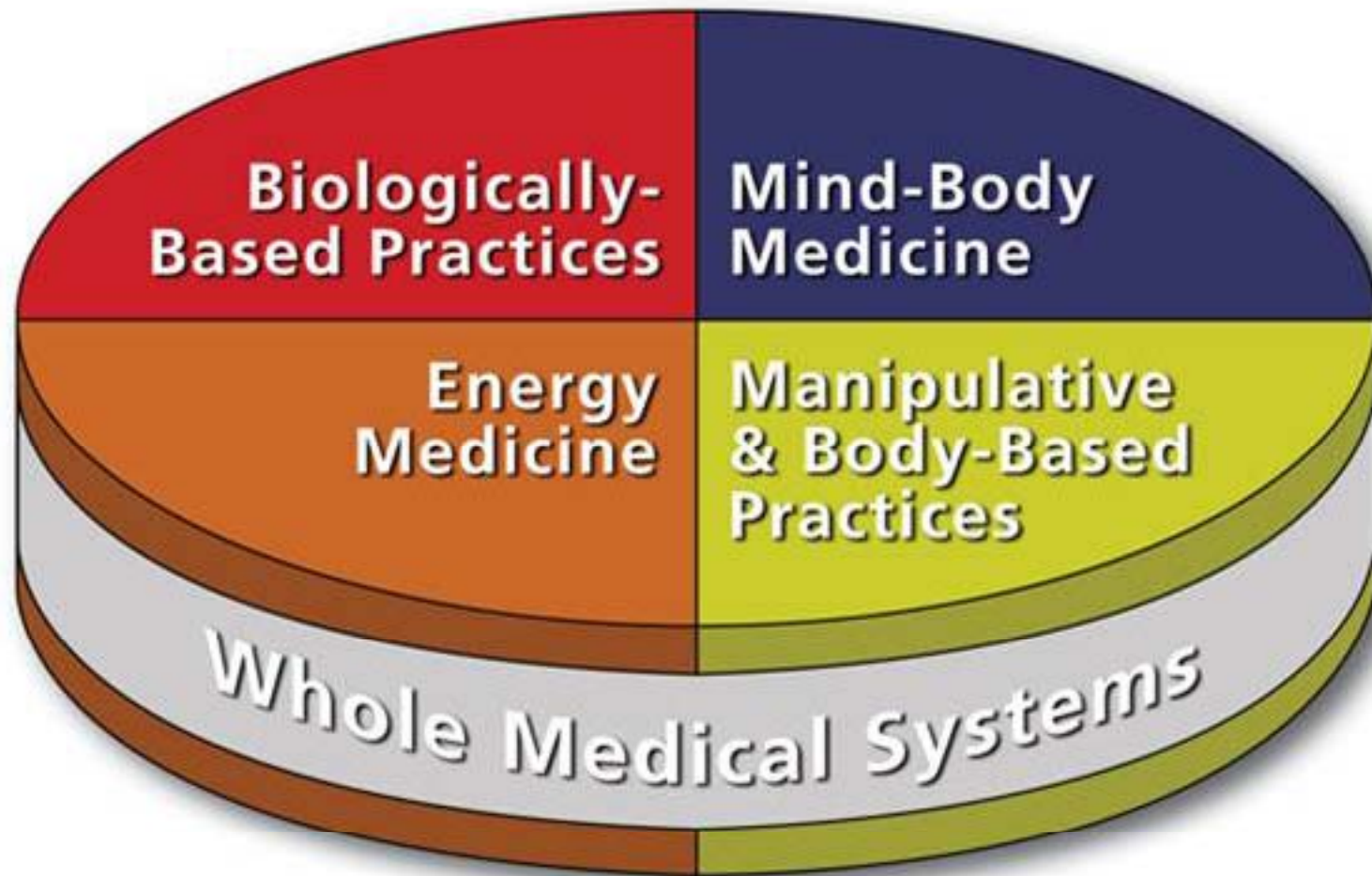


Integrative Medicine

The practice of medicine that reaffirms the importance of the relationship between practitioner and patient, focuses on the whole person, is informed by evidence, and makes use of all appropriate therapeutic approaches, healthcare professionals and disciplines to achieve optimal health and healing

Consortium Academic Health Centers for Integrative Medicine, 2004

CAM Domains

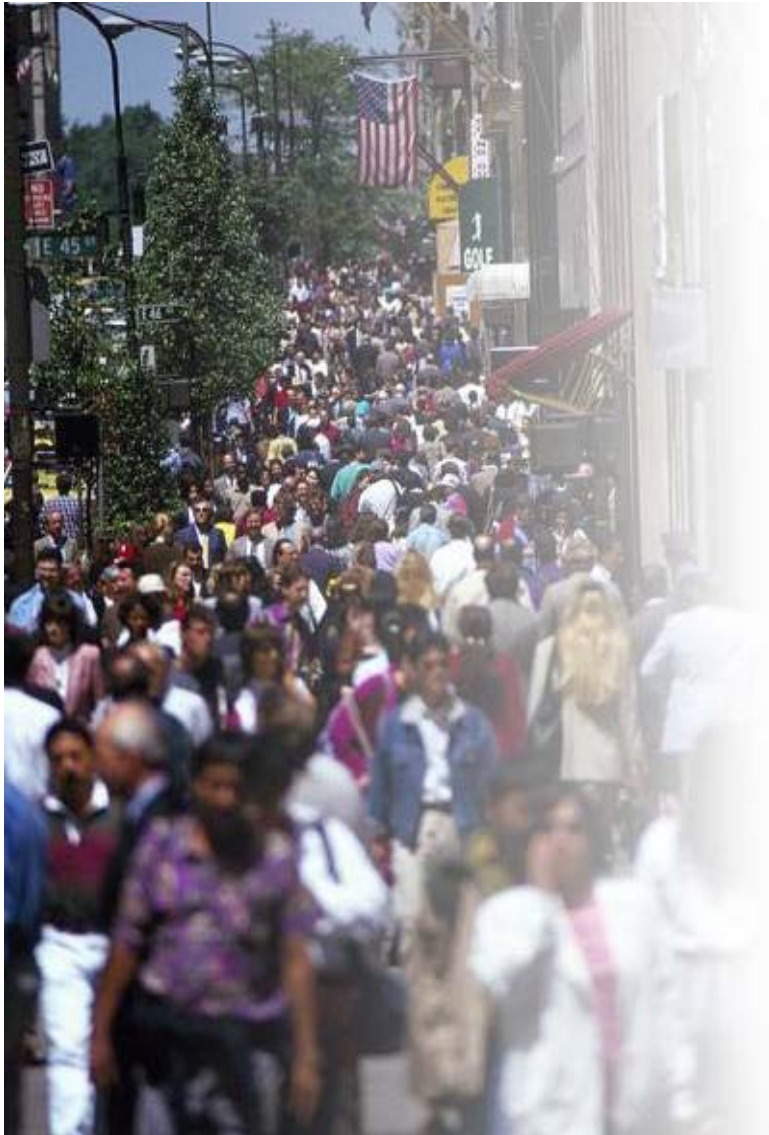




Why is CAM/IM Relevant to the Training of Physicians?

- Widespread public usage

CAM Use in the United States



62% of adults used CAM in the past year

Top 10:

- 43% prayed for self
- 24% others prayed for you
- 19% natural products
- 12% deep breathing exercises
- 10% participate in prayer group
- 8% meditation
- 8% chiropractic
- 5% yoga
- 5% massage
- 4% diet-based therapies

