

Empathy 2.0

Maintaining Empathic Resilience: New Insights From Osteopathic Education

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**Osteopathic International Alliance
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For the osteopathic practitioner, accurately understanding the patient's perspective is the central basis for assessing his or her body, mind, and spirit.

The vehicle for achieving this level of insight is empathy, which is the active attempt to enter the private, perceptual world of another person.

Osteopathic philosophy focuses on patient-centered care, hands-on manual diagnosis and management, and pragmatic patient education to address personal, familial, and societal concerns.

Therefore, the osteopathic profession has cultivated a culture that favors empathy.

What is the problem?

- Empathy, essential to healing relationships, is known to decline during allopathic clerkship and residency years, often replaced by symptoms of burnout.
 - Some data are inconsistent internationally, but this is a clear trend in the USA.
- Much conjecture as to reasons:
 - Stress/overwork
 - Poor role-models; unclear role expectations
 - High-tech low-touch medical culture
 - Lack of time
 - Inadequate resources
 - Cynicism
 - Frustration with difficult patients
 - Little importance attached to emotion or empathy in medical education and practice

National Board of Osteopathic Medical Examiners lists the cultivation of humanistic behavior and exhibition of compassionate treatment, altruism, and empathy among the required competencies in the practice of osteopathic medicine

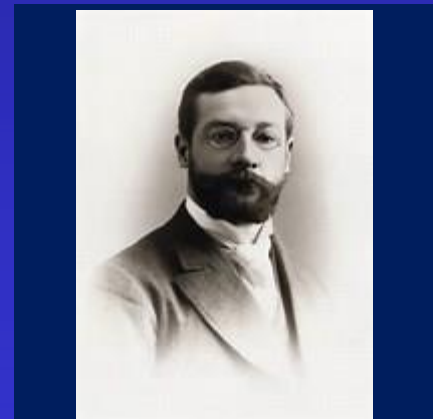
National Board of Osteopathic Medical Examiners (NBOME). Fundamental Osteopathic Medical Competency Domains. Chicago, IL: National Board of Osteopathic Medical Examiners; 2011. <https://www.nbome.org/docs/NBOME%20Fundamental%20Osteopathic%20Medical%20Competencies.pdf>. Accessed June 19, 2019.

Questions for today:

1. Can Osteopathic physicians be differentiated in this domain from their allopathic counterparts and, if so, why?
2. Does Osteopathic Manipulative Medicine contribute to empathy through the power of touch?
3. What is empathy, and why is it important in health care?
4. What, if anything, can be done to mitigate erosion of empathy?

Empathy is a 20th Century Word

It derives from the Ancient Greek (*empathia*), "physical affection, passion, partiality" which, in turn, derives from (*pathos*), "passion" or "suffering". It was translated imperfectly from the German, *Einfühlung*, (roughly, to feel into) as used in architecture, into the English word "Empathy" by Edward B. Titchener who used it in his theory of



Empathy as a Myth

Empathy may not even exist in reality after all (Lane, 1986).

Empathy should be eliminated and replaced by a less ambiguous term (Levy, 1997).

Empathy is difficult to define and hard to measure (Kestenbaum et al., 1989).

Empathy as a Reality

A concept that can be operationally defined and measured cannot be a myth.

Definition of Empathy in the Context of Patient Care

Empathy is a predominantly cognitive (rather than emotional) attribute which involves an understanding (rather than feeling) of experiences, concerns, and perspective of the patient, combined with a capacity to communicate this understanding, and an intention to help.”

Hojat, et al., 2002, *Am J Psychiatry*, 159, 1563-1569.

Hojat, 2007, *Empathy in Patient Care*, p. 80.

Hojat, et al., 2009, *Academic Medicine*, 84, 1182-1191.

Measurement of Empathy in Medical Education and Patient Care

The Jefferson Scale of Empathy

(S-Version, HP-Version, and HPS-Version)

- Contains 20 Likert-type items (7-point scale).
- Data support its *validity* (construct, criterion-related, convergent, and discriminant), and *reliability* (internal consistency: coefficient alpha; and score stability: test-retest).

The JSE has been translated into 43 languages so far, and been used in over 60 countries.

Hojat, et al., (2001). *Educ & Psych Measurement*, 61, 349-365.

Hojat, et al., (2002). *Am J Psychiatry*, 159, 1563-1569.

SAMPLE ITEMS

From the S-Version:

“It is difficult for a physician to view things from patients’ perspectives.”

From the HP-Version:

“It is difficult for me to view things from my patients’ perspectives.”

From the HPS-Version:

“It is difficult for a health care provider to view things from patients’ perspectives.”

Selected Highlights of Research Findings

Empathy and Academic Performance

- Empathy scores are significantly correlated with global ratings of clinical competence in medical school.
- Empathy scores are not correlated with performance on objective examination of knowledge in both basic and clinical sciences.

Hojat, et al., 2002, *Med Educ*, 36, 522-527.

Physician empathy and gender:

Women in medical school, nursing school, dental school, and in medical practice tend to obtain higher empathy scores than men.

Hojat, et al., 2001, *Educ & Psych Measurement*, 61, 349-365.

Hojat, et al., 2002, *Med Educ*, 36, 522-527.

Hojat, et al., 2002, *Am J Psychiatry*, 159, 1563-1569.

Hojat, et al., 2002, *Acad Med.*, 77, s58-s60.

Ward, et al, 2009, *J Nursing Measurement*, 17, 73-88.

Sherman & Cramer, 2005, *J Dental Educ*, 69, 338-344.

Physician empathy and specialty:

Physicians in “people-oriented” specialties (e.g., psychiatry, family medicine, internal medicine, pediatrics, obstetrics and gynecology, emergency medicine, and medical subspecialties) obtained higher empathy scores...

than their counterparts in “technology/procedure-oriented” specialties (e.g., anesthesiology, pathology, radiology, surgery and surgical subspecialties).

Hojat, et al., 2001, *Acad Med*, 76, 669.

Hojat, et al., 2002, *Acad Med*, 77, s58-s60.

