

Research Perceptions in Osteopathic Medical Education

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Session Goals

- In this session we will discuss research perceptions of osteopathic medical students, interns, and residents.
- Topics highlighted in this session will be:
 - Development of a research perception tool.
 - Key domains identified as influencing research perceptions.
 - Impact of perceptions study in curriculum and experiences in research education at our institution.

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Study Citation in Medical Science Educator

Brannan, G. D., Dogbey, G., and McCament, C.L.
 2012. A Psychometric Analysis of Research Perceptions in Osteopathic Medical Education. *Medical Science Educator*. 22(3S):151-61.

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Evidence-Based Practice

- Physician-scientists are important to the growing medical innovation and translation of research findings into practice.
- Clinical practice has increasingly become evidence-based and physicians are expected to be research literate as part of their core competencies.

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Evidence-Based Practice

- There is a decline of physicians participating in research in the U.S.
- Trend is slowly reversing but the numbers remain inadequate.
- Not all medical trainees will become physician scientists, but it is necessary to ensure that physicians-in-training are well grounded in medical research methods.

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Research in the Osteopathic Field

- In the US, there are two pathways to become a licensed medical practitioner: Doctor of Medicine (M.D.) or Doctor of Osteopathy (D.O.).
- Research is recent to the osteopathic field so the dearth of physician scientists is more pronounced.

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CORE Medical Education Consortium

27 Community Hospitals in Ohio

Ohio University Heritage
College of Osteopathic
Medicine

Affiliate Colleges in
Kansas and Iowa

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Efforts to Reverse the Trend

- Some institutions have developed research training curricula.
- However, to our knowledge, there are no such explicit analyses geared toward assessing medical trainees' perception of research along the continuum of medical research education.

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Study Goals

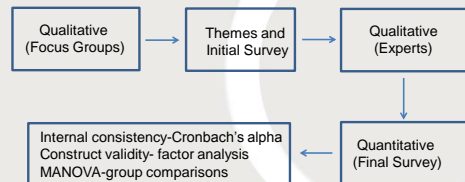
This study psychometrically evaluated the construct of research perceptions of osteopathic medical students, interns, and residents (trainees) to inform research curricula.

- Development of a research perception tool.
- Key domains identified as influencing research perceptions.
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Methodology

- Multi-stage cross-sectional study



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Results- Demographics

Participant Characteristics	n	Percent
Ethnicity		
White	135	82.8
Asian or Pacific Islander	11	6.7
Hispanic, Latino, Spanish	6	3.7
African American	3	1.8
Native Amer. or Alaskan Native	1	0.6
Other	7	4.3
Sex		
Female	85	52.1
Male	78	47.9
Status		
Student	94	58.0
Resident (incl. interns)	68	42.0

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Results- Resident Specialty

Specialty	n	Percent
Emergency Medicine	17	25.4
Family Medicine	14	20.9
General Surgery	9	13.4
OB/GYN	7	10.4
Orthopedics	7	10.4
Internal Medicine	4	6.0
Pediatrics	3	4.5
ORL-HNS	2	3.0
Ophthalmology	2	3.0
Dermatology	1	1.5
EM/IM	1	0.6

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Results- Research Perception tool

- Of the 71 five -point Likert-scaled items, 19 items were retained (internal consistency reliabilities of .734 and .840, respectively).
- There were three domains identified.

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Results--- Research Perceptions Key Domains and Attendant Reliabilities

- Research Needs/Attitudes-- .899
- Research Climate-- .876
- Research Skills-- .812

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Results- Research Perception Tool

- *Research Needs/Attitudes Domain*
 1. Research is an activity I am interested in.
 2. It is important for me to have the skills needed to design a research study.
 3. It is important for me to be able to formulate a research question.
 4. It is important for me to know how to be a coordinator for a clinical trial or site-based study.
 5. It is important for me to know how to create a research poster.
 6. It is important for the research curriculum to incorporate research methods and statistics.
 7. Overall it is important for pre-doctoral and post-doctoral trainees to have a wide-range of research skills.

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Results- Research Perception Tool

- *Research Climate Domain*
 1. Research projects to collaborate on are easily accessible.
 2. I feel the climate at my facility is research friendly.
 3. I feel faculty/staff are supportive of my research efforts.
 4. Research efforts are rewarded and appreciated at my facility.
 5. Research opportunities and partnerships are easily accessible at my facility.

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Results- Research Perception Tool

- *Research Skills Domain*
 1. I can write a good single-case report.
 2. I can design and implement a retrospective research study.
 3. I can design and implement a prospective research study.
 4. I can design and produce a research poster.
 5. I am comfortable following a journal's publication style guide.
 6. Overall, I am comfortable with my level of research skills and knowledge.
 7. I know the rules pertaining to publishing my research findings.

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Results-Perception of Trainees

Domain ¹	Students		Residents		P-value ³
	Mean ²	Standard Deviation	Mean ²	Standard Deviation	
Research attitudes and needs	2.373	0.708	2.890	0.920	<.0001
Research skills	2.983	0.666	2.686	0.639	.009
Research climate	2.870	0.754	3.177	0.922	.034
Overall perception	2.729	0.466	2.890	0.550	.065

¹ Five-point Likert scale from strongly agree (1) to strongly disagree (5).

² Mean values less than 3 denote positive or strong perception while values greater than 3 denote negative or weak perception. A mean value of 3 or close indicates indifference or lack of definitive perception.

³ P-value: Significant at a specified level of $\alpha = .05$ or $\alpha = .01$ when less than the specified value of α .

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Results--- Impact on Research Education Curriculum

Outcome	Residents	Students
Research climate less favorable for the residents	Improve climate at the hospitals	Create a list of best practices which can be shared to hospitals
Students have better research attitudes and more research skills needs	Engage more attending physician researchers in mentoring residents	Create more hands-on opportunities
Residents perceive having better skills than students.	Create residency research checklists	Create different opportunities to target specific needs

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Study Limitations

- This study was osteopathic medical education-specific.
- Participants were from one medical education system.

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Conclusions

- Osteopathic medical trainees have fairly positive research perceptions despite observed differences in the key research perceptions construct domains.
- Knowing learner's research perceptions can help drive curriculum to fill the need for more physician scientists.
- There is a need to sustain a positive attitude through the medical training continuum.

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Thank You!

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