Barnes et al., CDC ADR, 2004



Use of CAM Therapies in the US

<40% of therapies used were
disclosed to the physician

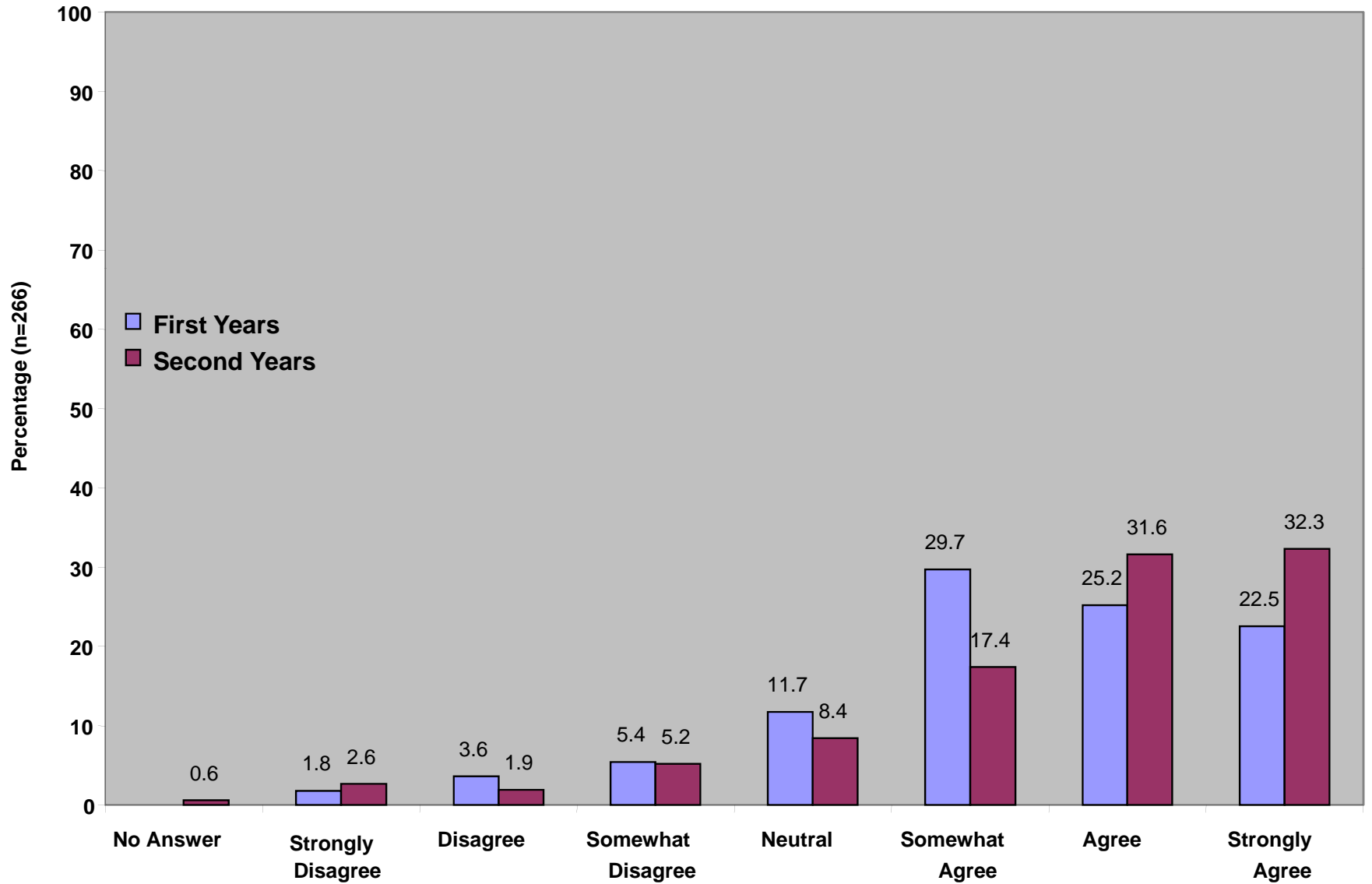
(Eisenberg DM et al Trends in Alternative Medicine use in the United States:
1990-1997; results of a follow-up national survey, *JAMA*, 1998)



Why is CAM/IM Relevant to the Training of Physicians?

- Widespread public usage
- Growing awareness/desire by students and faculty to include CAM in medical training

CAM practices should be included in my school's curriculum.





National Efforts in USA Addressing CAM Integration in Education

- 15 NIH-Funded (R25 Grants) for CAM Curricular Initiatives (2000-2003)



October 2007

Experiences of
the CAM
Educational
Programs

Funded by
NIH/NCCAM



National Efforts in USA Addressing CAM Integration in Education

- 15 NIH-Funded (R25 Grants) for CAM Curricular Initiatives (2000-2003)
- Consortium of Academic Health Centers for Integrative Medicine (44) (est. 2002)



Consortium *of* Academic Health Centers *for* Integrative Medicine

- Duke University
- Harvard University
- University of Arizona
- UCSF
- University of Maryland
- University of Massachusetts
- University of Minnesota
- Albert Einstein College of Medicine/
Beth Israel Medical Center
- **Georgetown University**
- Thomas Jefferson University
- Columbia University
- University of Michigan
- George Washington University
- Oregon Health Sciences University
- University of Texas-Galveston
- University of Washington
- University of Calgary
- UMDNJ
- University of Pennsylvania
- **University of Pittsburgh**
- UCLA
- University of Hawaii
- University of Connecticut
- University of New Mexico
- University of Alberta
- Wake Forest University
- Laval University
- University of California at Irvine
- University of North Carolina
- University of Wisconsin
- Mayo Clinic
- University of Kansas
- Stanford University
- University of Vermont
- University of Colorado
- Yale University
- McMaster University
- Vanderbilt University
- Johns Hopkins University
- Northwestern University
- Boston University
- Ohio State University
- University of Illinois
- University Cincinnati

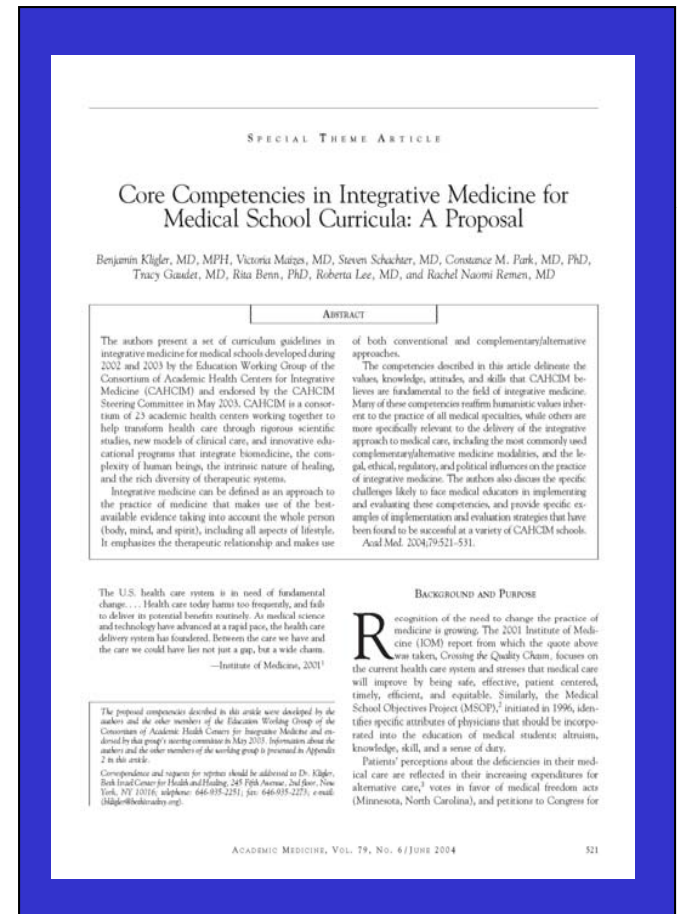
www.imconsortium.org

Academic Consortium's Educational Projects in Medical Curricula

- Kligler, B *et al* Core Competencies in Integrative Medicine for Medical School Curricula: A Proposal

Academic Med 79:521-531, 2004

- A Guide for Medical Educators: Curriculum in Integrative Medicine - Sample Modules
www.imconsortium.org

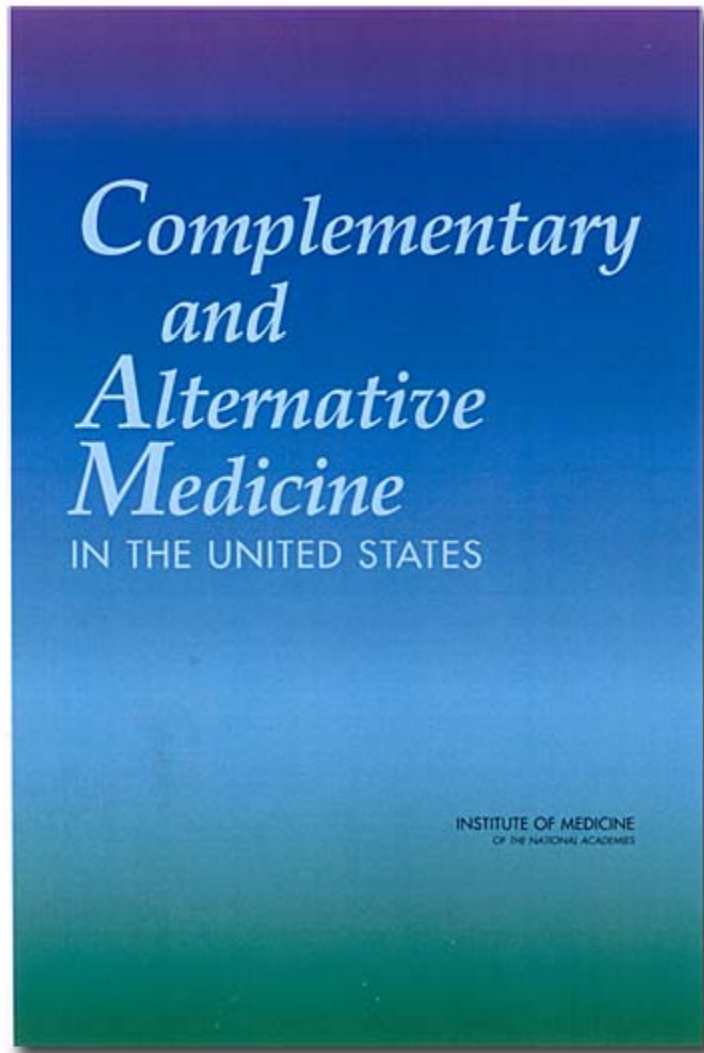




National Efforts in USA Addressing CAM Integration in Education

- NIH-Funded Institutions (R25 Grants) Undertaking Curricular Initiatives (15)
- Consortium of Academic Health Centers for Integrative Medicine (30) (est. 2002)
- Policy Initiatives:
 - White House Commission on CAM Policy (2002)
 - National Policy Dialogue Report (2002)
 - IOM Committee on CAM (Jan 2005)
 - National Education Dialogue (June 2005)

