From Eye Rolls to "I can!" – Understanding the Health Literacy of Disadvantaged Tweens

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Abstract

This poster will present preliminary results from a National Library of Medicine (NLM) funded afterschool program, *HackHealth*, that aims to increase tweens' interest in health and health science, their health literacy, their health-related self-efficacy, and their awareness of the important connection between their everyday health behaviors and their ability to maintain their health and prevent disease. The program is centered in the school library and the school librarian serves as a partner in facilitating the literacy activities. In this poster, we will focus on the divergent experiences of two seemingly similar tween participants in our program, Danielle and Tamira, and how their differing experiences may have contributed to differences in outcomes, such as the degree of changes in their level of interest in health and the broader sciences (science, technology, engineering and mathematics (STEM) fields), in their health literacy levels, in their levels of health-related self-efficacy, and in their engagement in relevant health behaviors.

1   Introduction and Background

In today's media-rich world, youth are not merely consuming information as they are also creating information, sharing information, and making decisions based on the information that they receive. Youth make decisions regarding fashion, restaurants, movies, books, etc. – all from the information they receive from their circle of friends and family. With the prevalence of web access and mobile technologies, they can also now obtain advice from anyone in the world - an expert in the field or a stranger at a distinct location far away. A recent study (Meyers, Fisher, & Marcoux, 2009) found that the information behavior of tweens is quite complex and that tweens develop information literacy not only within the formal school environment, but also within the context of their informal relationships. Meyers et al. further found that when deciding which sources to consult, tweens attempt to gauge the potential benefits as well as the potential social costs of obtaining the information and they may sacrifice information quality in order to minimize potential social costs, such as embarrassment.

One method to reduce the potential of incurring social costs in getting one's needs for information met is to consult the Internet. A recent Pew Internet survey (Lenhart, Purcell, Smith, & Zickuhr, 2010) found that 31% of teens (ages 12 through 17) who go online use the Internet to get information about

health, dieting, or physical fitness. Furthermore, more than 1 in 6 (17%) teens reported using the Internet to obtain information about hard-to-discuss health-related topics, such as drug use, sexual health, and depression. This Pew Internet survey study also found that looking for health information online is far more prevalent among teens from low-income (annual household incomes less than $30,000) families. While 11% of teens from households earning more than $75,000 per year reported looking for health information online, this figure more than doubles (to 23%) among teens from low-income families.

Despite the fact that these statistics indicate that a considerable proportion of youth use the Internet to look for health-related information, this does not confirm the prevailing narrative that suggests all youth are digital natives – avid technology users who are intrinsically capable of using and synthesizing the information that they have found from digital sources (Jenkins, 2006; Palfrey & Gasser, 2008; Prensky, 2001). In fact, we concur with the finding that the idea of youths as digital natives is problematic, especially with disadvantaged youth who tend to demonstrate diverse information and technology skills (Ahn, et al., 2012; Foss, et al., 2012). With the current health trend that has gradually shifted from one that is primarily passive and state-based (i.e., one is either well or ill) to one that is more active and process-based (i.e., one is working toward preventing or managing disease), we believe understanding how young people look for, evaluate, and use health-related information to make decisions is vital in efforts to address the lack of health literacy among young people. We contend that disadvantaged youth do not inherently possess and enact health literacy; rather health literacy needs to be facilitated within the context of personal health and well-being. Working to improve the health literacy of disadvantaged youth is of great importance because low health literacy levels have been found to be correlated with low income levels (NCES, 2003) and to result in severe negative consequences for the economically disadvantaged individual, such as poorer health, decreased quality of life, and higher mortality rates (NN/LM, 2013).

2   Purpose of the Study

In this poster, we report preliminary results from our NLM-funded project in which we have developed and are co-implementing an after-school program (*HackHealth* – for more information, please see: http://hackhealth.umd.edu/) with school librarians in three middle schools in the mid-Atlantic in the United States. In this after-school program, we work with approximately 7 to 12 youth per school, encouraging them to identify a personally relevant health issue (to them and/or their families) they would like to focus on, and then assisting them in investigating health concerns that are personally meaningful to them (such as sports injuries or diabetes) throughout the program. We engage them in (a) conducting scientific inquiry into health maintenance and/or disease prevention and management using the Big6 information problem-solving model (Eisenberg, 2008; Eisenberg & Berkowitz, 1990); (b) acting as health information intermediaries by sharing the information they learn with their family members; and (c) taking action based on what they learn through the program. Our overarching goals for the after-school 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.

3   Research Design

Participating schools are designated with Title 1 status in the United States, which means they have a high percentage of students who come from low-income families and high participation rates in the Free and Reduced Meals (FARMs) program. Using ethnographic methods, we collect data on the students' various stages of information seeking using pre- and post-surveys, card-sorting exercises (St. Jean, 2012a, 2012b), participant observation, search logs, interviews, and focus groups. We are focusing our analysis for this poster on two disadvantaged tweens, Danielle and Tamira, who share similar demographics with the rest of the participants. Despite their similar backgrounds (in terms of socio-economic status,

traditional literacy levels, and degree of family and social support), they showed divergent health-related information behaviors and levels of various aspects of health literacy (including information literacy, computer literacy, visual literacy, and numerical/computational literacy) while participating in our program. We highlight how they experienced the program, participated in the literacy-based activities that we implemented in the school library, and their health literacy development over the 8-week period. We will share the changes that occurred (or did not occur) in these two focal tweens' levels of health literacy and degree of interest in the sciences and health by presenting salient interactions and events that emerged from our data analysis. We will further explore how their experiences in the program may have helped to contribute to their increasing (or decreasing or unchanging) interest in a future career in health sciences or in science, technology, engineering, or mathematics (STEM) more generally.

4   Implications and Conclusion

Health literacy helps youth to understand how their choices affect their health, and encourages them to take responsibility for their own health behaviors. This research informs the importance of literacy development in increasing health-related self-efficacy among youth, and improving their understanding of the crucial link between their daily health-related behaviors and their ability to maintain their health and prevent disease.   Additionally, this research also investigates the possible relationship between literacy development and identity development. We examine how advancement of health trajectories (through learning of health literacy) could lead to the development of STEM identity trajectories among youth, specifically whether health literacy and understanding personal health contribute to disadvantaged youth considering a career in health sciences and whether there is a correlation between health literacy and pursuance of STEM courses and careers.

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