Empathy 2.0
Maintaining Empathic Resilience: New Insights From Osteopathic Education

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Osteopathic International Alliance
October 2019
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?

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

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 (*empatheia*), "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.”

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.

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.”
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.

Physician empathy and gender:

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

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).

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


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

- High empathy: 15% Poor (> 9.0%), 29% 7.0% - 9.0%, 56% Good (< 7.0%)
- Moderate empathy: 16% Poor (> 9.0%), 35% 7.0% - 9.0%, 49% Good (< 7.0%)
- Lower empathy: 26% Poor (> 9.0%), 34% 7.0% - 9.0%, 40% Good (< 7.0%)
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

Rate of acute metabolic complications per 1,000 diabetic patients

- High empathy: 4.0 per 1,000
- Moderate empathy: 7.1 per 1,000
- Lower empathy: 6.5 per 1,000
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).

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

<table>
<thead>
<tr>
<th>Year</th>
<th>n</th>
<th>% women</th>
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<tr>
<td>Year 1</td>
<td>109</td>
<td>47%</td>
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<tr>
<td>Year 2</td>
<td>94</td>
<td>57%</td>
</tr>
<tr>
<td>Year 3</td>
<td>101</td>
<td>56%</td>
</tr>
<tr>
<td>Year 4</td>
<td>69</td>
<td>51%</td>
</tr>
<tr>
<td>Total</td>
<td>373</td>
<td>53%</td>
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Research Instruments

1. Jefferson Scale of Empathy (20 items).


3. Integrative Care Attitude Scale (10 items).

4. A survey on osteopathic experiences prior to medical school.
### Correlations Among Scales

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<th>JSE</th>
<th>JSAPNC</th>
<th>ICAS</th>
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<tr>
<td>JSE(^1)</td>
<td>1.0</td>
<td>(0.42^{**})</td>
<td>(0.55^{**})</td>
</tr>
<tr>
<td>JSAPNC(^2)</td>
<td></td>
<td>1.0</td>
<td>(0.36^{**})</td>
</tr>
<tr>
<td>ICAS(^3)</td>
<td></td>
<td></td>
<td>1.0</td>
</tr>
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\(^{**}\text{p < .01.}\)

1. The Jefferson Scale of Empathy (JSE).
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)

Empathy Score

1st Yr NS: 111.8
2nd Yr NS: 112.7
3rd Yr *P = .02: 110.9
4th Yr *P = .09: 110.7

BYSM (Allopathic), OUHCOM (Osteopathic)
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?
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 (dIPFC) 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 Hoschshild 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.
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.

Documentation 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.
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.

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.

Figure Legend:
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.

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
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)

5. Procedure satisfaction

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


6. Mitigation

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

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


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


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
Further Resources