IOM Study on CAM



Recommendation on Education

“The committee recommends that health profession schools (e.g. schools of medicine, nursing, pharmacy, and allied health) **incorporate sufficient information about CAM into the standard curriculum...to enable licensed professionals to competently advise their patients about CAM.**”



Canada: CAM in UME Task Force

- All 17 Medical Schools Participating
- Task Force convened 2000
- Goal: To develop a guide for implementing CAM integration in UME
- Consensus regarding core competencies
- Digital repository of curricular materials

www.caminume.ca



Why is CAM Relevant to the Training of Physicians?

- Widespread public usage
- Growing awareness/desire by students and faculty to include CAM in medical training
- Incorporation of CAM-relevant material can help address several desired goals in the medical curriculum



Using CAM to Advance...

- **Knowledge** – Understanding the scientific basis for various CAM therapies; interactions
- **Skills** – Analytic Skills: Rules of Evidence, Stress Management Skills, Self-Awareness with Mind-Body Medicine Skills, Clinical Skills: OSCE Station
- **Attitudes** – Improvements in patient-doctor communication, open-mindedness
- **Values** – Emphasis on relationship-centered care, respect for CAM disciplines/practitioners



Educational Initiative in CAM at Georgetown U School of Medicine

Examples of Basic Science Integration

- **Gross Anatomy:** anatomy of acupuncture, massage
- **Human Physiology:** biofeedback, neuromuscular manipulation
- **Human Endocrinology:** Stress reduction: imagery, meditation, breathing
- **Neuroscience:** mechanisms of acupuncture action
- **Immunology:** psychoneuroimmunology
- **Pharmacology:** botanicals, dietary supplements, herb-drug interactions



Specific Teaching Formats

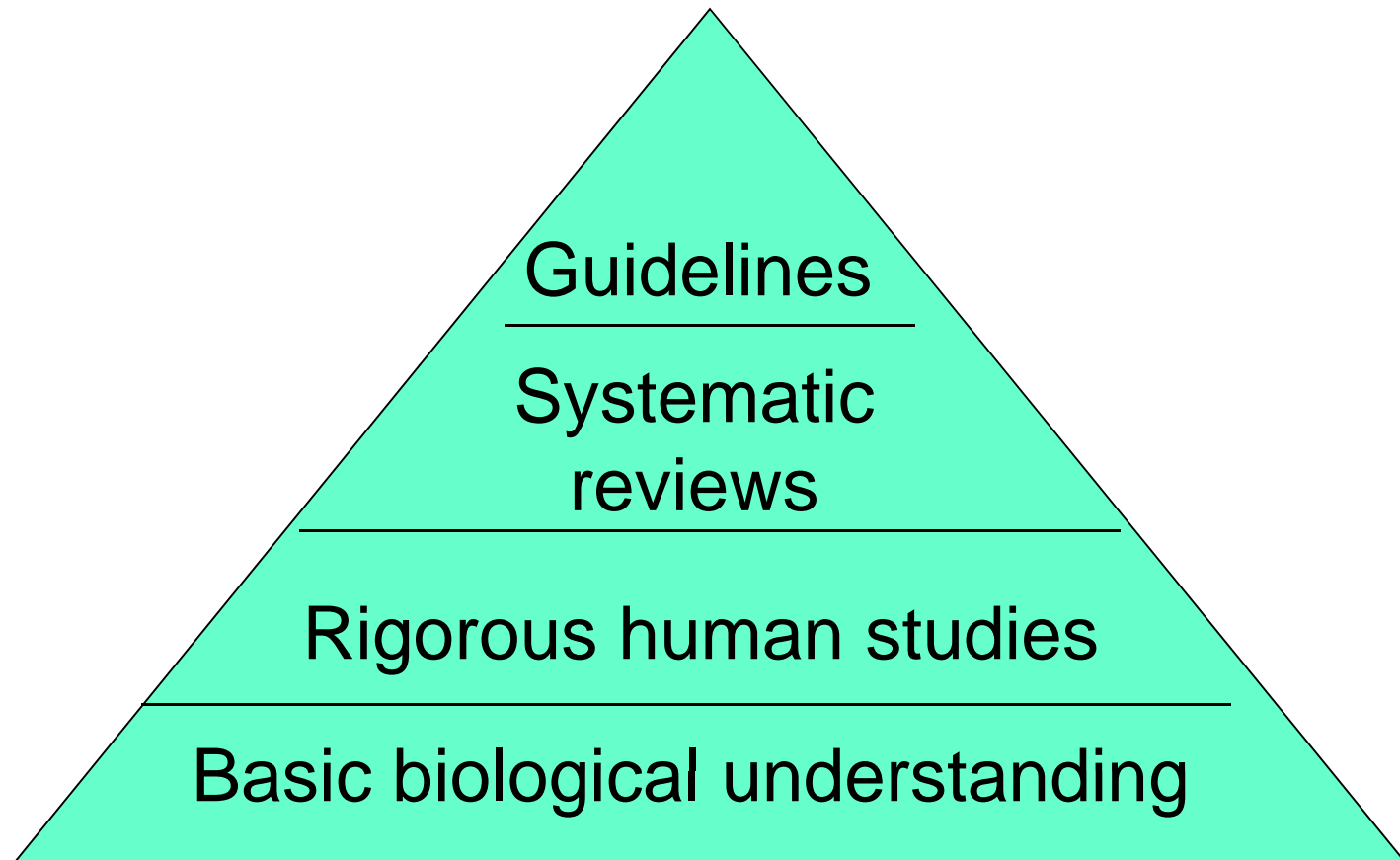
- Lectures

- "Anatomy of Acupuncture"
- "Psychoneuroimmunology"
- "Herb-drug Interactions"

- Cases

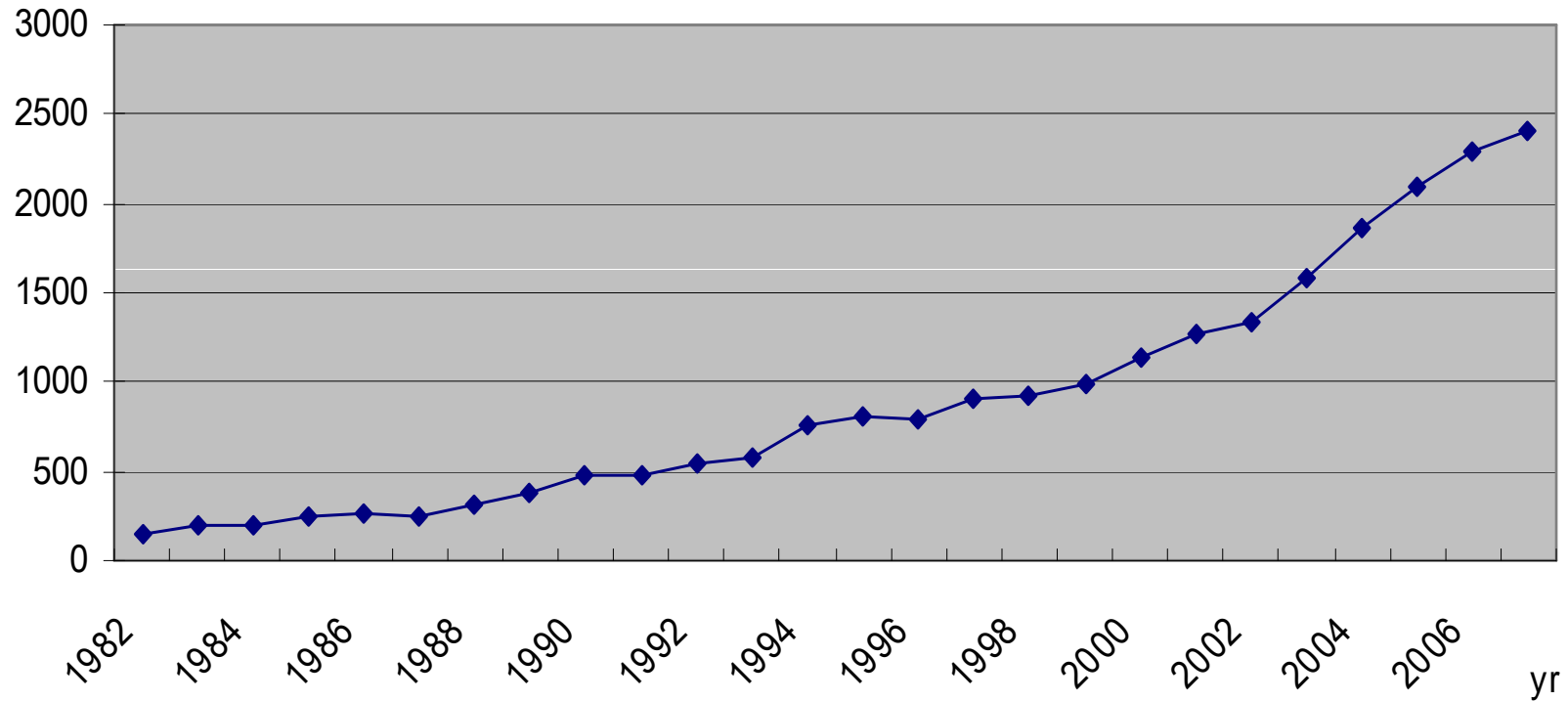
- Short/focused discussions
 - "Supplements for sports/exercise"
 - "Botanicals for menopausal symptoms"
- Problem Based Learning
 - "My Aching Back"