Hojat, et al., 2002, *Am J Psychiatry*, 159, 1563-1569.

Physician Empathy and Patient Outcomes

Two key studies In the U.S. and Italy

Physicians' Empathy and Clinical Outcomes for Diabetic Patients

Mohammadreza Hojat, PhD; Daniel Z. Louis, MS; Fred W. Markham, MD; Richard Wender, MD; Carol Rabinowitz; Joseph S. Gonnella, MD

(Academic Medicine, 2011, 86, 359-364).

Purpose of the study

To test the hypothesis that physicians' empathy is associated with positive clinical outcomes for diabetic patients.

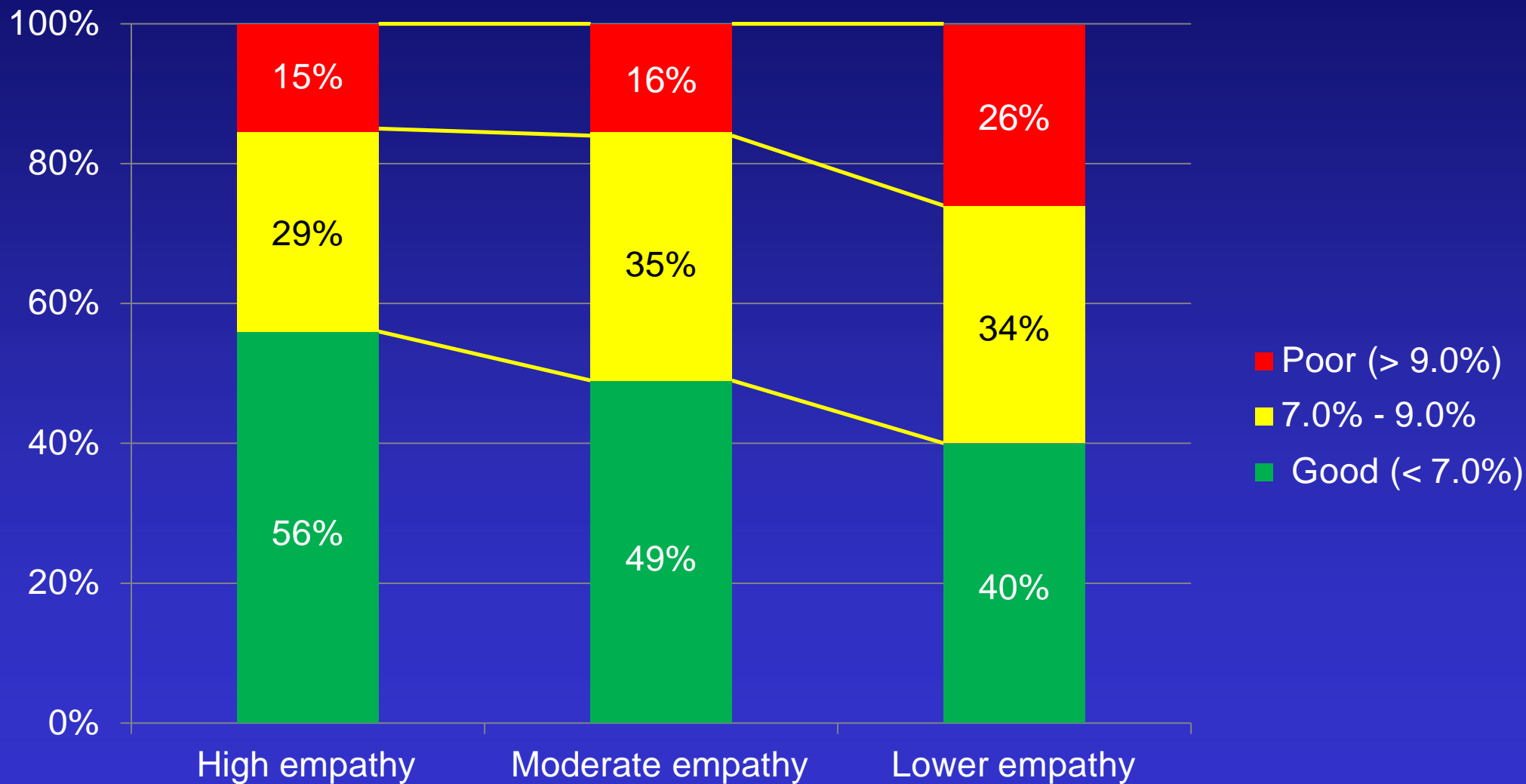
Data and methods:

- 891 patients with diabetes mellitus treated by 29 physicians from Jefferson Department of Family and Community Medicine
- 100% response rate among the physicians in completing the Jefferson Scale of Empathy
- Physicians were categorized into 3 groups: high, moderate, and low empathy scorers

