

Teen Health Information and Social Q & A

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The aim of this study is to contribute to the greater understanding of youth information behavior, health information literacy, and the role of Social Q&A in the provision of health information to young people. The study is novel because it investigates an emerging area of inquiry – the use of social media as a source for health information for teens. Using a mixed methods approach, the study draws a rich picture of how teens interpret the credibility, accuracy, reliability, and helpfulness of health information, specifically in the context of *Yahoo! Answers*, a Social Q&A service, and highlights gaps in the health information literacy of young people. While the teens in this study were keenly aware of the risks associated with health information from anonymous sources, they also found value in terms of the emotional support and practical, everyday-life advice it offered. Their assumption is that some of the content in Social Q&A comes from peers like them. They were highly sensitive to tone and the rhetorical structure of the answers in *Yahoo! Answers* -- the communication style of text signaling both authority *and* an all--important sensitivity to teen health concerns. Findings from this study support the development of instructional interventions, information systems, and library services that are grounded in the real--world practices and thinking of young people, and are of interest to information professionals and health professionals who work with teens.

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We thank the young people who participated in this study. Their contributions are invaluable.

Statement of the Problem

Evidence suggests that young people use the Internet to answer health-related questions, one reason for this being that teens are reluctant to ask their parents or a medical professional for health information about sensitive issues. As Eysenbach points out, adolescents often use the Internet as the primary source of information for “sensitive or embarrassing health topics that are not perceived as ‘severe diseases,’” among which issues about body image and eating disorders (2008, p. 127). If teens are reluctant to ask adults for health information about eating disorders, where then do they turn?

For teens living in the United States, access to the Internet is now ubiquitous (Lenhart et al, 2010) and indeed, mobile, and that 23% of teens own a smart phone (Lenhart, 2012). It is reasonable to assume that even higher numbers of young people now seek health information on the Web. Furthermore, for teens, the Web is a dynamic, social environment, with 75% of online teens using social networking sites where they may find user-generated health information (Lenhart et al, 2010). Bowler et al (2011), in a study that followed the trail of hyperlinks to discover who is referring teens to reliable teen health web sites, found that bloggers, who in most cases offered no credentials as a health care professional, were offering health information and advice via personal blogs, leading Bowler et al to call for further research into the role of social media in delivering health information to teens.

While use of the Web by teens as a source for health information is growing, there is little evidence to suggest that their ability to critically evaluate it has improved. Much of the research into the information-seeking behavior of teens has looked at it through the lens of Web-based searching. Research indicates that adolescents, far from being technological wizards and information gurus, actually have weak information skills. This includes the ability to assess the quality of information (Watson, 1998; Fidel et al, 1999; Agosto, 2002; Branch, J., 2003, Todd, R., 2003; Neilsen, J., 2005; Dresang, 2005; Valenza, 2006, Chung & Neuman, 2007).

A wide-scale study designed to forecast the behavior of future researchers explored the published literature related to young people’s information behavior over the past 25 years (CIBER, 2008). Findings from the CIBER study suggest that young people’s information skills have not improved over time. The idea that young people are expert searchers and sophisticated determiners of reliable, credible information, the authors suggest, is “a dangerous myth” (2008, 20). Despite the whole-hearted adoption of information technology into the lives of adolescents, teaching and support in the area of information-literacy remains critical. Once we overlay the complexities of determining the accuracy of health information, the problem becomes acute.

This research project addressed the problem by investigating teens’ assessments of the health information on eating disorders found on a popular Social Q&A site -- *Yahoo! Answers* -- in order to determine teen perspectives on the accuracy, credibility, reliability, and helpfulness of health information on the social Web. We focused on the health topic of eating disorders because it is an urgent health problem particularly relevant to teens. Abnormal eating and distorted body image are very real problems in adolescence, surfacing in children as young as eight years old, and “reaching a peak around [ages] 15--18” (Gowers, 2010, p. 331). Adolescents who are struggling with concerns about body image or questions about eating disorders may be too embarrassed to seek the help they need. Katzman, Kanbur, and Steinegger (2010) write, “They may find these issues difficult to discuss with their parents, family members, friends, or clinicians...commonly minimizing or denying their symptoms” (p. 267--268).

Social Q&A

There are three types of online Q&A services: digital reference services, “ask an expert” sites, and social question and answer sites (Harper et al, 2008; Shah et al, 2009; Gazan, 2011). “Digital reference services” refer to tools for library patrons to communicate and pose reference questions to librarians via an online system. “Ask an expert” sites are characterized by an answerer with some type of credential in a given topic area; the interaction between questioner and answerer is not one of peers. Finally, social question and answer sites, where *Yahoo! Answers* is the best known example, achieve knowledge sharing among community users through a participatory platform where users can ask and answer questions of each other. Adamic et al. (2008) describe *Yahoo! Answers* as the largest English--language “knowledge sharing” community, boasting ---- at the time of their writing----more than 23 million resolved questions.