Hierarchy of Evidence



Courtesy of Dr. Josie Briggs, NCCAM

Number of CAM RCTs Indexed on MEDLINE, 1982-2007*

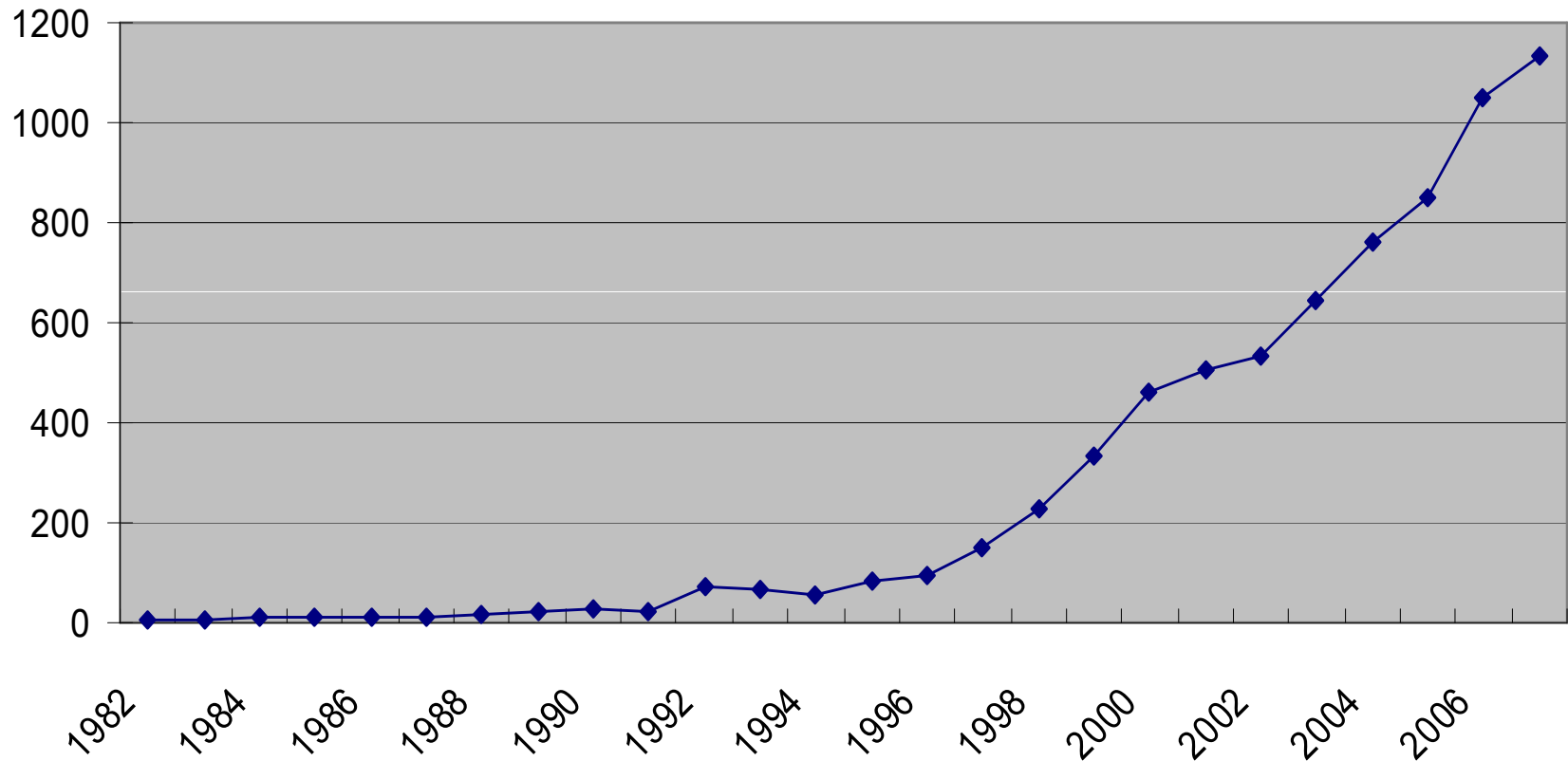


*Number of CAM RCTs Indexed on MEDLINE, 1982-2007. We used the following search strategy to obtain counts for each year: CAM [subset] AND randomized-controlled-trial [subset] AND year [Publication Date]. Searches were run on Aug. 30, 2008.

CAM Field of Cochrane Collaboration: *Databases of Controlled Trials and Systematic Reviews*

- Over 21,000 controlled clinical trials of complementary therapies have been identified and published in *The Cochrane Library* (as of Issue 3, 2008)
- 300 CAM-related Cochrane reviews have been completed and are published in *The Cochrane Library* (as of Issue 3, 2008)
- 201 CAM-related Cochrane review protocols are published in *The Cochrane Library* (as of Issue 3, 2008)

Number of CAM Systematic Reviews Indexed on MEDLINE, 1982-2007*



*Number of CAM RCTs Indexed on MEDLINE, 1982-2007. We used the following search strategy to obtain counts for each year: CAM [subset] AND randomized-controlled-trial [subset] AND year [Publication Date]. Searches were run on Aug. 30, 2008.

**Practice
Guidelines**

CLINICAL GUIDELINES

Annals of Internal Medicine

**Nonpharmacologic Therapies for Acute and Chronic Low Back Pain:
A Review of the Evidence for an American Pain Society/American
College of Physicians Clinical Practice Guideline**

Roger Chou, MD, and Laurie Hoyt Huffman, MS

**Systematic
Review**

LITERATURE REVIEW

Journal of Manipulative and Physiological Therapeutics

**UNLOADED MOVEMENT FACILITATION EXERCISE
COMPARED TO NO EXERCISE OR ALTERNATIVE THERAPY
ON OUTCOMES FOR PEOPLE WITH NONSPECIFIC CHRONIC
LOW BACK PAIN: A SYSTEMATIC REVIEW**

Susan C. Slade, PT,^a and Jennifer L. Keating, PhD, PT^b

RCT

Annals of Internal Medicine

ARTICLE

**Comparing Yoga, Exercise, and a Self-Care Book for Chronic Low
Back Pain**

A Randomized, Controlled Trial

Karen J. Sherman, PhD, MPH; Daniel C. Cherkin, PhD; Janet Erro, RN, MN, PNP; Diana L. Miglioretti, PhD; and Richard A. Deyo, MD, MPH

Courtesy of Dr. Josie Briggs, NCCAM



At the 2009 Conference in Minneapolis, MN (May 12-15, 2009)

To highlight recent research and state-of-science across disciplines

6 keynote speakers

33 scientific sessions (symposia, featured discussions, workshops)

57 oral abstracts (top 15% of all abstracts)

>250 posters (basic science, clinical, health services, methodology, and education)