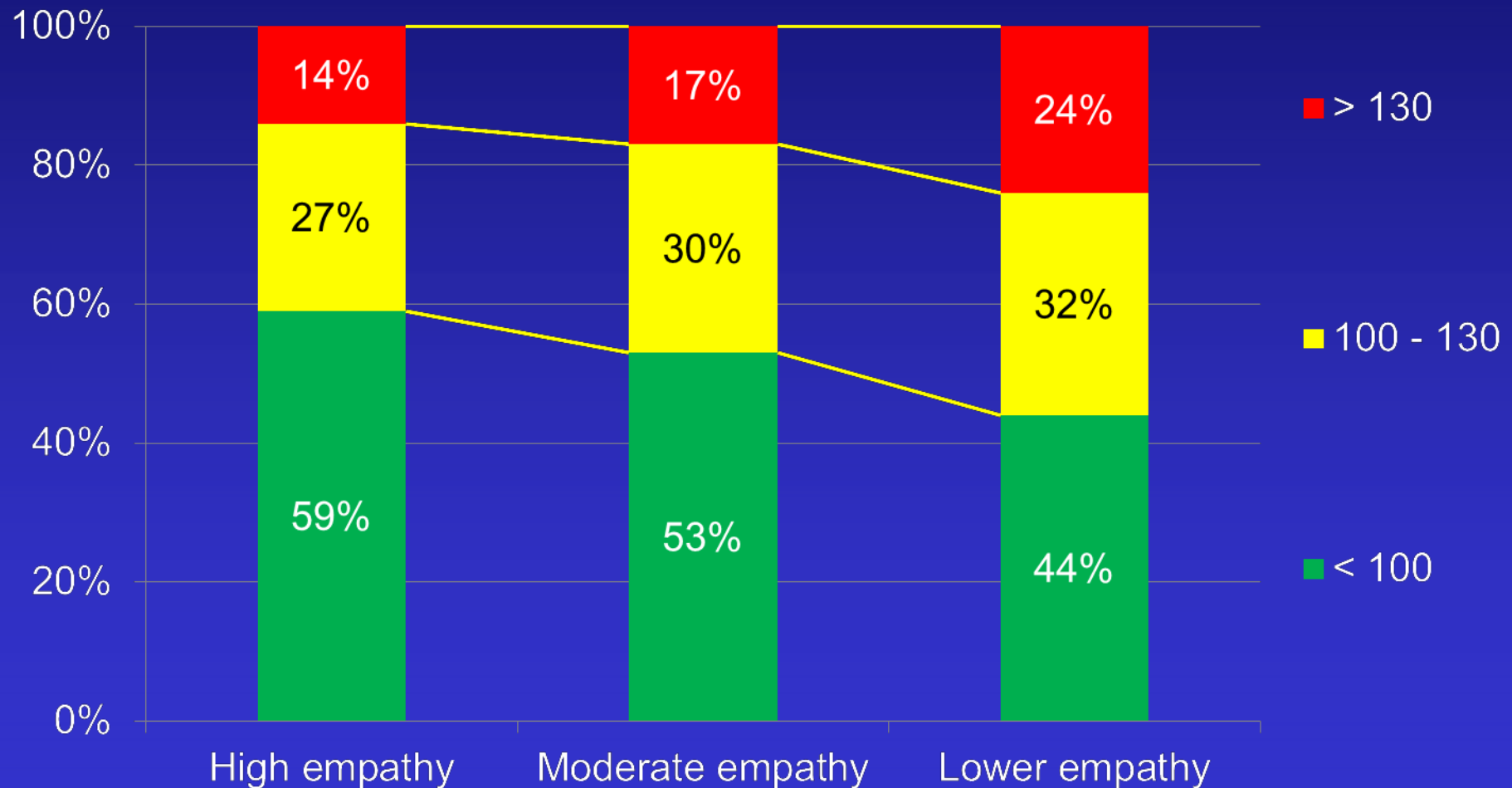
Patient outcomes:

- Hemoglobin A1c categorized as good control (<7.0%); poor control (>9.0%)
- LDL-C categorized as good control (<100); poor control (>130)

Primary care physician empathy scores and Hemoglobin A1c for patients with diabetes mellitus



Primary care physician empathy scores and low-density-lipoprotein cholesterol (LDL-C) for patients with diabetes mellitus



The Relationship Between Physician Empathy and Disease Complications: An Empirical Study of Primary Care Physicians and Their Diabetic Patients in Parma, Italy

Stefano Del Canale, MD, PhD; Daniel Z. Louis, MS; Vittorio Maio, PharmD, MS, MSPH; Xiaohong Wang, MS; Giuseppina Rossi, MD; Mohammadreza Hojat, PhD; Joseph S. Gonnella, MD

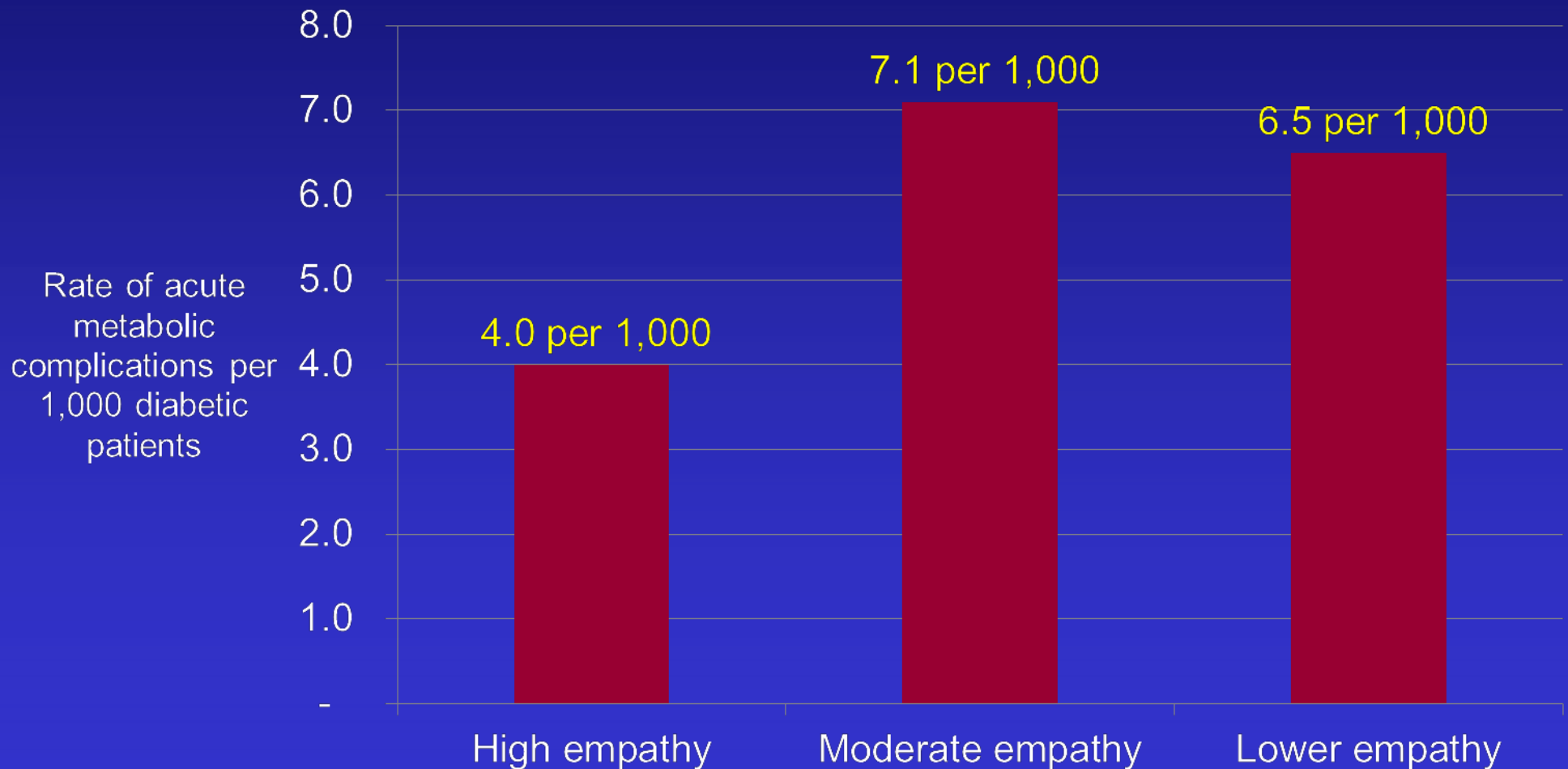
(Academic Medicine, 2012, 87, 1243-1249).