In *Yahoo! Answers*, the questions, the answers *and* their rankings, have been generated by users, not the investigators, and therefore represent the information needs *and* assessments of people in the context of their everyday lives. *Yahoo! Answers* allows for an individual to pose a question to a large community of users. It also allows the “asker” to rate the best answers. And unlike many bulletin and discussion boards, *Yahoo! Answers* is a general--purpose resource instead of a forum for a specific topic. Interestingly, while a questioner may select the best answer or have the community select the best answer (thus “resolving” the question), users may not answer their own question and answerers are limited to one post per question. This limits the amount of back---and---forth discussion among users.

How eating disorders have changed over the years?

Hi, I am writing a paper on the effect of advertising on eating disorders. I need some concrete statistics on how the prevalence of eating disorders has grown over the past decades. Does anybody have some/know where I could find some? Thanks :)

8 months ago [Report Abuse](#)

Best Answer - Chosen by Asker

I dont know the statistics. But i believe that eating disorder have increased because back in the day (80s and back) models had a more healthy bigger body type now a days models are so stick skinny its just not realistic or healthy for the average girl to be that skinny.

8 months ago [Report Abuse](#)

Asker's Rating: * * * * *
thanks :)

Figure 1. Example of a “best answer” in *Yahoo! Answers*, selected by the person who asked the question.

Goals and Objectives

The objective of this research project was to conduct two participant involved studies in order to paint a rich picture of teen perspectives on the accuracy, credibility, and reliability of health information in Social Q&A sites, specifically *Yahoo! Answers*.

The project was guided by five research questions:

- When presented with a selection of question and answer sets about eating disorders from *Yahoo! Answers*, how do teens *rate* the accuracy, credibility and reliability of the answers?
- When presented with a selection of question and answer sets about eating disorders from *Yahoo! Answers*, on what basis do teens choose the best answers?
- When experts (i.e. health professionals and information professionals) are presented with the same questions and answers about eating disorders from *Yahoo! Answers*, how do they rate the accuracy, credibility and reliability of the answers and how do they choose the best answers?
- How do the teens' *ratings* of best answers compare to those of experts and the online "askers" in *Yahoo! Answers*?
- How does the teens' *process* of choosing the best answer in *Yahoo! Answers* compare to that of experts?

Outcomes

- A conceptual model of the heuristics that adolescents apply when evaluating health information behavior in a Social Q&A service.
- Recommendations to support the health information needs of young people.
- Publications and presentations at scholarly conferences that summarize the results of the research project, including models and recommendations to emerge from the study.
- A final report for OCLC that summarizes the results of the research project, including models and recommendations.

Significance of the Study

- Contributions to theory in Library and Information Science, specifically the area of adolescent health information behavior and social media;
- Development of a novel methodological approach to investigating information-seeking behaviors of young people in the context of social media.

Methods

Since eating disorders is a health topic commonly associated with teens (Gowers, 2010), we can draw some inferences about the characteristics of the criteria used by teens to select the best answers from the way that askers rank answers in *Yahoo! Answers*. However, the anonymity of users in *Yahoo! Answers* means that other measures need to be taken in order to assure a meaningful understanding of teens' online health information behavior as it relates to Social Q & A. Asking teens *directly* about their judgments about health information and *then* triangulating their responses with the assessments of the *Yahoo! Answers* user community (many of whom are assumed to be teens), as well as those of professionals who are experts in the field of health information, provides a picture of teen perspectives on the credibility, authority, reliability, and helpfulness of health information. Furthermore, since not all users of *Yahoo! Answers* actually post questions (users can simply search the data base of questions and then read the answers), it is important that any analysis of teen assessments of health information in Social Q&A should include teens who may not have contributed questions to *Yahoo! Answers*, but who are potential *consumers* of the health information they may find there. With these factors in mind, we applied the following methods to our study:

Web---based Questionnaire.

Content: Mix of qualitative questions and a five---point Likert scale to measure factors related to credibility.

18 teens, ages 15 to 17 years.

3 adults (health professionals)

Teen Focus Group.

Content: Discussion framed by themes to emerge from the questionnaire; sketching activities.

6 Teens, ages 15 to 17 years

Interviews with Health Professionals.

Content: Discussion framed by themes to emerge from the questionnaire.

3 health professionals: 2 nurses, 1 clinical psychologist --- all specializing in adolescent health.

