What does the body know? Nursing students' perspectives and epistemic beliefs about embodied health misinformation

Brynne Campbell Rice, New York University, Division of Libraries

BACKGROUND & CONTEXT

As trusted voices, healthcare providers are increasingly encouraged to help mitigate the health infodemic by actively responding to misinformation on social media[1], yet there are also instances in which health professionals are unfortunate vectors of health misinformation themselves[2].

In this landscape, academic health librarians are deeply invested in helping future healthcare workers develop information literacy skills, on both a personal and professional level. In order to do so, it is necessary to attend to the complexity of the misinformation that is found in online social media environments.

Online misinformation about health is often bound up in intimate, personal narratives in which information that individuals' glean from their own bodies is positioned as credible evidence, even as it conflicts with scientific or expert consensus about health phenomena. Evaluating this **embodied health misinformation**, while being respectful to other people's experiences as knowers, requires a nuanced consideration of the value and applicability of diverse ways of knowing.

To contend with these complexities effectively, healthcare professionals need a sophisticated **personal epistemology,** or set of **epistemic beliefs**; students' beliefs about knowledge are implicated in their development of critical information literacy skills[3].

While there is some literature that explores the relationship between nursing students' epistemological development and academic performance[4], there is a dearth of research about future healthcare professionals' perspectives and beliefs specifically related to the body as a source of health information or misinformation, a gap which this qualitative study aims to fill.

KEY CONCEPTS

Embodied Information

The patterns of sensory signalling that exist in the nervous system and combine with stored memories to create a **subjective experience of the body**[5]

Includes internal information about an individual's health status that they access through interpreting their own **bodily sensations** (interoception)

Health Misinformation

False or misleading information about human health, where facticity is judged against the current best available scientific evidence and/or consensus from health experts [6,7]

Embodied Health Misinformation

Bodily information that misleads, generating and reinforcing claims that do not align with current, best evidence and/or expert consensus related to health. For example, feeling lighter and more well after adopting a cleanse diet [8]

Personal Epistemology

Individuals with a sophisticated personal epistemology adopt an evaluativistic stance[9], where multiple forms of evidence must be critically evaluated in order to construct knowledge

DIMENSIONS OF EPISTEMIC BELIEFS [10]

fixed	CERTAINTY	fluid
knowledge is absolute and unchanging	*the degree to which knowledge is more fixed versus more fluid*	knowledge is evolving, tentative, and subject to change

set of facts	SIMPLICITY	interrelated concepts
knowledge is a collection of facts	*the degree to which knowledge is considered a set of facts versus a network of highly interrelated concepts*	knowledge is web of interrelated concepts

set of facts	SOURCE	within the self
knowledge is handed down by an authority (like a teacher or expert)	*whether people acquire knowledge from outside the self versus by actively constructing it within the self*	knowledge comes from personal experience, reasoning, and critical evaluation

authority	JUSTIFICATION	personal evaluation
accept claims made by experts if experts reach consensus	*how claims become accepted as knowledge*	people question experts, and evaluate information based on logic and/or evidence provided by experience

RESEARCH QUESTIONS

- What are nursing students' perspectives on the body as a source of health information and misinformation?