Purpose of the Study

To test the hypothesis that scores of a validated measure of physician empathy are associated with tangible clinical outcomes for patients with diabetes mellitus.

- 20,961 patients with type 1 or type 2 diabetes mellitus.
- Enrolled with one of 242 primary care physicians for the entire year of 2009.
- 80% response rate.
- **Patient Outcome:** Occurrence of acute metabolic complications (diabetic ketoacidosis, hyperosmolar state, coma) in diabetes patients hospitalized in 2009

Association Between Empathy Scores of Physician Participants (n = 242) and Disease Complications in Their Diabetic Patients (n = 20,961) Parma, Italy



Erosion of Empathy in Allopathic Medical Schools

Empathy scores of students in allopathic medical schools decline significantly during clinical phase of medical education (third year).

Hojat, et al, *Medical Education*, 2004, 38, 934-941.

Hojat, et al, *Acad Med*. 2009, 84, 1182-1191.

Correlates and Changes in Empathy and Attitudes Toward Interprofessional Collaboration in Osteopathic Medical Students

Leonard H. Calabrese, DO; Joseph A. Bianco, PhD; Douglas Mann, PhD; David Massello, BA; and Mohammadreza Hojat, PhD

- Supported by a grant from the *American Osteopathic Association (AOA)*.
- Conducted at *Ohio University, Heritage College of Osteopathic Medicine* (in 2011-2012 academic year).
- Research participants included 373 medical students.
- The Journal of the American Osteopathic Association, December 2013, Vol. 113, 898-907. doi:10.7556/jaoa.2013.068

Study Participants by Year of Medical School in 2011-2012 Academic Year

	n	% women
Year 1	109	47%
Year 2	94	57%
Year 3	101	56%
Year 4	69	51%
Total	373	53%

Research Instruments

1. **Jefferson Scale of Empathy (20 items).**
2. **Jefferson Scale of Attitudes Toward Physician-Nurse Collaboration (15 items) .**
3. **Integrative Care Attitude Scale (10 items).**
4. **A survey on osteopathic experiences prior to medical school.**

Correlations Among Scales

	JSE	JSAPNC	ICAS
JSE ¹	1.0	.42**	.55**
JSAPNC ²		1.0	.36**
ICAS ³			1.0

** $p < .01$.

¹ The Jefferson Scale of Empathy (JSE).

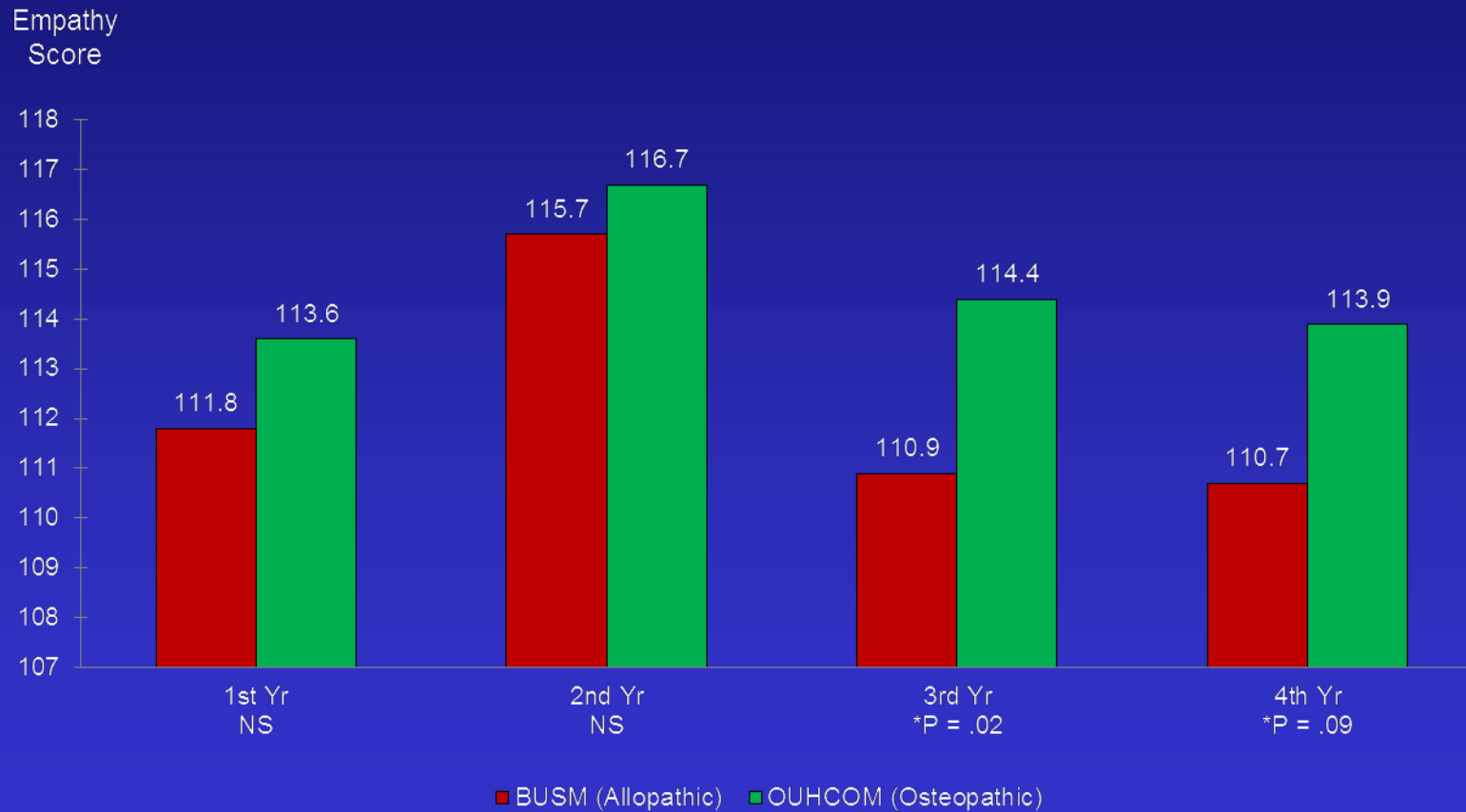
² The Jefferson Scale of Attitudes Toward Physician-Nurse Collaboration (JSAPNC).

