Empathy in Osteopathic Medical Students: Is it All in the Hands?

Kyle K. Henderson, Ph.D.
Chicago College of Osteopathic Medicine
September 17-20, 2016
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What is Empathy...Clinical Empathy?

How does it differ from Sympathy?
Clinical Empathy:

Emotive:
Experiencing and internalizing the feelings of others. Automatic motivation.

Cognitive:
Capacity to understand another person’s perspective.

Behavioral:
Manifested action of emotional and cognitive empathy.

Pro-social behavior induced by empathy is elicited by a sense of altruism (selfless concern for others).
Clinical Sympathy:

Clinical Sympathy: an emotional attribute with intense feelings for the Patient's pain and suffering. Pro-social behavior induced by sympathy is elicited by a sense of self-interest to reduce personal distress. This behavior can be perceived as paternalistic or insincere.
Clinical Empathy and Relationships?

Patient trust leads to greater disclosure and reduces anxiety, facilitating therapeutic efficacy.

For the physician, it makes the practice of medicine more meaningful and reduces burnout and compassion fatigue.
Clinical Empathy and Medical Outcome?

Research suggests greater physician empathy leads to greater patient satisfaction and compliance (Kim, Kaplowitz, Johnston 2004); and better medical outcomes (Hojat et al., 2011; and Steinhausen et al. 2014).
891 Diabetic Patients (July 2006-June 2009) 
Hemoglobin A1c and LDL-C Levels 
Sorted by Physician Empathy

Findings are significant after controlling for physicians' and patients' gender, age, and health insurance. 
Hojat et al, 2011
Does Medical School Encourage Empathy?

Likened to “battered child syndrome”, dehumanization and traumatic de-idealization.

The emphasis on emotional detachment, clinical neutrality, and lack of role models may contribute to 75% of medical students feeling more cynical about academics and their profession. (Hojat et al. 2004).
Does Medical School **Reduce** Empathy?

In 2002, the Jefferson Scale of Empathy was developed by Hojat et al. 20 questions, 7pt Likert scale, Score range (20-140) Facilitates standardized assessment of empathy levels
A Cross-sectional Measurement of Medical Student Empathy

Daniel Chen, MD1, Robert Lew, PhD2,3, Warren Hershman, MD, MPH1, and Jay Orlander, MD, MPH1,4

1Section of General Internal Medicine, Evans Department of Medicine, Boston University School of Medicine, Boston, MA, USA; 2Department of Biostatistics, Boston University School of Public Health, Boston, MA, USA; 3MAVERIC, VA Boston Healthcare System, Boston, MA, USA; 4Medical Service, VA Boston Healthcare System, Boston, MA, USA.

BACKGROUND: Empathy is important in the physician–patient relationship. Prior studies have suggested that physician empathy may decline with clinical training.

KEY WORDS: empathy; medical student education; physician attitudes.
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DOI 10.1007/s11606-007-0298-x
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Table 3. JSPE-S Scores by Medical School Class

<table>
<thead>
<tr>
<th>Class</th>
<th>JSPE-S score</th>
<th>Standard error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incoming</td>
<td>115.5A</td>
<td>1.8</td>
</tr>
<tr>
<td>First-year</td>
<td>118.5B</td>
<td>1.8</td>
</tr>
<tr>
<td>Second-year</td>
<td>118.2B</td>
<td>1.8</td>
</tr>
<tr>
<td>Third-year</td>
<td>112.7A,C</td>
<td>1.9</td>
</tr>
<tr>
<td>Fourth-year</td>
<td>106.6C</td>
<td>2.3</td>
</tr>
</tbody>
</table>

The class was adjusted for gender, age, anticipated financial indebtedness, career preference, and gender-class interaction. Groups that share the same superscript are not significantly different from one another. All other differences in JSPE-S scores are significant at the P<.05 level.
The Devil is in the Third Year: A Longitudinal Study of Erosion of Empathy in Medical School

Mohammadreza Hojat, PhD, Steven E. Dearholt, PhD, Francis J. Flanagan, MD, George Brainard, PhD, Sheryl M. Miller, PhD, Jon Veloski, MS, and Joseph L. DeVito, PhD

Table 2
Changes in Mean Empathy Scores During Four Years in Medical School of 456 Matriculants of Jefferson Medical College in 2002 and 2004, Philadelphia, Pennsylvania

<table>
<thead>
<tr>
<th>Year</th>
<th>Matriculants of 2002</th>
<th>Matriculants of 2004</th>
<th>All participants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>0 (orientation day)</td>
<td>227</td>
<td>114.5</td>
<td>10.0</td>
</tr>
<tr>
<td>End of year 1</td>
<td>198</td>
<td>114.9</td>
<td>10.9</td>
</tr>
<tr>
<td>End of year 2</td>
<td>208</td>
<td>115.2</td>
<td>11.4</td>
</tr>
<tr>
<td>End of year 3</td>
<td>154</td>
<td>108.5</td>
<td>11.4</td>
</tr>
<tr>
<td>End of year 4</td>
<td>178</td>
<td>109.6</td>
<td>13.2</td>
</tr>
</tbody>
</table>

* Total number of students varies in different years as a result of their voluntary participation.
Table 4.
Mean Jefferson Scale of Physician Empathy–Student Version (JSPE-S) Scores by Year in Medical School for Osteopathic and Allopathic Medical Students (N=405)\textsuperscript{a}