Research Resource sessions for trainees/new investigators

Over 800 attendees and 26 Participating Organizations

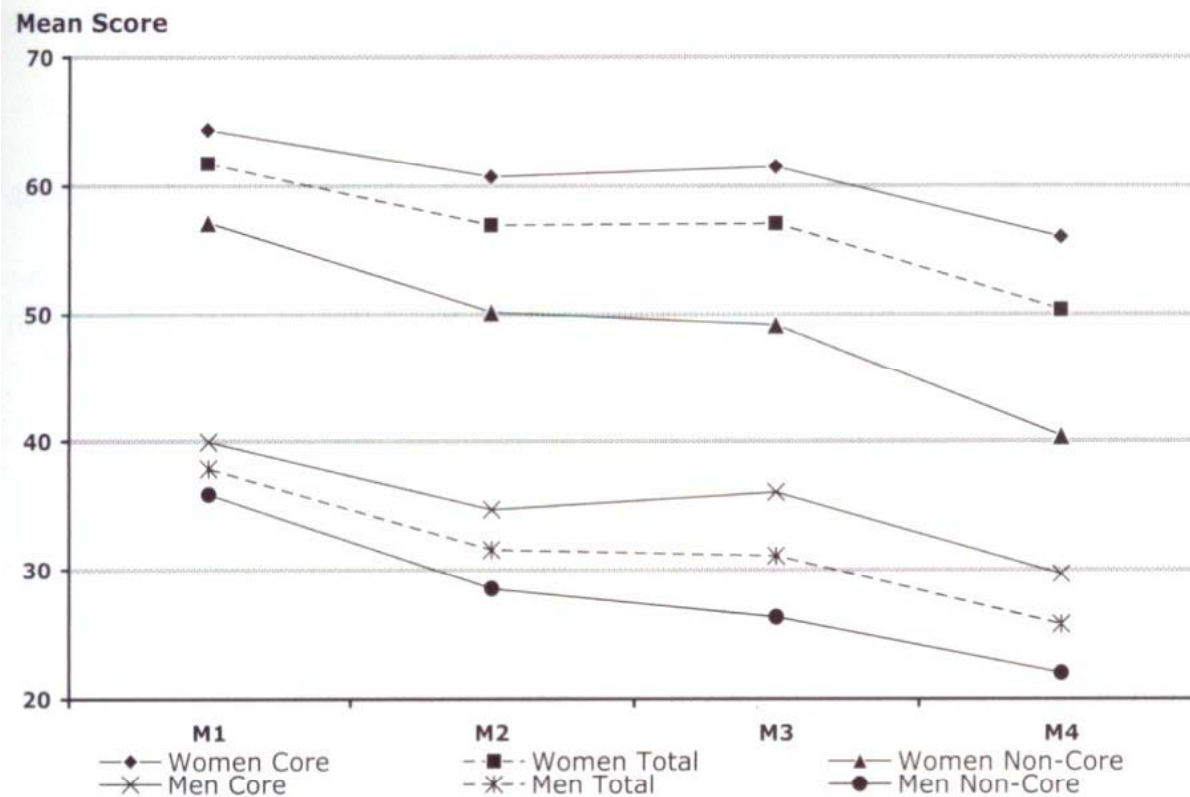


Georgetown University School of Medicine

Mission Statement

Guided by the Jesuit tradition of *cura personalis*, of caring for the whole person, Georgetown University School of Medicine will educate, in an integrated way, knowledgeable, skillful, ethical, and compassionate physicians and biomedical scientists dedicated to the care of others and the health needs of our society.

Decline in Empathy in Medical School



Women

Men

Newton et al *Academic Med* 83:244-249, 2008



Question

Are you surprised by the finding that empathy declines in medical students?



Competency-Based Medical Education

The Nine Abilities - Brown Medical School

1. Effective Communication
2. Basic Clinical Skills
3. Using Basic Science in the Practice of Medicine
4. Diagnosis, Management and Prevention
5. Life-long Learning
6. Self-Awareness, Self-Care, and Personal Growth
7. Social/Community Contexts of Healthcare
8. Moral Reasoning and Clinical Ethics
9. Problem-solving



Educational Initiative in CAM
at Georgetown U School of Medicine

Specific Aim 1

- To increase student understanding of **self-awareness** and **self-care** by providing a unique experiential and didactic introduction to *Mind-Body Medicine*



Educational Initiative in CAM at Georgetown U School of Medicine

Goal of Mind-Body Medicine Skills Groups

Mind-Body approaches teach the power of self-awareness and self-care. In order for students to understand the potential and applicability of mind-body approaches in healthcare, *we believe it is important for them to experience these techniques and gain insight about themselves.*



Educational Initiative in CAM at Georgetown U School of Medicine

Mind-Body Medicine Skills Groups

- Offered to 60 medical students (6 x 10)
- Each group meets 2 hrs/wk for 11 wks
 - (check-in, new technique, process, insights)
- 2 trained faculty members/group
- Explore the basis for a variety of techniques
- Important elements are: sharing one's insights with the group and listening attentively, respectfully and non-judgmentally



Mind-Body Medicine Skills Groups

Techniques

- Breathing (various)
- Meditation (mindfulness/awareness, concentrative)
- Guided Imagery (several types)
- Biofeedback (autogenic training)
- Art (emphasis on non-cognitive approaches)
- Music (used in meditation and imagery sessions)
- Movement (shaking, dancing, exercise)
- Writing (journals, dialogues, service commitment)