³ Integrative Care Attitude Scale (ICAS).

Osteopathic-Related Experiences Prior to Medical School

- **98% volunteered for medical or community services.**
- **93% had observed patient care rendered by osteopathic physicians.**
- **53% of students or their family members received medical care from a D.O.**
- **12% had a D.O. in their family.**
- **12% had received OMT.**

Mean Scores of the Jefferson Scale of Empathy in Allopathic and Osteopathic Medical Schools (Cross-Sectional Studies)



Some Specific Features of Osteopathic Medical Education Which We Speculate Can Promote Empathic Engagement

- **Holistic nature of osteopathic medical education?**
- **Osteopathic manipulative treatment (OMT)?**
- **Osteopathic apprentice learning model?**
- **Better role models among clinical faculty?**
- **Greater interest in primary care (people- oriented) specialties?**
- **Greater interest in serving underserved population?**
- **Less influences by the “hidden Curriculum?”**
- **Personal characteristics of those who choose osteopathic medical schools?**
- **Other factors?**

Project in Osteopathic Medicine and Empathy

Two Nationwide Studies

1. *A cross-sectional study of empathy in colleges of osteopathic medicine.*

2. *A longitudinal study of changes in empathy in osteopathic medical students.*

Major Goals of the Cross-Sectional Study

- Providing national norm tables of empathy scores for osteopathic medical students by year in medical school (years 1, 2, 3 4) and gender (men, women).
- Comparisons of osteopathic medical students by demographic variables (gender, age, ethnicity).
- Comparisons of findings to those from allopathic medical schools.
- Psychometrics of the JSE in osteopathic medical students (coefficient alpha, corrected item-total score correlations, underlying factors, etc.).

Major Goals of the Longitudinal Study

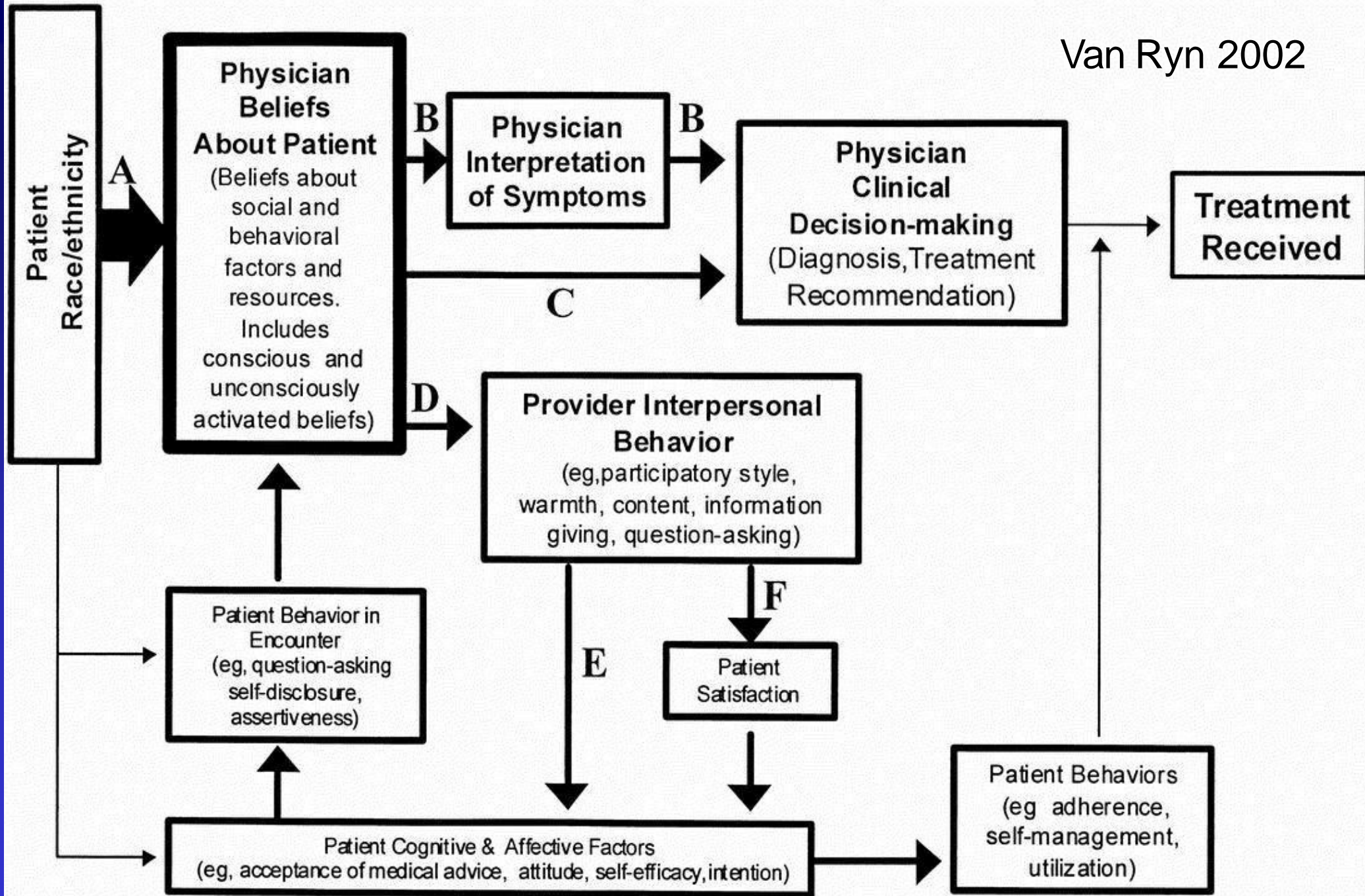
- Examining changes in empathy as students progress through medical school (for total sample and by demographic variables).
- Degree of changes by underlying factors of the JSE (Perspective Taking, Compassionate Care, Standing in Patient Shoes).
- Comparisons of findings with those from allopathic medical schools.

