From eye rolls to "I can!"

Understanding the Health Literacy of Disadvantaged Tweens

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Hack Health
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What is HackHealth?

An after-school program in three Title I middle schools in the mid-Atlantic region of the US. Tween participants identify personally relevant health issues for research, and then...

- Conduct scientific inquiry into health concerns
- Act as health information intermediaries
- Take action based on what they learn

Goals of the Program

Our overarching goals for the program are to increase the interest of youth in the health sciences, their health information literacy, their health-related self-efficacy, and their understanding of the crucial link between their daily health-related behaviors and their ability to maintain their health and prevent disease.

Goals of the Poster

We present the divergent experiences of two seemingly similar tween participants in our program, Jennifer and Phenomenal, and how their differing experiences may have contributed to differences in outcomes, such as change in their level of interest in health and the broader sciences (STEM), in their health literacy levels, in their health-related self-efficacy, and in their knowledge of and engagement in relevant health behaviors.

Research Design

Using ethnographic methods, we collect data on the students' various stages of information seeking using pre- and post-surveys, card-sorting exercises, participant observation, search logs, interviews, and focus groups.

Paths to Health Literacy

Jennifer
Researching bone / foot pain to help her mother

She judges websites as credible and trustworthy when they include a Spanish translation and have an audio component so that she can listen to the content.

She interviewed her mom to better understand her mom's foot pain.

"I would just type something in and look at the first URL that I found... I just believed what I read."

Used the Natl. Library of Medicine website -- typed "what causes bones to hurt" and then "what causes heels to hurt." Eventually, she found www.arthritis.org.

Most useful sources of health information: books, libraries, doctors. "Doctors see patients with diseases. Libraries have books that talk about diseases."

Change in science interest: "I would like a job in a science lab after I finish school" from *"Disagree"* to *"Agree."*

"Like foot pain for example. You have to keep your feet moisturized and cutting your nails evenly. Like overgrown nails could make your feet hurt, too. I didn't know that."

"Health issues are important, but you don't get that interested in them until someone has [a health concern] -- or you are really interested in it."

Phenomenal
Researching Type I diabetes to keep himself healthy

He didn't choose friends as useful because "sometimes they can give really goofy answers… it's not really good enough."

"Sometimes you don't know if it's true or if it's just something they put on the Internet randomly."

"Research about the topic and after you get some info, do a little more research, then you can come up with a presentation for people that could possibly save their lives..."

"The doctor gives pretty useful information like he said the pasta sauce is just plain sugar... I didn't know that sauce was sugar. And he also said that we also have to have like veggies that do not impact our sugar and we can have like whole grains and meat... And you're supposed to sleep really well... or else it can raise your blood sugar. And that I didn't know."

"...my mom discovered she was pregnant, so I started doing research about it and telling her what she should eat and what she should not do..."

As he went through the program, his rating of friends' usefulness decreased from somewhat useful to fair. His rating of government agencies increased from somewhat useful to very useful.

Change in health interest: "I would like to go to work with a doctor or nurse for a day" went from *"I'm not sure"* to *"Strongly Agree."*

Preliminary Findings

- Despite their different experiences, the students are equally driven, whether they're looking up health information for themselves or for a family member.
- Participants showed aspects of improved health and information literacies, as well as increased interest in health.
- Personal relevance leads to more interest in health and literacy development than investigating curiosity- and interest-driven topics.
- Commitment to finding solutions to a problem – either personal or for a relative – results in attending to trustworthiness and relevance of information.
- Improved health literacy (knowledge about what to do and how to change health behavior) does not always bring about a change in health behavior.

Future research

- Continuing to facilitate the development of health literacy in tweens through examination of information seeking and use behavior (such as heuristics for credibility assessment and keyword searching), and through tailoring instruction to build on tweens' natural inclinations.
- Finding ways to improve tweens' health-related self-efficacy.
- Finding ways to improve tweens' health-related decisions and promote positive health behavior changes.
- Returning to schools to gauge change in participant health behaviors (if any).
- Extending program duration to see change in health literacy and health behaviors.
- Expanding role for school librarians to run program on their own.

NIH U.S. National Library of Medicine

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