Methods

Recruitment

The questionnaire participants were recruited via a campus mailing at the University of Pittsburgh, targeted to parents and guardians of teens, as per the guidelines set by the institutional review board prohibiting the direct recruitment of teens. At the end of the web--based questionnaire, participants were asked if they would be interested in a follow--up focus group with other teens. Although we had previously received consent from all the participants' parents and guardians, only the teens who indicated yes in the questionnaire were subsequently contacted to participate in the focus group.

Web Questionnaire

Eighteen teens aged 14 to 17 participated in a web--based questionnaire created with the survey software *Qualtrics*, designed to elicit responses to five question and answer sets from *Yahoo! Answers* on the topic of eating disorders. For each question there were a minimum of three answers to choose from. Participants were asked to select the answer they thought was best and then rank it in terms of credibility, accuracy, reliability, and helpfulness. Open--ended questions asked the participants to justify their rationale and further elaborate on the concepts of credibility, accuracy, reliability, and helpfulness.

Focus Group

Dominant themes revealed in the web questionnaire were explored more deeply in a focus group with six teens (see next page for a list of themes). All participants had previously completed the web questionnaire. The teens talked about their impressions of the question and answer sets from *Yahoo! Answers* and elaborated on their interpretations of credibility, reliability, accuracy, and helpfulness. The teens were also asked to sketch a badge or mechanism for verifying the credibility of answers in Social Q&A.

Interviews with Health Professionals

Three telephone interviews with practitioners specializing in adolescent health were conducted in the last phase of the study. All had previously completed the web questionnaire. Particular focus was given to the emergent themes of information quality, communication style, emotional support, and personal experience.

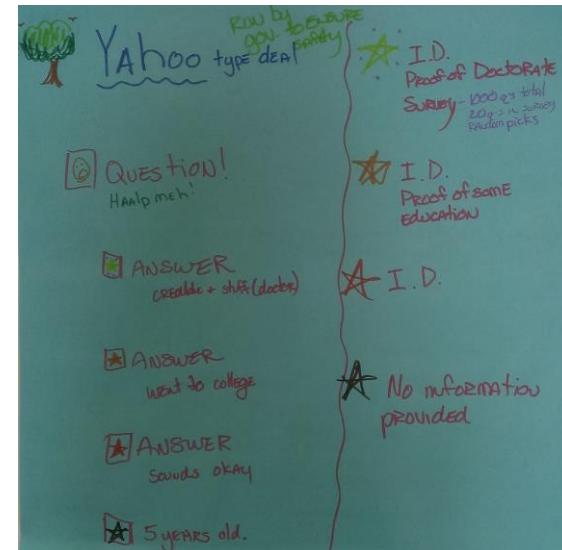


Figure 2.
Sketch of a verification mechanism for *Yahoo! Answers* (female, age 14)

Key Findings

We highlight here some of the key findings from the study. For a more comprehensive review, please refer to the paper entitled, *The Quality and Helpfulness of Answers to Eating Disorder Questions in Yahoo! Answers: Teens Speak Out*¹.

Teens apply an array of heuristics (rules of thumb) when assessing the quality and helpfulness of health information in Social Q&A

What makes the answer to a question about eating disorders in *Yahoo! Answers* “best” or “helpful” to a teen? One finding is that teens do ground their assessments of health information from the usual stance of credibility, accuracy, and reliability. But analysis suggests that other heuristics are at play as well. A detailed content analysis of the open---ended questions in the web---based questionnaire, triangulated with findings from the focus group with teens, resulted in seven broad themes that highlight an array of factors that teens use to determine the quality and helpfulness of health information in a Social Q&A service.

Criteria for determining the quality of health information in <i>Yahoo! Answers</i>	Description
Information Quality	Reliable institutional source; citations provided; accuracy, reliability, facts rather than opinion, comprehensive.
Opinion	The answer seems to be an opinion piece, reflecting a point of view that is not grounded factual evidence. The answer offers a diagnosis not based on empirical evidence. The answerer is using <i>Yahoo! Answers</i> as a platform for personal expression. Generally not viewed as helpful nor does it lend authority to the answer.
Communication style	Linguistic factors embedded in the written responses to questions, such as grammar, vocabulary, spelling, tone, rhetorical style, and complexity of sentence structure, provide clues as to authority of the source. Tone is important because messages that are “bossy” are not easily accepted by teens.
Emotional Support and Encouragement	The answer offers empathy, compassion, and kindness. It provides hope and offers support.
Guidance	The answer offers advice and helpful steps. It provides “next steps” and tells the asker what to do. The answer often refers the asker to experts or issues cautions and warnings.
Personal Experience	Empirical evidence to support the answer is drawn from personal, lived experience, rather than education and professional practice. The answer reflects the realities of a teen worldview. The answer appears to come from a peer - another teen.
Professional Expertise	The answerer purports to have credentials and professional expertise.