Benefits for Participating Medical Schools

Data Bank for Each Participating School

Generating a repository of students' empathy scores (*data bank* for each participating medical school) to study the associations between empathy, and:

- measures of academic performance
- licensing examinations
- clinical competence ratings
- Indicators of professionalism
- exposure to specific educational programs
- demographics
- specialty interest
- etc.





Neuroscience

- **Cognitive element:** chiefly expressed in the effort involved in perspective-taking and conscious understanding of the experience of another.
 - Involves the medial pre-frontal cortex (mPFC), ventromedial prefrontal cortex (vmPFC), and posterior superior temporal sulcus.
- **Motivation to help:** draws on mammalian neural systems of social attachment and reward. Absent the motivation to help, empathic awareness of another's experience serves no practical purpose.
 - Based in subcortical neural systems known to regulate parental nurturing, includes circuits in the brain stem, the midbrain connected to the hypothalamus, and ventral tegmental area dopamine systems.
- **Emotion regulation:** generally refers to efforts to control one's emotions, but may also contribute to the ability of experienced physicians to down-regulate their affective responses to pain and suffering, thereby sparing cognitive reserves.
 - Involves executive functions located in the OFC, MPFC and mPFC and dorsolateral prefrontal cortex (dlPFC) as well as the amygdala and hypothalamus.

Emotional regulation in healthcare professions

- Healthcare professions require that professionals uphold certain behavioral expectations, regardless of how difficult a situation may be.
 - Health care professionals are constantly interacting with people who are physically suffering or emotionally traumatized, and are expected to serve them with compassion and respect.
- Maintaining professional composure when stressed involves “emotional labor”... surface acting
 - Term coined by Hochschild in the 1980s re. flight attendants.
- Emotional labor takes effort and can be exhausting, contributing to burnout.



Surface acting vs Perspective taking

- **Surface acting (lower order emotional)** requires managing behavioral expressions; consciously overcoming emotional responses and maintaining composure (“faking it”) to best serve customers, regardless of true feelings.
 - Head and heart are in conflict
 - Takes mental effort
 - Leads to lower job satisfaction and increased risks of burnout
- **Perspective taking (higher order cognitive)** involves making the effort to understand perspective of the “other”; choosing to stand in his or her shoes.
 - Head and heart are aligned
 - Takes less effort
 - Lowers risks of burnout
 - May improve job performance
 - May improve outcomes
 - May improve job satisfaction

An opportunity in Osteopathic education

- Perspective-taking can be easily taught.
- Effectively enables cognitive override of anti-social emotional responses.
- Activates both cognitive and emotional processing systems.
- Constitutes a conscious choice, an attitude or skill that serves to facilitate therapeutic relationships, patient satisfaction, good clinical outcomes and reduced burnout.



From: Using Patient Perspective Sessions to Increase Empathy and Recall in Preclinical Medical Students

