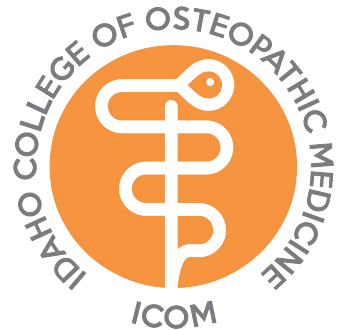


Osteopathic Medical Student Attitudes Towards Research: Consumers or Creators?

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MLA | SLA '23

Intro and Background

- Wait, you don't think research is amazing?
- Discrepancy in research participation, funding, and output between DOs and MDs
- Acceptance into the MLA RTI program in 2021
- Time to re-think research instruction in the ICOM curriculum



Study Objectives

Examine osteopathic medical student attitudes & perceptions towards research

Describe factors that limit or encourage student research participation while in medical school.

Identify research-related skills DO students wish to acquire while in medical school.

Study Methods

- Mixed-methods study conducted in Summer 2022 (only ICOM students)

Interviews:

- 14 semi-structured interviews conducted/recorded via Zoom
- Otter.ai used to transcribe interviews
- Dedoose used to code (performed by the PI & 3 students)
- Inductive thematic analysis to identify overarching themes

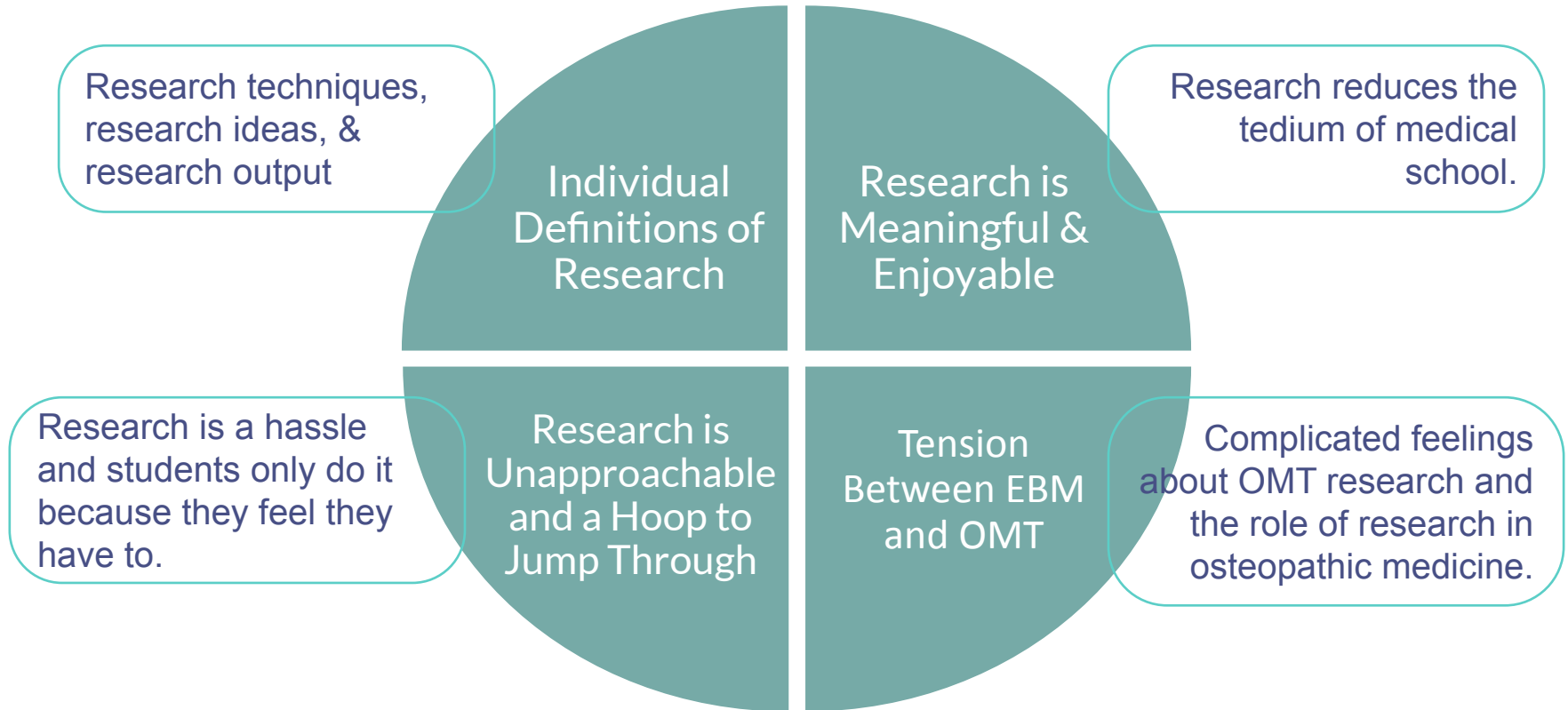
Survey:

- 106 respondents from all 4 classes at ICOM (17% response rate)

Interview Findings



Interview Findings- Themes



Research techniques, research ideas, & research output

Individual Definitions of Research

Research reduces the tedium of medical school.

Research is Meaningful & Enjoyable

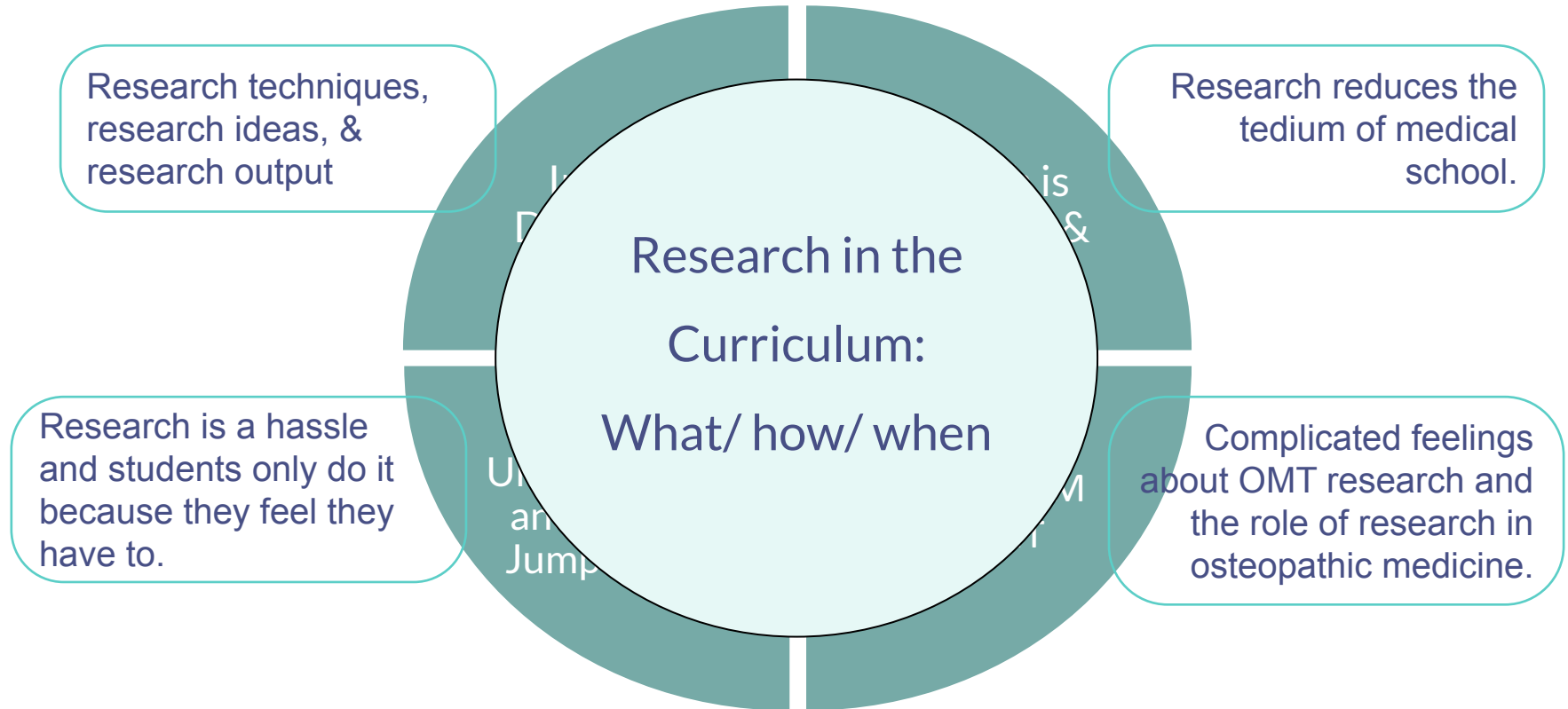
Research is a hassle and students only do it because they feel they have to.