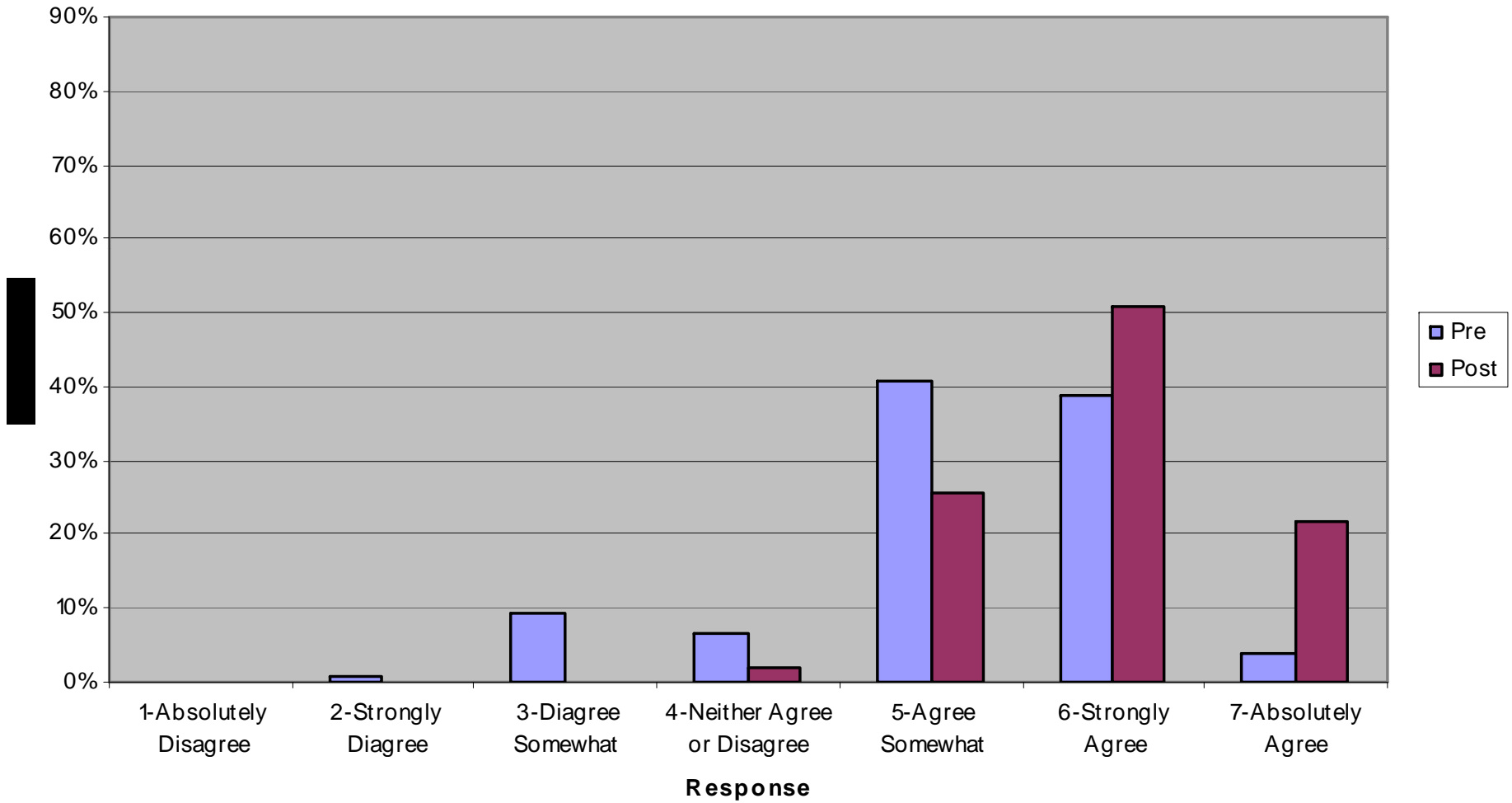


Mind-Body Medicine Skills Groups

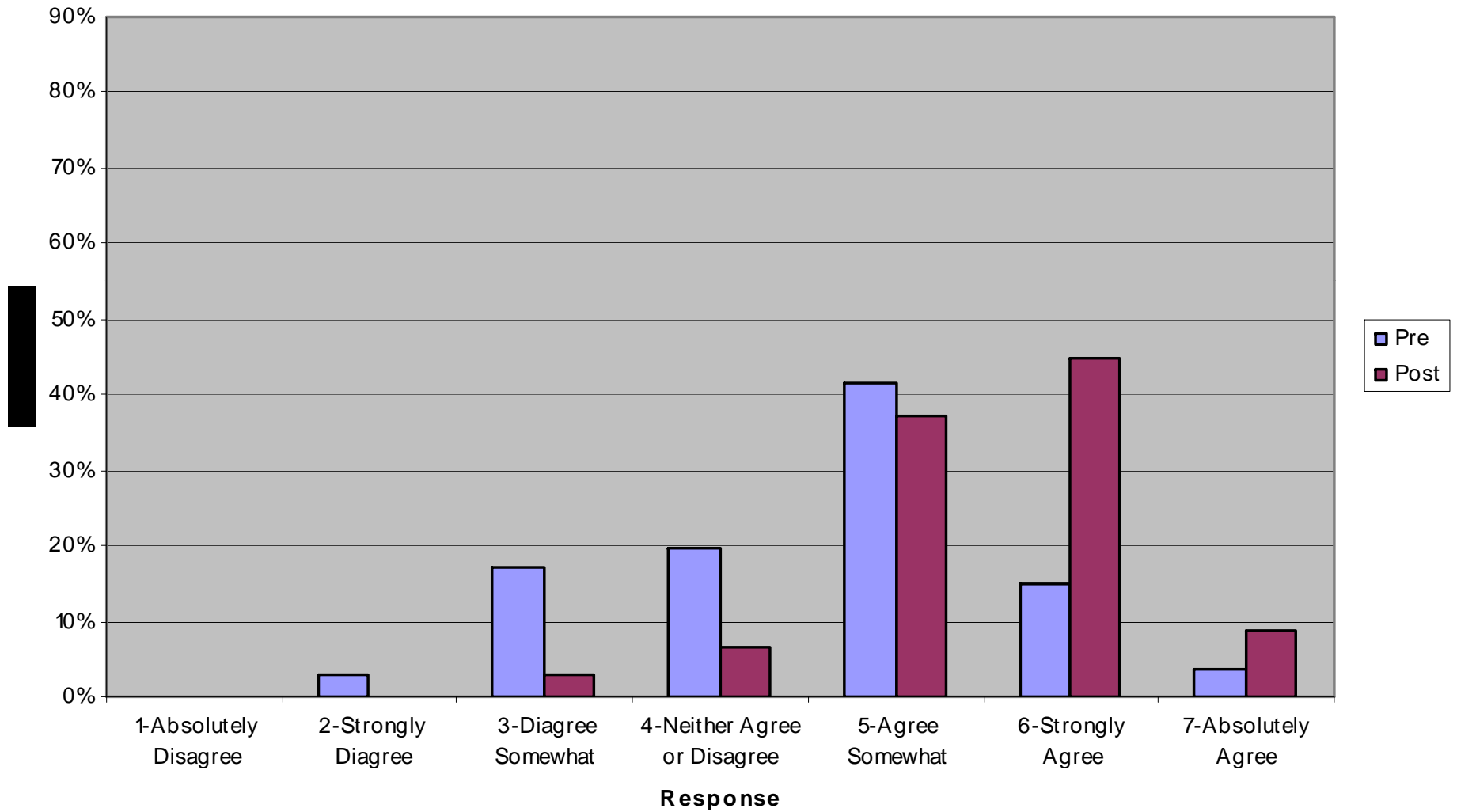
Evaluation and assessment:

- 21-item Attitudinal Mind-Body Skills Scale (MBSS)
Georgetown University School of Medicine
- 10-item Perceived Stress Scale (PSS)
J Health Soc Behav 24:385-396, 1983.
- 15-item Mindful Awareness Attention Scale (MAAS)
J Pers Soc Psychol.84:822-48, 2003.
- Written responses to open-ended questions

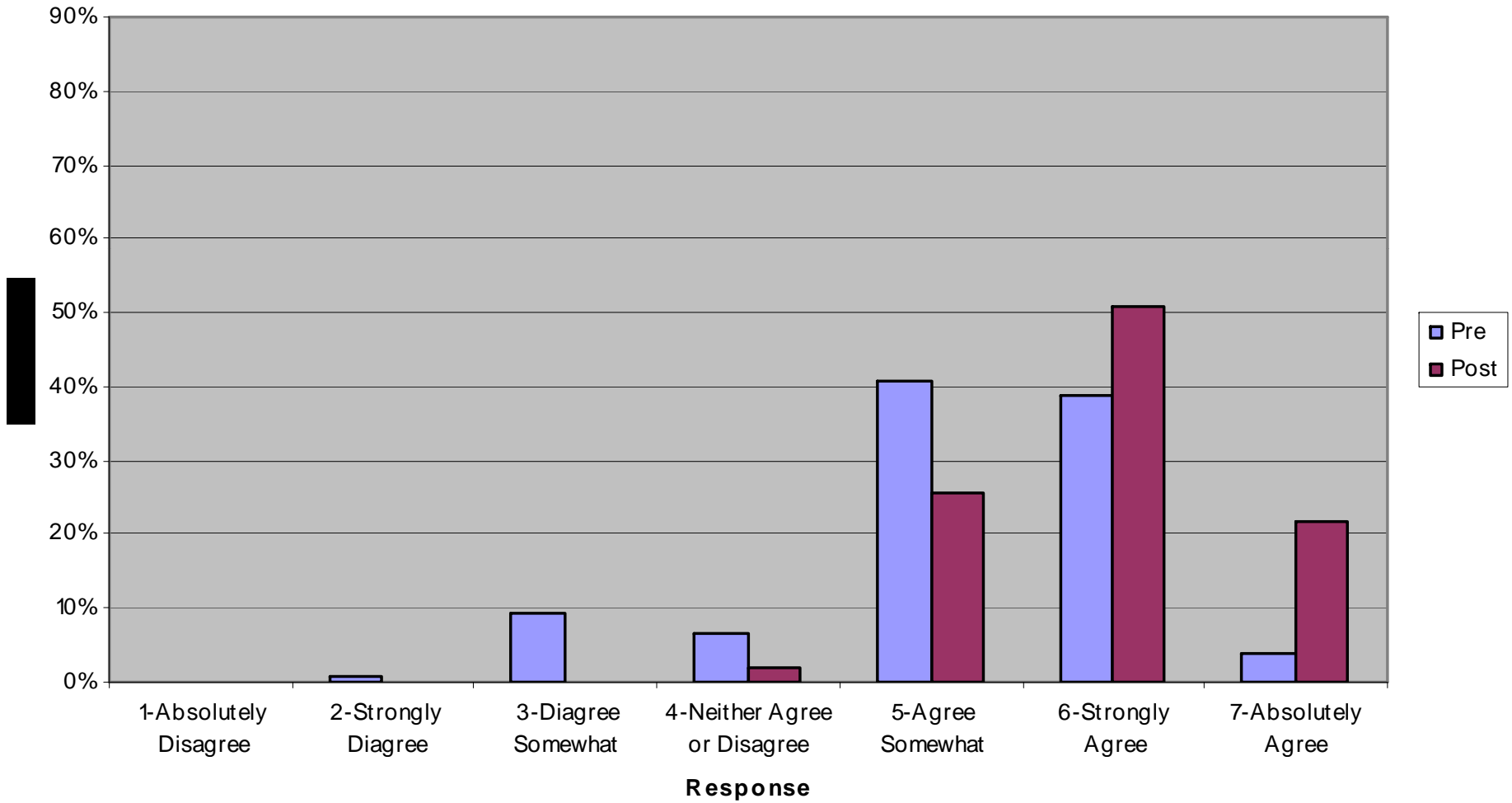
I feel that I have the capacity to deal effectively with the stresses of medical school.