J Am Osteopath Assoc. 2016;116(10):662-666. doi:10.7556/jaoa.2016.130

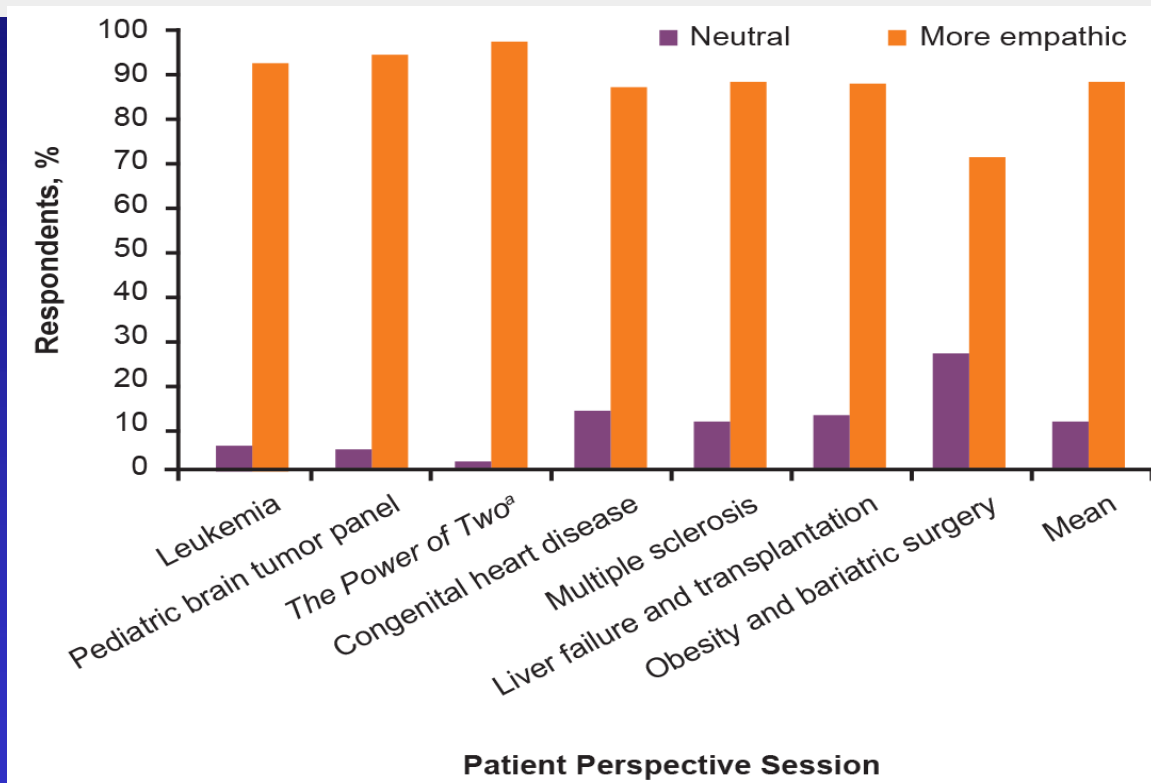


Figure Legend:

Responses to the question “How well did this patient perspective session meet the objective of enhancing empathy toward the patient experience?” by osteopathic medical students who attended patient perspective sessions during their first and second years of medical school. The number of respondents for each session ranged from 14 to 41. No respondents reported less empathy.

^aDocumentary about twin sisters telling their story of having cystic fibrosis and undergoing lung transplants. After the film was shown, the patients highlighted in the film did a Q&A with the students.



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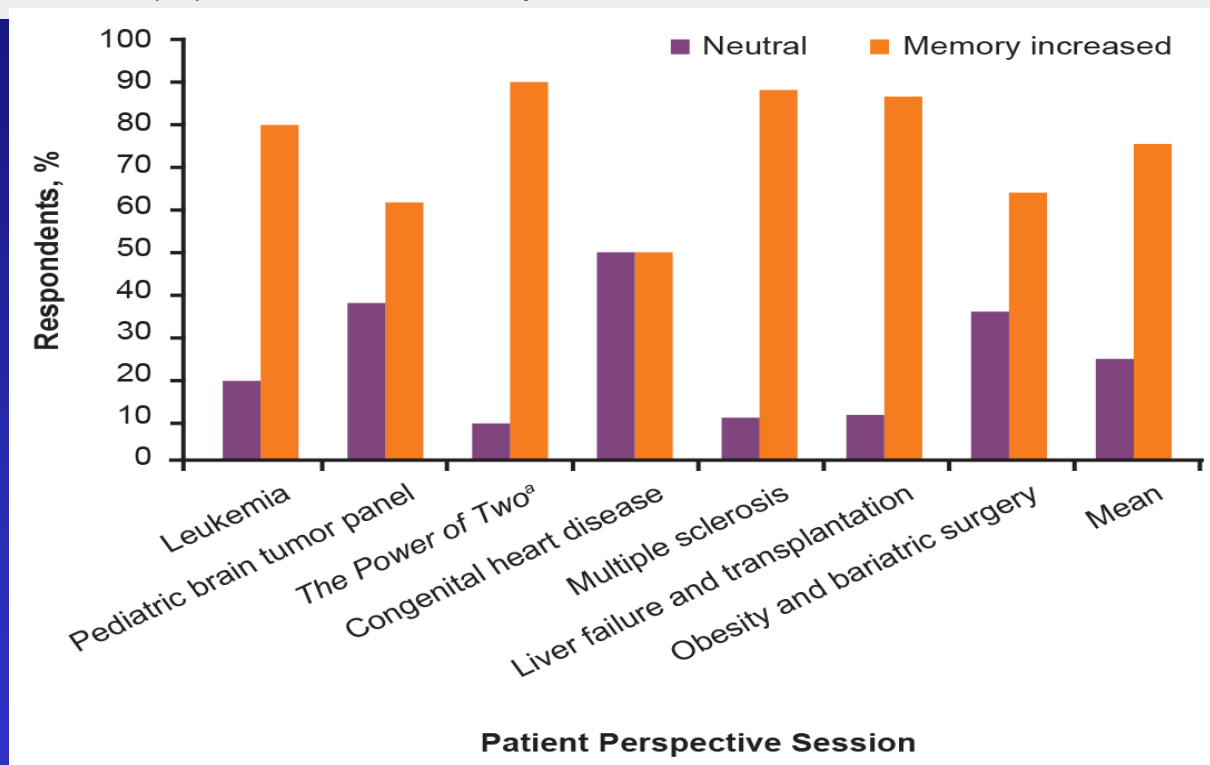


Figure Legend:

Responses to the question “How well did this patient perspective session meet the objective of making the material easier to remember?” by osteopathic medical students who attended patient perspective sessions during their first and second years of medical school. The number of respondents for each session ranged from 14 to 41. No respondents reported decreased memory.

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Ten Commitments to Empathy

Osteopathic medicine is achieving its mission in research and developing “right touch” patient-centered skills.

1. Distinctive

DOs were easily distinguishable from allopathic MDs by patient interactions.

Osteopathic physicians were more likely than allopathic physicians to use patients' first names; explain etiologic factors to patients; and discuss social, family, and emotional impact of illnesses.

In this study, osteopathic physicians were easily distinguishable from allopathic physicians by their verbal interactions with patients.

Do Osteopathic Physicians Differ in Patient Interaction from Allopathic Physicians? An Empirically Derived Approach” Carey, TS, et al, JAOA 2003.

<http://jaoa.org/article.aspx?articleid=2092837>

2. Osteopathic Manipulative Medicine

Interest in and use of OMM are associated with higher empathy scores

Cognitive training in diagnosing conditions, emotional training in the alleviation of pain, and physical training in the application of OMM.

“Empathy and Osteopathic Manipulative Medicine: Is it All in the Hands?”

Rizkallay & Henderson, JAOA 2018 .