- What are nursing students' epistemic beliefs related to embodied health information and misinformation?
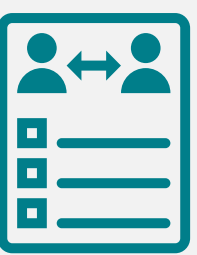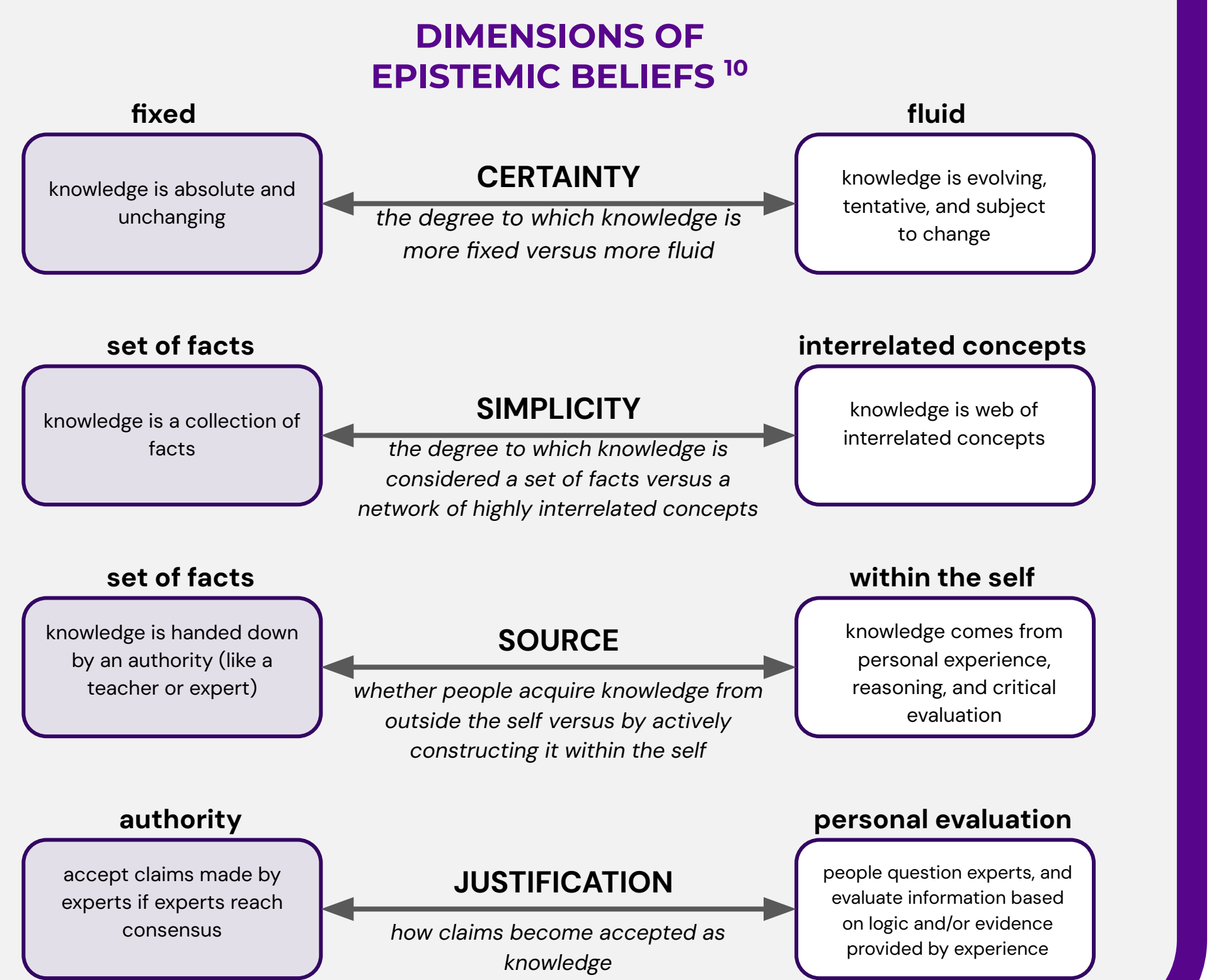
METHODS

Eligibility
Nursing students at any educational level and any institution are eligible to participate.

Semi-Structured Interviews
One-on-one interviews, divided into 4 parts, in which participants are asked to:

1. Reflect on their own bodies as information sources
   Study volunteers are asked a series of questions that prompt them to describe their practices of bodily listening and how they use their bodies as information sources

2. Respond to an instance of embodied misinformation (subjective bodily information being used to endorse a diet that lacks scientific backing)
   Participants listen to the audio of a personal health narrative, sourced from social media, in which the narrator describes her personal experiences adopting a restrictive diet to improve her health. In response to that narrative, they are asked to evaluate the bodily information that the narrator shares as evidence for the effects of the diet.

3. Respond to scientific information about the diet
   Participants listen to an audio summary of a Scientific American article that describes the risks and drawbacks of adopting the same diet, citing scientific evidence. Participants are then asked to evaluate the scientific perspective on this topic.

4. Weigh the different forms of knowledge
   Participants are asked to compare the evidence provided by the social media narrative (rich in descriptions of embodied information) against the scientific evidence provided

Qualitative Coding
To analyze students' responses:
- interview audio is transcribed to generate textual transcripts (Otter.ai)
- transcripts are uploaded into qualitative data analysis software (MaxQDA) to facilitate coding
- a round of open coding is performed to generate codes
- codes are organized and consolidated, with inductive codes (regarding student perspectives) and deductive codes (regarding epistemic beliefs) being applied to transcripts
- codes organized to identify common themes

PRELIMINARY FINDINGS

Based on initial analysis of interviews with 6 undergraduate nursing students, ages 20-24:

Nursing students value and respect embodied information, but do not accept it uncritically