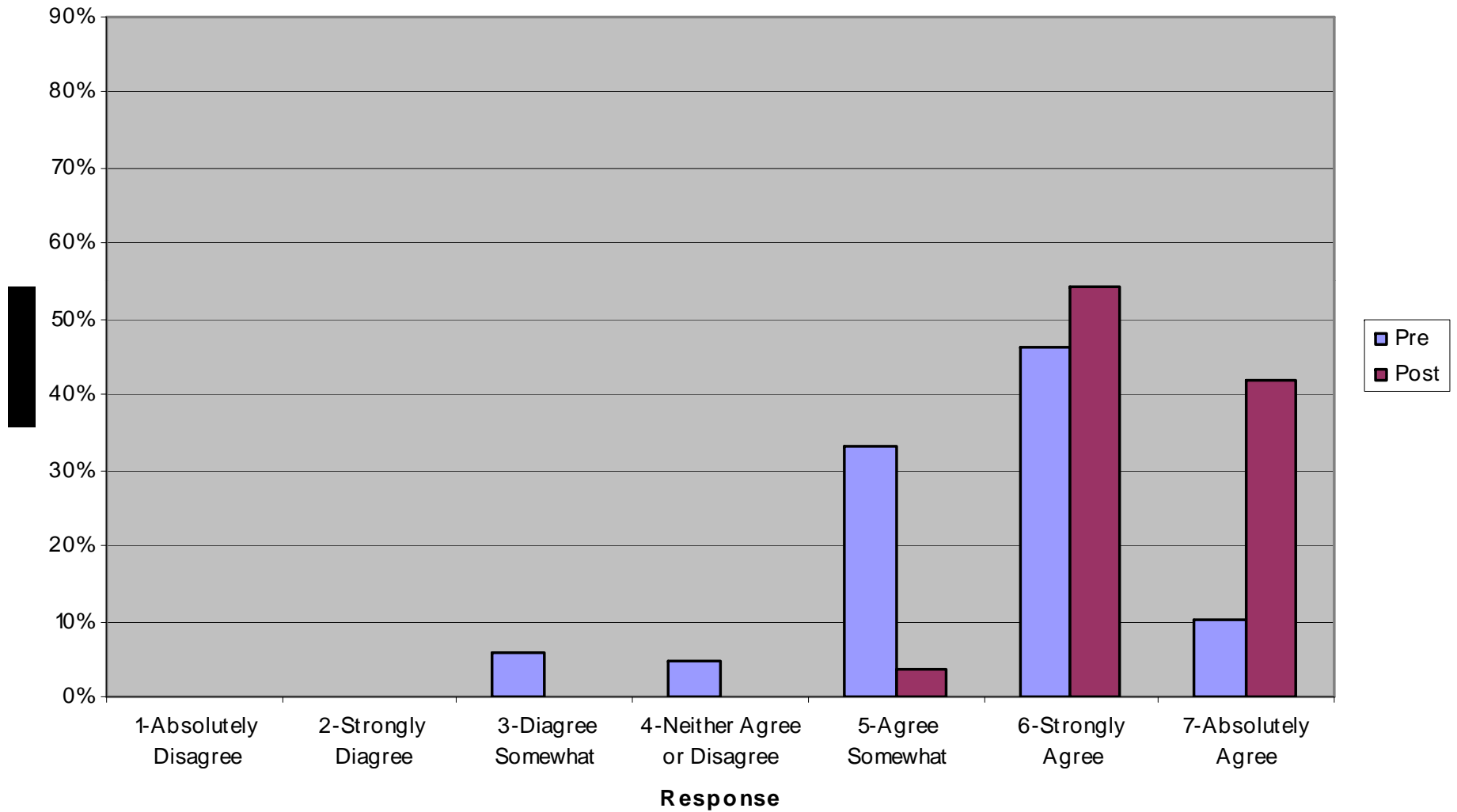
I feel a powerful connection with my own capacity for self-healing.



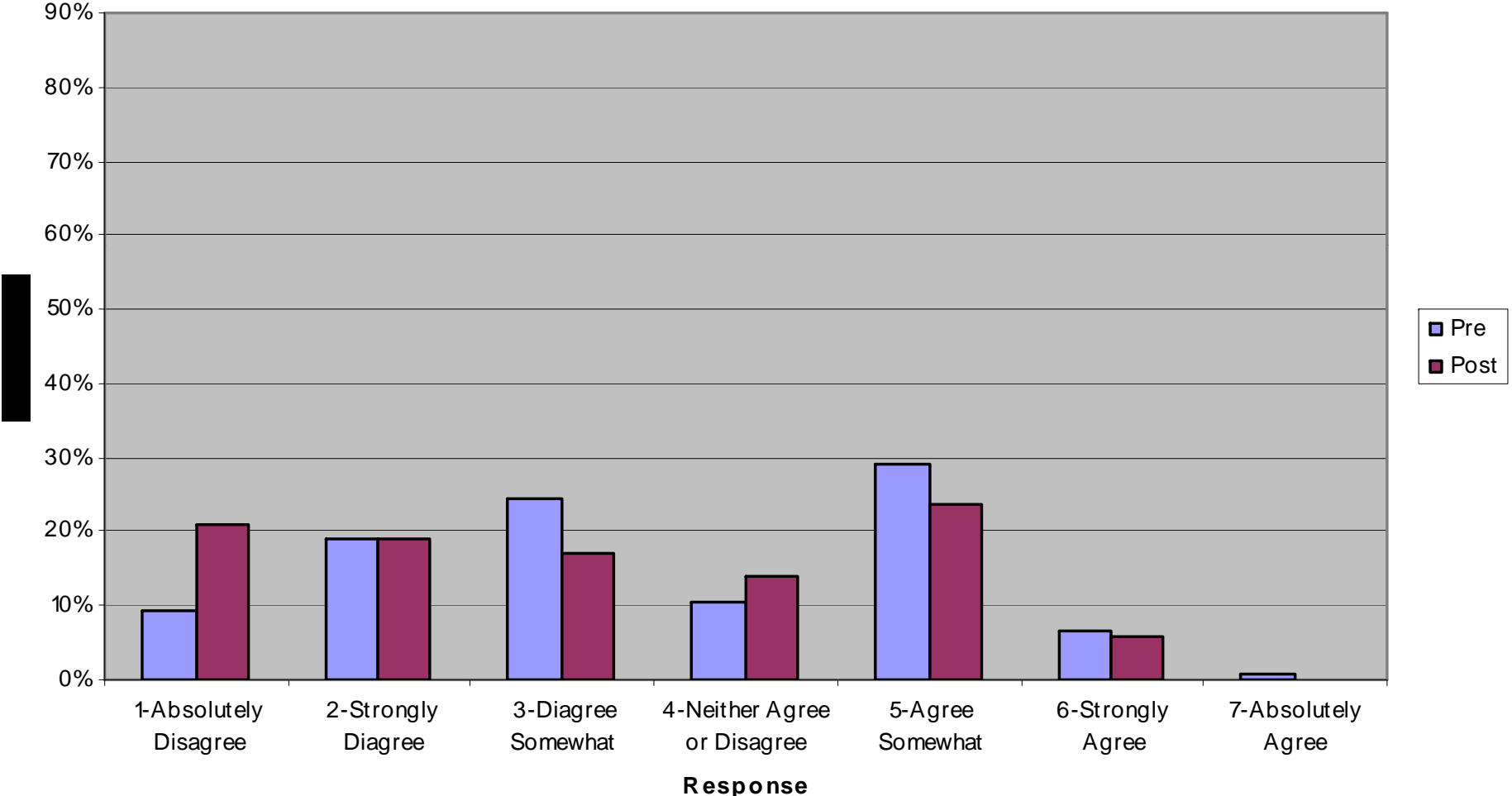
I feel that I have the capacity to deal effectively with the stresses of medical school.



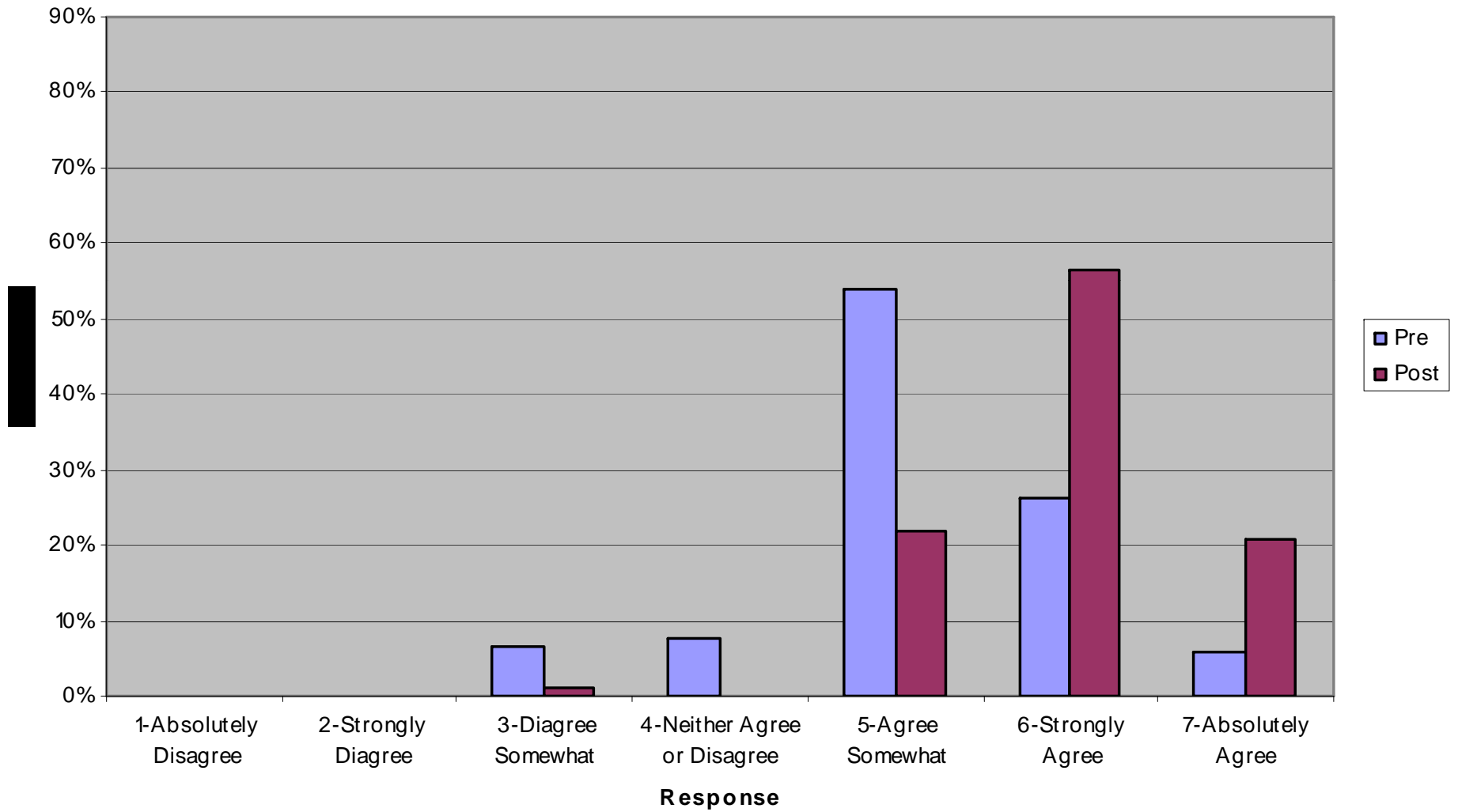
I have an appreciation for my classmates' concerns and struggles.