Research is Unapproachable and a Hoop to Jump Through

Complicated feelings about OMT research and the role of research in osteopathic medicine.

Tension Between EBM and OMT

Interview Findings- Themes



Quotes: What is Research?

“I think the stereotypical research that I think of is, oh, someone's got a micropipette. And they're pipetting various things and figuring out what's happening in a lab.”
[OMS-I_002]

“I don't think it was until I was in medical school that I realized that not all research is bench research.”
[OMS-I_002]

“Like, not everything has to be like a huge, like meta-analysis or a, you know, 1000 patients and sometimes it can be like, hey, look at this funky thing I saw.”
[OMS-I_007]

Quotes: Research is Meaningful & Enjoyable

*“So that's one positive, where it [research] kind of teaches you how to think about everything.”
[OMS-I_004]*

“...it's that creative outlet of being able to examine something and just have some fun, outside of just the monotonous studying ideas of medical school.” [OMS-I_002]

*“And then hopefully, the things that we're doing on the research side is kind of like a giving hope to be like we're working on solutions for these things that we don't have answers for right now.”
[OMS-I_001]*

Quotes: Research is Unapproachable, Hard...

“And so I think that's probably the most frustrating is how do you get going? And how do you like, take one of these interests and actually start up and do something about it?”
[OMS-IV_002]

“I think it's kind of silly that, research is a checkbox that a lot of people have to check to get into med school because that's not how you get the right people into research.”
[OMS-I_006]

“It's just for my resume. Oh, believe me, I don't want to do it. But I feel like I have to.” [OMS-I_009]

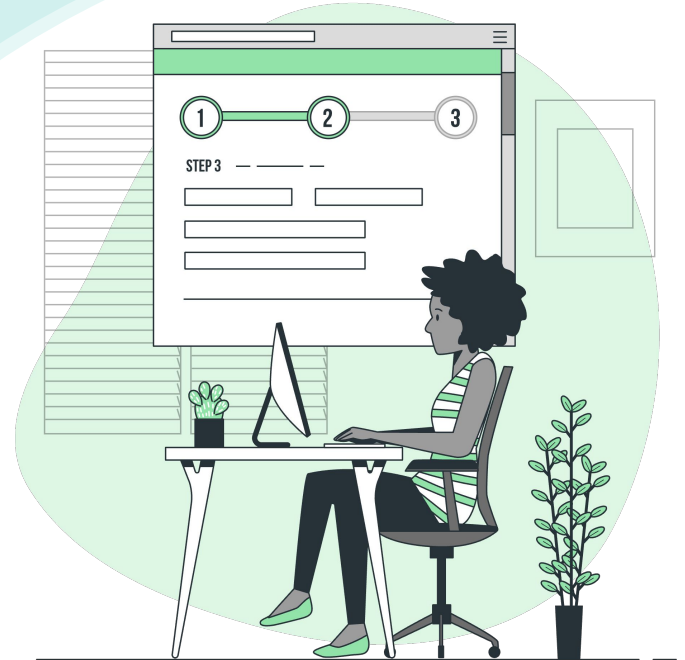
Quotes: Research in the Osteopathic World

“OMT evidence is presented as just something that A.T. Still or his disciples would do...it's not very congruent with our modern standards of evidence-based medicine.”
[OMS-I_004]