<table>
<thead>
<tr>
<th>Year</th>
<th>Osteopathic\textsuperscript{a}</th>
<th>Allopathic\textsuperscript{a}</th>
<th>Statistic</th>
<th>P Value</th>
<th>Cohen's d</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>Mean Score (SD)</td>
<td>No.</td>
<td>Mean Score (SD)</td>
<td>t</td>
</tr>
<tr>
<td>First</td>
<td>127</td>
<td>108.6 (15.0)</td>
<td>399</td>
<td>115.5 (10.0)</td>
<td>\textit{t}_{163}=4.83</td>
</tr>
<tr>
<td>Second</td>
<td>105</td>
<td>111.2 (12.6)</td>
<td>375</td>
<td>115.1 (11.1)</td>
<td>\textit{t}_{179}=3.11</td>
</tr>
<tr>
<td>Third</td>
<td>88</td>
<td>109.4 (10.8)</td>
<td>339</td>
<td>109.1 (11.8)</td>
<td>\textit{t}_{435}=0.24</td>
</tr>
<tr>
<td>Fourth</td>
<td>85</td>
<td>107.0 (15.2)</td>
<td>356</td>
<td>109.1 (14.1)</td>
<td>\textit{t}_{439}=1.23</td>
</tr>
</tbody>
</table>

\textsuperscript{a} The 405 osteopathic medical students attended the University of Medicine and Dentistry of New Jersey-School of Osteopathic Medicine in Stratford.

\textsuperscript{b} The means and standard deviations (SDs) for the JSPE-S scores were reported by Hojat et al\textsuperscript{b} for 1469 allopathic medical students who attended the Jefferson Medical School of Thomas Jefferson University in Philadelphia, Pennsylvania.
Correlates and Attitudes Towards in Osteopathic

Table 2.
Scores on the JSE and the JSAPNC by Sex, Specialty Interest, and Class Year for 373 Osteopathic Medical Students During the 2011-2012 Academic Year

<table>
<thead>
<tr>
<th>Groups</th>
<th>n</th>
<th>JSE</th>
<th>JSAPNC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>197</td>
<td>111.9(11.0)</td>
<td>48.7(5.6)</td>
</tr>
<tr>
<td>Women</td>
<td>176</td>
<td>117.1(11.4)</td>
<td>50.1(5.0)</td>
</tr>
<tr>
<td><strong>Specialty Interest</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People oriented</td>
<td>150</td>
<td>115.8(10.7)</td>
<td>49.9(5.5)</td>
</tr>
<tr>
<td>Technology/procedure oriented</td>
<td>170</td>
<td>114.1(12.1)</td>
<td>49.0(5.1)</td>
</tr>
<tr>
<td>Other</td>
<td>53</td>
<td>113.3(12.0)</td>
<td>49.9(5.7)</td>
</tr>
<tr>
<td><strong>Class Year</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First</td>
<td>109</td>
<td>113.6(11.7)</td>
<td>50.2(4.8)</td>
</tr>
<tr>
<td>Second</td>
<td>94</td>
<td>116.7(12.2)</td>
<td>50.7(4.8)</td>
</tr>
<tr>
<td>Third</td>
<td>101</td>
<td>114.4(11.2)</td>
<td>48.5(5.7)</td>
</tr>
<tr>
<td>Fourth</td>
<td>69</td>
<td>113.9(10.5)</td>
<td>48.2(5.8)</td>
</tr>
</tbody>
</table>
Allopathic vs. Osteopathic Medical School Empathy Levels:

MD

Jefferson Empathy Score (20-140)

Year in School

Hojat 2009 L
Chen 2012 L
Chen 2007 CS

DO

Jefferson Empathy Score (20-140)

Year in School

Kimmelman 2012 CS
Calabrese 2013 CS
Global Osteopathic Empathy Levels?
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Midwestern University
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Components of Empathy

**Emotional**
-prefrontal-parietal

**Cognitive**
-prefrontal-temporal

**Behavior**
-Motor

- Basal ganglia removed
Hypothesis: Is Empathy in OMM and Our Hands?

Communication, “Hands-on” training, feed-back, collaborative treatment, alleviation of pain…
Preliminary cross-sectional data from CCOM

DO: Midwestern University

Subcomponents of Empathy

JSE, anonymous, voluntary, *Fall Semester, 256 students (Class Year 1-4: N’s = 115, 61, 38, 42; respectively). Third year data were not significantly lower…
Empathy Scores are Not Influenced by Age, Specialty, or Ethnicity

*Females scored higher than males in empathy as well as empathy subcomponents. Empathy scores by specialty were NS; students (N = 3; 2F, 1M) pursuing radiology scored the lowest.
Empathy and Subcomponents vs. Interest in OMM

DO You Have a DO in Your Family

Percent (%)

Empathy %  Behavior  Cognitive  Emotional

No  Yes

*
Empathy and Subcomponents vs. Interest in OMM
Student Empathy and Correlations to OMM

**OMM Composite Score:** Responses related to the use of OMM (past/present/future) were positively correlated to empathy levels.
Question: Receiving OMM?
Summary:

- Physician empathy leads to better health outcomes via increased trust, compliance, and also reduces physician burnout.
- Empathy declines during the 3rd year of Allopathic medical school.
- Empathy levels do not decline during Osteopathic medical school.
- Preliminary data suggest empathy levels are positively correlated with interest and use of OMM.
Osteopathic Philosophy

Empathy and Educational Implications Beyond the Classroom and Clinic?
Cleveland Clinic: 2/27/2013: The Human Connection to Patient Care:
https://www.youtube.com/watch?v=cDDWvj_q-o8
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Osteopathic Philosophy ➔ Global Empathy
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- Chicago College of Osteopathic Medicine
- Midwestern University
- Dr. Karen Nichols, D.O.
Thank-you! Any Questions?

Health is in our Hands