The Conceptualization and Use of Health Literacy Across Formal Education Levels

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Throughout the years, scholars have defined and redefined literacy. Many believe literacy refers to one's reading and writing abilities; however, scholars such as Freire (1970) and Gee (1989) describe literacy as a dynamic concept existing at the intersection of broad skillsets and social experiences and practices. This description lays the foundation for other types of literacy such as health literacy. According to the National Institutes of Health (NIH) (2026), "health literacy is the degree to which individuals have the ability to find, understand, and use information and services to inform health-related decisions and actions for themselves and others." Individuals may vary in their abilities to find, understand, and use health information, and formal education may be a factor that influences these abilities. For this research, the NIH's definition of health literacy will be used, and formal education will refer only to an individual's attainment of diplomas or degrees from secondary and higher education institutions. This study examines how those at varying formal education levels describe differences in how they conceptualize health literacy and find, understand, and use health information.

Liu et al. (2020) assert that health literacy has no universally accepted definition, and that "over 250 different definitions exist in the academic literature" (p. 1). With so many scholars describing health literacy differently, it may be difficult to clearly define the concept. Over the years, scholars have "conceptualized health literacy as a set of knowledge, a set of skills or a hierarchy of functions" such as "theoretical knowledge, practical knowledge, declarative knowledge, procedural knowledge, and critical thinking and judgement skills" (Paakkari & Paakari and Schultz & Nakamoto as cited by Liu et al., 2020, p. 3).

In a study conducted in 2011, "it [was] estimated that only 12% of the 228 million US adults have the skills to manage their own healthcare adequately" (Ferguson & Pawlak, 2011, p.

124). While factors such as “older age, ethnic and racial minorities, rural locations, and poverty” may contribute to the disparities in skillsets (Ferguson & Pawlak, 2011, p. 123), formal education is noted as a top factor in predicting health literacy (Coughlin et al., 2021; Vamos et al., 2020). In 2006 the US Department of Education reported “49% of adults who did not complete high school had the lowest level of health literacy compared to 15% who had a high school diploma as their final degree, and 3% of those with a bachelor’s degree” (Kutner et al., 2006; Vamos et al., 2020, p. 4). Formal education impacts health literacy by influencing how individuals find, understand, interpret, and use health information (Vamos et al., 2020). A lack of formal education may negatively influence an individual's employment and income level which may prevent them from accessing healthcare information and creating a barrier to their health (Vamos et al., 2020).

Method

Participants

A purposive sample in which participants were recruited based on their relevance to the research topic were obtained (Knott et al., 2022) The 5 participants were chosen because the investigator knew them personally, and they all had differing formal educational levels ranging from a high school diploma to a PhD. Of the participants, 1 identified as male, 2 as female, 2 as nonbinary/agender, and all were of the same racial profile — Caucasian. Participants were informed that their identifying information would be kept private by being assigned a pseudonym for the study, and that their participation is voluntary. Participants were also advised they could ask clarifying questions of the investigator, skip questions that made them uncomfortable, and withdraw from the interview at any time without consequence. Data was gathered for a school project.

Materials

Interviews were structured (all participants were asked the same questions in the same order without follow-up questions) and were conducted either in person or through a Google doc. Questions were crafted to capture information about the participants' lived experiences involving health literacy and asked in a specific order to guide the participants through each topic (Knott et al., 2022). The questions were organized by demographics, conceptualizations about traditional and health literacy, finding health information, understanding and evaluating health information, and using health information. Questions asked of participants may be found in Appendix A.

Participants interviewed in person were verbally asked questions, and the investigator transcribed their answers concurrently. Those interviewed through a Google doc wrote their answers and sent the form back to the investigator.

Interview answers were then coded. Coding refers to a way of "organizing and describing data" (Knott et al., 2022, p. 7) that reflects ongoing "theoretical or descriptive idea[s]" or themes across interviews (Gibbs, 2007, pp. 2-3). Initially, data was coded by common words across all interviews (i.e. ability, comprehension, understanding, reading/writing). Data was then coded for how participants find information (i.e. Google, textbooks, social media, healthcare providers) and using information (i.e. evaluating information, making health decisions). Finally, data was coded by the following themes: conceptualizing literacies, finding, understanding, and using information.