<http://jaoa.org/article.aspx?articleid=2698709>

3. Patients respond

Patients' perceptions of physicians' empathy predict health outcomes

(in study comparing areas of high- and low socioeconomic deprivation)

General Practitioners' Empathy and Health Outcomes: A Prospective Observational Study of Consultations in Areas of High and Low Deprivation

Mercer., SW, et al, *Annals of Family Medicine* 2016.

doi:10.1370/afm.1910

4. Improved outcomes

Physicians' empathy is associated with positive clinical outcomes for diabetic patients (more likely to have illness controlled)

“Physicians' Empathy and Clinical Outcomes for Diabetic Patients.”
Hojat, M., et al, *Academic Medicine* 2011.
<https://www.ncbi.nlm.nih.gov/pubmed/21248604>

5. Procedure satisfaction

Surgeon empathy increases patient satisfaction, partly through positive effect on health outcomes.

“Effect of Surgeon Empathy and Emotional Intelligence on Patient Satisfaction.” Weng, HC, et al, *Advances in Health Science Educational Theory*, 2011.

<https://www.ncbi.nlm.nih.gov/pubmed/21287265>

6. Mitigation

Empathy may play a large role in providing positive outcomes after a medical error.

- “An Experimental Study of Medical Error Explanations: Do Apology, Empathy, Corrective Action, and Compensation Alter Intentions and Attitudes?” Nazione & Pace, Journal of Health Communication (2015). <https://www.ncbi.nlm.nih.gov/pubmed/26134489>

For physicians, high empathy ratings have been correlated with 7.lower rates of stress and burnout, 8.higher career satisfaction, and 9.fewer malpractice claims.

Cedfeldt AS, Bower EA, English C, Grady-Weliky TA, Girard DE, Choi D. Personal time off and residents' career satisfaction, attitudes and emotions. *Med Educ.* 2010;44(10):977-984. doi:10.1111/j.1365-2923.2010.03773.x.

Dyrbye LN, Shanafelt TD. Physician burnout: a potential threat to successful health care reform. *JAMA.* 2011;305(19): 2009-2010. doi:10.1001/jama.2011.652.

Hojat M, Gonnella JS, Nasca TJ, Mangione S, Veloksi JJ, Magee M. The Jefferson Scale of Physician Empathy: further psychometric data and differences by gender and specialty at item level. *Acad Med.* 2002;77(10 suppl):S58-S60. doi:10.1111/j.1365-2923.2010.03735.x.

Buckman R, Tulskey JA, Rodin G. Empathic responses in clinical practice: intuition or tuition? *CMAJ.* 2011;183(5):569-571. doi:10.1503/cmaj.090113.

10.Increased treatment adherence

Patient benefits include increased treatment adherence and greater satisfaction with health care professionals.

Anolli L, Mantovani F, Agliati A, et al. Simulation-based training of communication and emotional competence for the improvement of physician-patient relationship. Presented at: 11th Annual CyberTherapy 2006 Conference: Virtual Healing Designing Reality; June 14, 2006; Gatineau, Canada.

Pedersen R. Empathy development in medical education— a critical review. *Med Teach*. 2010;32(7):593-600. doi:10.3109/01421590903544702.

Empathy 2.0 Right Touch...

Hands-on training brings Osteopathic practitioners closer to their patients in a physical sense and has effect on their patient interaction style.

We interact by touch therapeutically with the intent to diagnose (cognitive) and provide comfort and help (emotional).

In this dynamic interaction, students learn how to be touched in the same way (perspective) and learn to converse with the patient to earn the privilege to influence the patient's health.

In conclusion:

- There is much still to learn about the neurological basis of empathy.
- Emotional exhaustion and burnout are predictable responses to exposure to pain and suffering, suggesting a need for emotional support of medical trainees and cultivation of emotional awareness and self-care in medical culture.
- Perspective-taking is a cognitive form of empathy that can be learned and controlled; it offers one way to convey empathy even when experiencing aversion, fear and anxiety.
- With modeling, practice, and reinforcement PT should become a cultural skill that can enhance stress management, patient outcomes, and professional fulfillment.

Future Research



AMERICAN OSTEOPATHIC ASSOCIATION

TREATING OUR FAMILY AND YOURS

Further Resources

- Beach MC, Rosner M, Cooper LA, Duggan PS. Can patient-centered attitudes reduce racial and ethnic disparities in care? *Acad Med.* 2007;82:193–198.
- Bernhardt BC and Singer T (2012) The neural basis of empathy. *Annual Review of Neuroscience* 35: 1-23.
- Blatt Bet al., (2010) Does perspective-taking increase patient satisfaction in medical encounters? *Academic Medicine* 85(9): 1445-1452.
- Decety J et al., (2012) A neurobehavioral evolutionary perspective in the mechanisms underlying empathy. *Progress in Neurobiology* 98: 38-48.
- Derkson F et al., (2013) Effectiveness of empathy in general practice. *British Journal of General Practice* Jan. 2013 e76-e84.
- Galinsky AD, Ku G. The effects of perspective-taking on prejudice: The moderating role of self-evaluation. *Pers Soc Psychol Bull.* 2004;30:594 –604
- Gleichgerrt E and Decety J (2012) The costs of empathy among health professionals. In *Empathy*, Ed. Decety J (Cambridge: MIT Press).
- Gleichgerrt E and Decety J (2013) Empathy in clinical practice: How individual dispositions, gender, and experience moderate empathic concern, burnout, and emotional distress in physicians. *PLOS ONE* 8(4).
- Gleichgerrt E and Decety J (2014) The relationship between different facets of empathy, pain perception and compassion fatigue among physicians. *Frontiers in Behavioral Neuroscience* 8: Article 243.
- Hochschild, AR (1983) *The Managed Heart* (Berkeley: U of California Press)
- Larson EB and Yao X (2005) Clinical empathy as emotional labor in the patient-physician relationship. *JAMA* 293(9): 1100-1106.
- Neumann M et al., (2011) Empathy decline and its reasons: a systematic review of studies with medical students and residents. *Academic Medicine* 86(8): 996-1009.