"It's great for her, that **it's working for her body,** but I know everyone is different...I'm very intrigued what her **blood work** looks like"
-Milania

"But **diabetes isn't measured by how great you feel**...it's measured by your blood glucose level, which a doctor checks for you"
-Ara

When embodied information conflicts with scientific information, nursing students center the individualized nature of health

"You have to take what both sides said, and at the end of the day, **you know your body better than anyone else**"
-Jessica

"I think **taking everyone seriously** and...trying to do good and get the best impact for someone and for the **whole of a person**"
-Jacob

Health knowledge is seen as constructed within the self, with evaluation and integration of multiple information sources

"You learn to not just listen to **your body**, but know what is good for **the general body**"
-Daniel

"Do that comparison, you can see if this is maybe **'just a me thing'**, or if it aligns with **general patterns of how human bodies act**"
-Nathan

FUTURE DIRECTIONS

- Participant recruitment is still underway
- More formal coding to follow
- Findings to be further interpreted in context of information evaluation skills and used to support strategies to help students develop sensitive evaluation practices
- Interesting tangential findings that could fuel further research:
  - Nursing students' susceptibility to misinformation
    - Many participants referred to health beliefs that appeared to be based in misinformation (e.g., menstrual cycle syncing for exercise effectiveness, dangers of radiation from microwave cooking, tailoring diet based on blood type, fenugreek for breast enhancement)
  - Nursing identity development and impact on information evaluation practices
    - Many participants referenced their 'nursing brain', coursework and ethics of care when considering how to make sense of the divergent information sources.

REFERENCES

1. Jones, M., & James, J. (2021). Role of the nurse in addressing vaccine hesitancy and misinformation on social media. *Nursing Standard, 36*(12), 62–66. https://doi.org/10.7748/ns.2021.e11755
2. Fötsch, R. (2022). Who to believe? Consequences for physicians and nurses who spread misinformation. *Journal of Nursing Regulation, 13*(1), 70–72. https://doi.org/10.1016/S2155-8256(22)00036-9
3. Swanson, T. A. (2011). Information is personal: Critical information literacy and personal epistemology. In M. Accardi, E. Drabinski, & A. Kumbier (Eds.), *Critical library instruction: Theories and methods* (pp. 265–277). Library Juice Press.
4. Calabrese, T. L. (2014). *The relationship of epistemic beliefs and academic performance in prelicensure baccalaureate nursing students* [Ph.D., Widener University School of Nursing].
5. Bates, M. J. (2018). Concepts for the study of information embodiment. *Library Trends, 66*(3), 239–266. https://doi.org/10.1353/lib.2018.0002
6. Altay, S., Berriche, M., Heuer, H., Farkas, J., & Rathje, S. (2023). A survey of expert views on misinformation: Definitions, determinants, solutions, and future of the field. *Harvard Kennedy School Misinformation Review.* https://doi.org/10.37016/mr-2020-11
7. Vraga, E. K., & Bode, L. (2020). Defining misinformation and understanding its bounded nature: Using expertise and evidence for describing misinformation. *Political Communication, 37*(1), 136–144. https://doi.org/10.1080/10584609.2020.1716500
8. Topham, J., & Smith, N. (2023). One day of eating: Tracing misinformation in 'What I Eat In A Day' videos. *Journal of Sociology, 59*(3), 682–698. https://doi.org/10.1177/14407833231613501
9. Kuhn, D., & Weinstock, M. (2002). What is epistemological thinking and why does it matter? In B. K. Hofer & P. R. Pintrich (Eds.), *Personal epistemology: The psychology of beliefs about knowledge and knowing* (pp. 121–144). Lawrence Erlbaum Associates Publishers.
10. Muis, K. R., Duffy, M. C., Trevors, G., Ranellucci, J., & Foy, M. (2014). What were they thinking? Using cognitive interviewing to examine the validity of self-reported epistemic beliefs. *International Education Research, 2*(1), 17–32. https://doi.org/10.12735/ier.v2i1p17
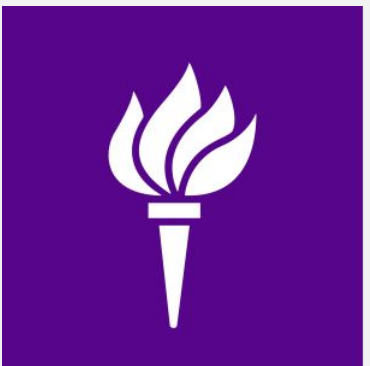
NEW YORK UNIVERSITY

brynne.campbell@nyu.edu