Results and Discussion

This study found that participants conceptualized health literacy differently. For instance, the participant with the high school diploma (P-HS) explained that health literacy is "the ability to understand your diagnosis and find ways to learn about what you don't know about it" while

the participant with the PhD (P-PhD) explained it as “the ability to understand and communicate about health topics” in which P-PhD clarified that communication may involve writing, speaking, visual/pictography, and symbols. In their conceptualizations, P-HS exhibited a narrow, self-focused understanding of health literacy while P-PhD applied health literacy more broadly to include both understanding and participating in health literacy; other participants’ conceptualizations fell somewhere between P-HS and P-PhD’s answers. For instance, the participant with the associate’s (P-ADN) noted that health literacy is “the ability to read and understand medical terms/jargon” while the participant with the bachelor’s (P-BS) described it as “the comprehension of medical practice, language, and outcomes to make conscious healthcare decisions.”

There was overlap in how participants found health information. All participants noted that they use the internet in some capacity. Only P-HS and P-MA use social media to find information while P-ADN, P-BS, and P-PhD specifically mention Google and peer-reviewed publications.

After asking where participants find health information, they were then asked how they evaluate its reliability. P-HS explained that to them, health information was reliable “if an article has links to research papers” or to “check who sponsored the findings to make sure they didn’t go into the study with an ending already in mind.” Conversely, P-PhD explained that they decided whether information was reliable based on whether the data was evidence based, if there were other sources that confirmed or denied the claims made, if data sets across sources could be compared and contrasted, and lastly, whether the information was conveyed by appealing to emotions or logic. Based on the data provided, P-HS notes that information is reliable if there are

links to research while P-PhD notes that reliability may only be established after the information has been interrogated by investigating other sources.

Health literacy was defined diversely across participants, supporting Liu et al.'s (2020) assertion that there is no universal definition for health literacy. The data in this study also suggests that health literacy is conceptualized differently across individuals with varying formal education levels. It was observed that the scope to which individuals conceptualize health literacy may be influenced by their educational level or career path as P-HS described health literacy narrowly, focusing on themselves while P-PhD described it more broadly in terms of understanding and participating in a process. On the other hand, P-ADN is a nurse, and describes the concept as the ability to read and understand medical jargon . The data also suggests that health literacy involves several skillsets such as critical thinking, and judgement (Liu et al., 2020). It is important to consider that individuals may differ in their abilities, and that many don't have adequate skills to manage their healthcare which may create barriers to how they understand and interpret health information (Ferguson & Pawlak, 2011). Barriers to understanding and interpreting health information could negatively impact how individuals make decisions regarding their healthcare. While the data in this study doesn't strongly suggest that individuals of varying formal education find information differently as all participants noted that they use the internet, it does, however, support Vamos et al.'s (2020) results that formal education may influence how individuals use health information by the answers given to the question about how participants establish reliability. The findings establish a pattern that may only be applied to this study and cannot correlate formal education and health literacy.

Limitations

Due to the small, racially homogenous sample of this study, findings cannot be generalized to the population. The participants were individuals that the investigator knew personally, and therefore the relationship between the participants and investigator may have an impact on how questions were answered. Participants represented five education levels, and did not include other post-secondary educational avenues, which could provide data that may be more representative of the population. There is little variation in the age of participants as they all noted that they were in their mid-to-late 30s except P-BS, who described themselves as mid-20s. The investigator's own assumptions and conceptualizations about health literacy may have impacted what data was coded and deemed significant while other investigators may find other significant patterns within the data.

The study indicated that formal education levels may influence how individuals conceptualize and use health literacy. It is important that the factors such as education levels be examined when discussing health literacy because understanding how individuals use the skillsets involved in health literacy may help to create more effective patient-provider relationships, healthcare educational materials, and healthcare policy.

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Appendix A

This study is about how people define health literacy for themselves, and if formal education informs how people use health information.

Your identifying information will remain private. You will be referred to in the paper with an identifier assigned to you. You may ask any clarifying questions if needed. You may also skip any questions that you do not want to answer or that make you uncomfortable. At any point, you can refuse to complete the interview if you so choose.

1. How would you identify your gender?
2. How do you identify your race?
3. How would you describe your socioeconomic status? Or your social class?
4. How old are you? 18-25 years old, 26-35 years old, 36-50 years old, 51-60 years old, older than 60
5. Formal education level? (HS diploma, Associates, BA/BS, MA/MS, PhD/Doctorate) PhD
6. Occupation:
7. How would you define literacy?
8. How would you define health literacy?
9. Describe how you typically find health information.
10. Do you use social media to learn about health information? Why or why not?
11. How do you determine if the health information you find is reliable? How difficult is it for you to judge whether it is or is not reliable?
12. Do you feel comfortable asking healthcare providers to explain things when you don't understand? Why or why not?

13. How comfortable are you making decisions about your health based on how you typically go about finding and understanding health information?
14. What did you learn about personal healthcare during your formal education?