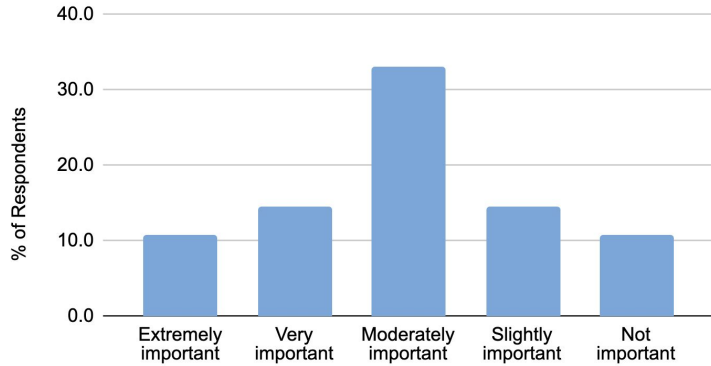
“They need to educate osteopathic medical students about research, so we can do research about OMT. Because only DO doctors know what's going on with OMT.” [OMS-I_008]

“...most of what we currently have as like, evidence for osteopathic medicine is like, A.T. Still's poetic writings. And it's really hard for... science-minded people to like, read a poem from A.T. Still and be like, this is actually evidence-based medicine.”
[OMS-I_002]

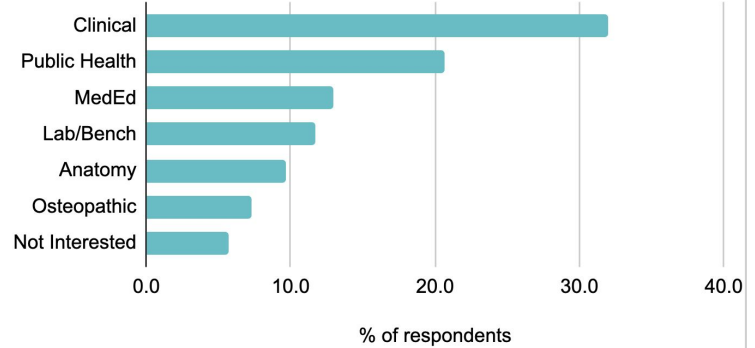
Survey Results



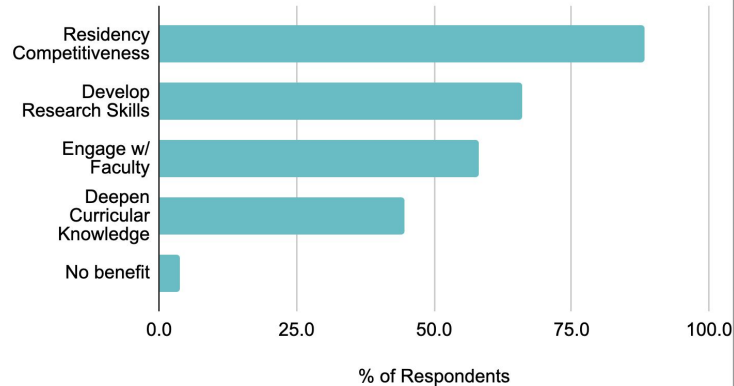
How Valuable is Research for Medical Students?



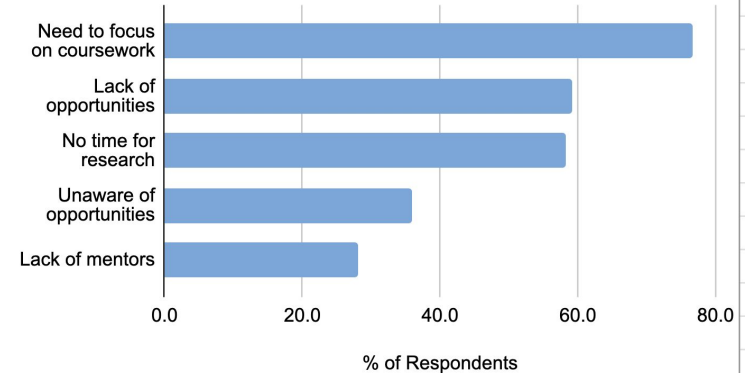
What Type of Research Are You Interested in?