¹ Bowler, L., Monahan, J., Jeng, W., Oh, J.S. & He, D. (accepted). *The Quality and Helpfulness of Answers to Eating Disorder Questions in Yahoo! Answers: Teens Speak Out*. 2015 Annual Meeting of the Association for Information Science and Technology (ASIST), November 6---10, 2015 in St. Louis, MO, USA.

Key Findings

Teens understand the general rules for evaluating the quality of information but some have trouble transferring this knowledge to specific contexts.

Considering that the answers to questions on eating disorders in *Yahoo! Answers* are from anonymous sources, the teens who completed the web questionnaire ranked the credibility, reliability, and authority of this content surprisingly high. They also found it helpful. Later in the focus group, these same teens were critical of that same content. It seems that the teens in this study, while good at understanding the general rules of evaluation, may have had difficulty in transferring these principles to the specific context of *Yahoo! Answers*.

Tone and rhetorical style matter in communicating health messages to teens in the context of the web.

Teens in this study liked friendly language and did not like health messages that seemed “pushy”, some participants saying that an authoritarian tone might actually make teens less likely to accept valuable health information. This may reflect the informal nature of Social Q&A and the expectation that one is communicating with peers, rather than health professionals. It may also reflect the natural struggle of teens to assert themselves in the world of adults. Therefore, when crafting health messages for teens in the social media environment, tone and style of communication should be a serious consideration, in addition to the credibility, reliability, and accuracy of the content.

The adult health professionals in this study placed more importance on the credibility of source than did the teens, ignoring to some extent the other reasons why teens may seek health information on the Web.

Perhaps not surprisingly, the three health professionals in this study were highly critical of the absence of source verification in their evaluation of health information on eating disorders in *Yahoo! Answers*. Delivering high quality health information is their professional duty and knowing the source of information is a crucial heuristic for determining credibility, reliability, and accuracy of health information. Although there was some (albeit limited) recognition that teens may ask questions in a Social Q&A service for reasons other than to fulfill an information need, the health professionals did not see value in the health messages transmitted to teens via anonymous sources in a Social Q&A service.

Recommendations

Research with children and youth necessitates special considerations. Below, we highlight recommendations for the OCLC/ALISE Library and Information Science Research Grants.

- **OCLC/ALISE should continue to support research that investigates how children and youth interact with information**

Young people under the age of 18 make up 23% of the population in the United States². This is a significant segment of society and suggests that, far from being an esoteric field meant only for a few studies, inquiry in the area of young peoples' interactions with information, data, and technology should be at the forefront of research in our field. However, research with young people necessitates special considerations and this should be taken into account, particularly with reference to a project's timeline.

- **Investigators should begin the process of getting approval from their institutional review board (ethics review) before the grant is awarded.**

The OCLC/ALISE grant is a 12---month award: Projects are expected to conclude within one year, including the submission of the final report. In practice, research with children and youth generally requires more time to implement than a similar study with adults. Children and youth are considered a vulnerable population by institutional review boards at universities (also called, ethics review boards) and therefore, an extended review is required before any study can be launched. If this

happens after the OCLC/ALISE grant has been awarded, it will shorten the time available to recruit young people and run the study. Although it seems counter---intuitive to get approval for a study that is not yet funded, we recommend that investigators who plan to work with children and youth start the ethics review process at the same time that they submit their grant application to OCLC/ALISE.

- **Investigators should be cognizant of the power relationship inherent in research with children and youth.**

We found the difference between what the teens said in the focus group and how they responded to the web questionnaire quite interesting. As noted earlier, on the web questionnaire, they ranked the health information on eating disorders from *Yahoo! Answers* positively but later in a focus group, were highly critical of that very same content. This may reflect what happens when adults are in the room with teens and points to the value in providing teens with the ability to respond anonymously, and possibly with more authenticity, on sensitive topics such as eating disorders.

- **Research is needed in the area of mobile Social Q&A services and teens.**

Social Q&A services are moving into the mobile apps world. At the same time, smart phones are changing the communication landscape of teens, making such apps more accessible than ever. Research at the nexus of teen health, Social Q&A, and mobile technology is needed. Our exploratory study points the way toward further research, particularly in understanding the heuristics that teens use to judge the value of information in Social Q&A services.

² Source: *ChildStats.gov: Forum on child and family statistics*. Accessed June 15, 2015 at, <http://www.childstats.gov/index.asp>

Budget

An official financial report was submitted by the Office of Research/Cost Accounting, University of Pittsburgh, under separate cover.

For further information about the study, please contact the Principal Investigator

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