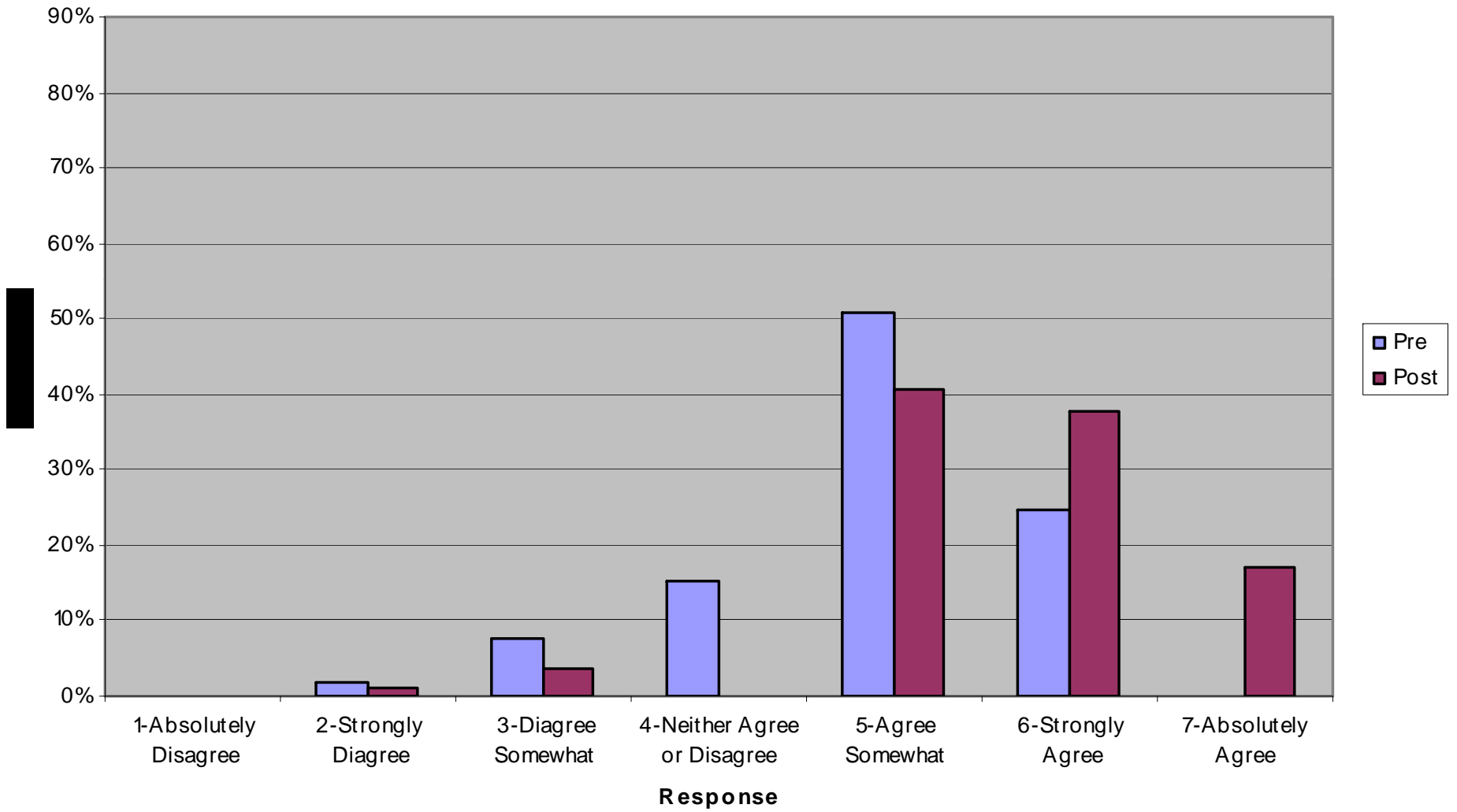
I would have a lesser view of myself if I were not at or near the top of my class.



I understand what self-awareness means.



I have a high degree of self-awareness.





Perceived Stress Scale

SUMMARY

	N	Score	Std Error
Pre-Course	102	16.4	0.6
Post-Course	102	13.1	0.6

Mean paired difference: -3.2 (95% CI: -2.1 to -4.2: $P < 0.001$)



Mindful Awareness Attention Scale

SUMMARY

	N	Score	Std Error
Pre-Course	69	54.8	1.4
Post-Course	69	61.3	1.4

Mean paired difference: 6.5 (95% CI: 9.00 to 3.44: $P < 0.001$)



Educational Initiative in CAM at Georgetown U School of Medicine

Survey Questions & Responses

1	What did this course mean to you?
2	How has it helped you as a medical student and as a person, if at all?
3	How will it contribute to your work as a physician, if at all?
4	How has it changed your attitude toward medicine and healthcare, if at all?
5	How has it changed your attitude toward medical school, if at all?
6	Has it changed your relationship with your classmates, if so, how?



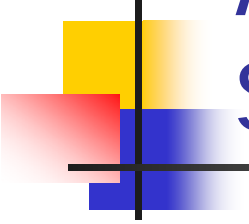
How Will It Contribute to Your Work As a Physician, If at All?

- "I believe that being self-aware is key to healthy interactions with other people."
- "I think by reflecting on the reasons why I became a doctor, my new found sense of self can only help the patients around me."
- "...know thyself, then you are in a better position to help others."
- "I am not sure yet, but I know I have been opened up and need more time to figure how and when to incorporate it."



How Has It Changed Your Attitude Toward Medical School, If at All?

- "I am definitely more positive about med school because I am not letting it take control of me as much."
- "I am more excited about medical school than ever before."
- "It has helped me to realize that I don't need to fit into med school, rather I need to learn to fit med school into my life..."
- "There is hope! Most classes seem so worthless, but this one was worth the \$30,000."



Analysis of Student Responses to Six Open-ended Questions

- **Five central themes**
 - 1) Connections
 - 2) Self-discovery
 - 3) Learning
 - 4) Stress Management Skills
 - 5) Medical Education
 - Problems in health care
 - Awareness of CAM
 - Attitudes towards medical school

Saunders et al Medical Teacher 29:778-784, 2007

November/December 2008

www.acphysci.com

ACADEMIC PHYSICIAN & SCIENTIST

THE SOURCE FOR RECRUITMENT AND PROFESSIONAL DEVELOPMENT



Students in Georgetown University School of Medicine's Mind-Body Skills course begin a session with a period of meditation.

● **Spotlight on Mind-Body Skills:** A unique program blends science and humanism by fostering student self-awareness and self-care. See page 2



Mind-Body Medicine Program

- **Implementation and Scope of the Mind-Body Medicine Skills Program over 7 years**
 - >30 trained faculty facilitators (clinicians, scientists, educators)
 - >450 medical students participated
 - ~120 graduate students (MS and PhD)
 - ~90 nursing students
 - 30 faculty participants (including from curriculum committee)

Total of 73 groups and over 700 participants

Embraced by the School of Medicine as essential for a core competency (self-awareness and self-care)



Summary

- Rationale for including Complementary Medicine (CAM) in the medical curriculum
Responsibility, advance knowledge, skills and attitudes
- CAM and the learning of Science
Mechanisms, EBM, rules of evidence
- CAM and Professionalism
Foster self-awareness, self-care, empathy