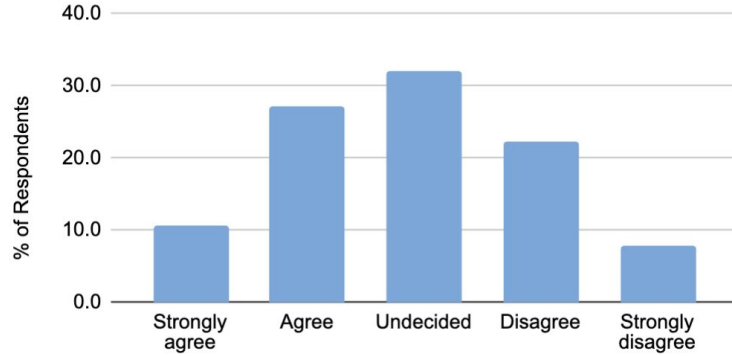
Benefits of Participating in Research



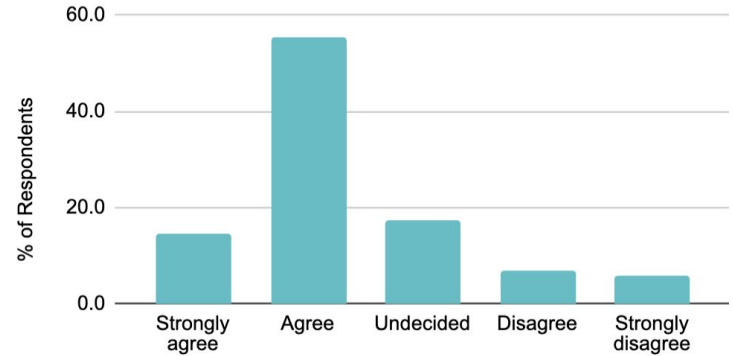
Barriers to Participation in Research



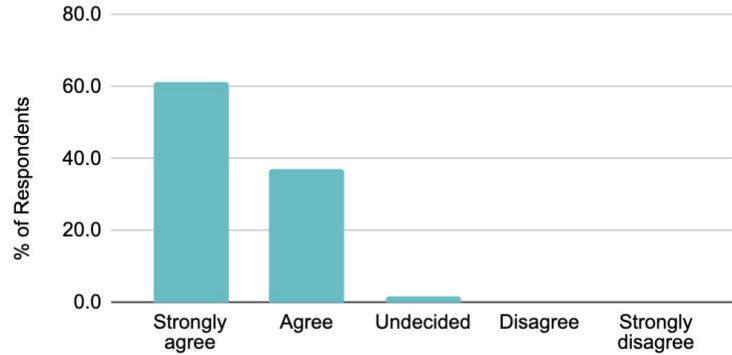
It's important for me to be able to create a research poster



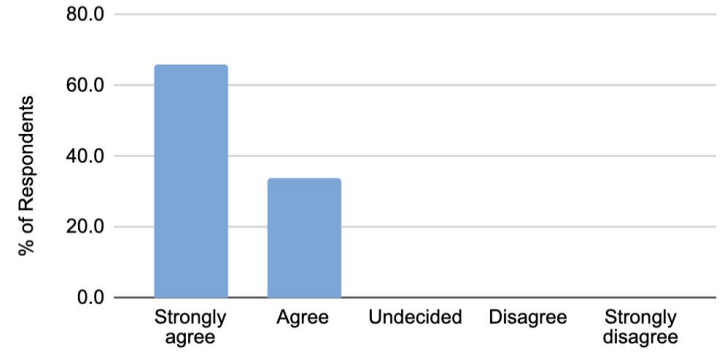
It's Important for me to be able to design a research study



It's important for me to be able to critically appraise articles



It's important for me to be able to search the literature



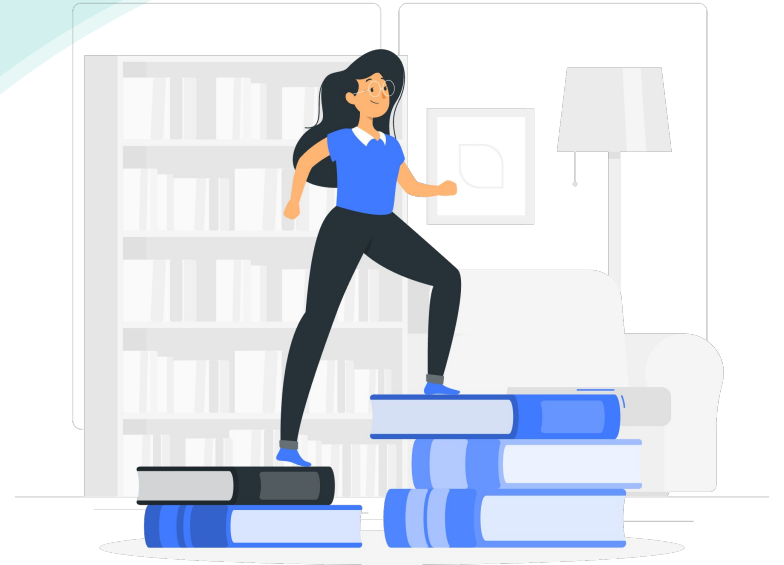
Quotes: Critical Appraisal & Reading Research

“But I think it is more valuable to read articles to learn. It's more of like active learning and it takes a lot more time. And it's a lot more energy. And I hate it too, but like, valuable, right?”
[OMS-I_002]

“[reading articles] Like once each block during small group sessions. Some of our small groups stuff is great, but I think a research article during that time would serve people better.”
[OMS-III_003]

“...knowing how to read a research paper is that is huge. Like, it's key...when the drug reps come in and stuff, you don't know what you're reading, and what they're selling is good. Like, you need to be able to critique what they're saying”[OMS-IV_004]

Outcomes



Research Re-Think

- OMS-III Research Rotation (2020-2022)
 - 4-week, online, mandatory
 - Focus: Teaching students to do research.
 - Positive feedback, but was it relevant?
 - Little interest in pursuing research beyond the rotation.

Week 1

Choosing a Research Topic
Writing a Research Question
How to Search for Research
How to Read Research

Week 2

Research Study Design
Research Ethics
Research Synthesis
Writing for Research

Week 3

Research Study Design
Research Ethics
Research Synthesis
Writing for Research

Week 4

Sharing Research Findings
Manuscript Writing Basics
Creating a Poster
Giving a Presentation

Research Re-Think

- OMS-III Research Rotation (2022-2023)
 - 4-week, online, mandatory
 - Shift from research creators to research consumers
 - Focus: How to locate, understand, and apply research findings

Week 1

EBM Overview
Research Questions & Searching
Overview of Reading Research
Research Biases
Medical Research- Issues & Ethics

Week 2

Systematic Reviews/Meta-Analyses
Randomized Controlled Trials
Clinical Practice Guidelines

Week 3

Observational Studies
Diagnostic Studies
Prognostic Studies
Qualitative Studies

Week 4

Implementing EBM
Communicating Research
Keeping up with Research
Journal Club Presentation

Student Feedback

“IMHO, this rotation is absolutely necessary. It teaches us to see the logic-scaffolding that holds all of the other stuff in place. I have always wanted to learn all of this stuff, but I really didn't have the time to devote to it during the shaking nightmares that were years 1+2.”

“This was a fantastic rotation. I feel like my time was very well spent. This rotation helped me learn so much about research and how to apply it. I wish all medical students could have this same experience because of the impact it has had on me.”

“I loved this rotation!!! Before this, I always broke out in a sweat at the thought of research, and I never felt like I had the skills to interpret papers and truly understand what was going on. Therefore, I was super looking forward to scholarly activity so that I could learn all about research at my own pace and put those skills to practice with the activities and assessments each week. **AND IT WAS AWESOME!**”

“I thought this course was very helpful because as much as I despise research stuff I realize it is a crucial part of this profession and this course presented the material in a very simplified manner and did so in the least-boring way possible, which I really appreciated.”

Beyond the Research Rotation

- Reading research activity incorporated into systems courses
 - Developing critical appraisal skills
 - Questioning practices based on poor evidence
- EBM & epidemiology a part of the HSS course
- Student Journal Club
- Research elective?

Summing Up

- Osteopathic students see the value in research, but barriers prevent many from participating.
- A primary incentive to research participation is enhancing competitiveness for residency, but that also creates resentment.
- Students recognize the importance of being able to find, read, and apply research findings.
- This project resulted in a re-design of a 3rd year research rotation to focus on reading & applying research vs doing research.

References & Attribution

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- Graphics from StorySet.com
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Questions? Comments?

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