The Quality and Helpfulness of Answers to Eating Disorder Questions in *Yahoo! Answers*: Teens Speak Out

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ABSTRACT

This research project investigated teens' perspectives on the quality and helpfulness of health information about eating disorders found on *Yahoo! Answers*, a Social Q&A site. A mixed methods approach was applied, using survey methods and semi-structured group interviews to gather data for the project. Eighteen teens completed a web-based questionnaire using sample question/answer sets about eating disorders from *Yahoo! Answers*. The teen participants were asked to choose one answer as "best" and then rank its credibility, accuracy, reliability, and helpfulness. Open-ended questions allowed teens to explain the rationale for their choice of "best" answer and to discuss why the chosen answer might (or might not) be helpful for teens. Following the questionnaire, six teens participated in a focus group interview using a semi-structured format that asked open-ended "why" questions in order to draw forth comments on criteria for evaluating the quality and and helpfulness of health information in *Yahoo! Answers*, as well as to reveal aspects of critical thinking. Findings suggest that, 1) teens make a distinction between health information in Social Q&A that is credible versus that which is helpful, 2) they value health information that isn't from a credible source if it addresses other needs, and, 3) when making judgments about health information on the Web, they apply an array of heuristics related to *information quality, opinion, communication style, emotional support and encouragement*, *guidance, personal experience*, and *professional expertise*.

Keywords
Teens, Social Q&A, *Yahoo! Answers*, Credibility, Information Quality, Eating Disorders, Health Information Behavior.

INTRODUCTION

The Internet has become a valuable source of health information for young people. According to a 2010 study by the Pew Research Center 31% of teens got "health, diet, or physical fitness information" online, and 17% used the internet to research more sensitive health topics such as "drug use, sexual health, and depression." Older teens – particularly girls - and teens from lower-income families are the most likely to seek out sensitive health information online (Lenhart et al., 2010, 26).

Health information presents a particularly interesting case for study because of the relationship between people and their doctors. In a 2008 survey, although 50% of people reported they would prefer to go to their physicians first, only 11% actually went to their physicians first – 48% went online before consulting a physician, using "information triage" to create a health plan for themselves incorporating both doctors' expertise and self-driven online research (Eysenbach 2008, 125). It is known that teens who suffer from eating disorders are reluctant to speak directly to a medical professional about the extent of their symptoms or to seek diagnosis or treatment (Katzman et al., 2010) and the Web might be the option such teens choose when seeking health information. *Google*, *Facebook*, and *Youtube* are common places that young people go to find health information, although teens might be hesitant to discuss sensitive information on social media services (Evers et al. 2013, 267). Social Q&A services (such as *Yahoo! Answers*), are widely used and combine personalization with a greater sense of anonymity and a unique space for communicating with peers on sensitive health topics (Harper et al., 2009; Choi et al., 2013).

A key element of information quality is credibility. Nowhere is this more true than with health information on the Internet, where the credibility of the source helps to assure the accuracy and trustworthiness of complex information that the average person cannot on their own assess. In the particular environment of Social Q&A, where people can provide health information anonymously, how might teens make judgments about what is "good" health information and what is helpful? And how do teens interpret credibility, a concept that permeates the discourse on health information, but usually from the stance of information and health professionals and not young people?

To discover what factors contribute to teen interpretations of the quality of health information, a mixed methods study
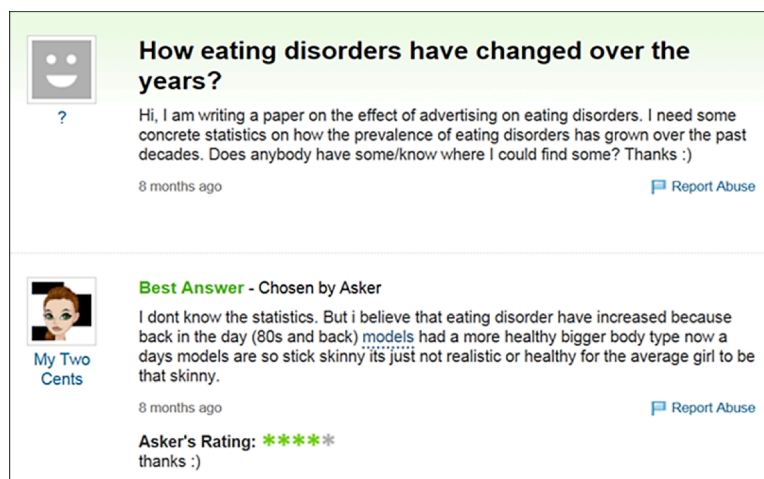
Figure 1. Example of a "best answer" in Yahoo! Answers, as chosen by the asker

with teens was conducted, using a selection of question and answer sets drawn from *Yahoo! Answers*, a Social Q&A service, on the topic of eating disorders.

Patterns to emerge from this study contribute to a general understanding of how young people use networked, peer-to-peer platforms for seeking health information and further, how they make judgments about the credibility and helpfulness of health information online. Figure 1 presents a screen image from *Yahoo! Answers*.

BACKGROUND

While credibility is defined differently across research fields, the most common theme across definitions is *believability*. Work on credibility judgments may attend to the credibility of the source, or the information structure and content (Hilligoss & Rieh 2008, 1468). A number of frameworks for understanding the different levels at which credibility operates have been proposed. Hilligoss & Rieh (2008) found that credibility operates on three levels: the conceptualization of credibility; heuristics that help guide credibility decisions; and credibility judgments based on specific cues (1473). Flanagin & Metzger (2010) identified heuristic, analytic, and social strategies used in making credibility decisions. Cognitive heuristics in credibility assessment suggest people balance the cognitive demand with the efficiency of decision making, guiding decisions about credibility based on a series of adaptive "mental shortcuts" (Metzger et al. 2010, 416-417).

Recently, the research focus on information credibility has started to shift to be more inclusive of different kinds of influences over information behavior, because paradigms like search contexts and social evaluation have become imperative to understanding how people judge the quality of online information (Eysenbach 2008; Gasser et al. 2010; Metzger et al. 2010). Particular emphasis has been placed on the social aspects of credibility assessments; user-generated content is often socially evaluated through

"feedback systems, testimonials, and reputation systems" and other cues that aid in credibility assessments (Metzger et al. 2010, 420). This is particularly true on social question and answer sites such as *Yahoo! Answers* (Jeon & Rieh, 2013; Matthews, 2015). Credibility research has also faced some methodological criticism, as often the gap between researchers' and subjects' perceptions of the definition and importance of "credibility" can undermine the usefulness of research (Gasser et al. 2010, 20-21). Flanagin and Metzger (2010) use "believability" as a metric for young people in their reporting on credibility.

Young people are generally willing to trust information they find online, but are aware of issues of credibility. Flanagin & Metzger (2010) surveyed over 2,500 American youth between 11 and 18 and found that almost 90% of respondents thought some or a lot of online information was believable, and 79% said they consider whether to believe information they find online (31-32). They also found that young people were generally somewhat likely to believe health information they found online, depending on experience; those who identified as technically capable also reported finding online information more credible, while those who had bad past experiences with online information found it less credible. Young people reported they were more likely to use analytic (e.g., fact checking and information gathering) strategies to assess credibility than heuristic and social strategies, although many students identified "social endorsement and reputation" as important to credibility decisions along with web security and source authority (Metzger 2010, 51). As with adults, the visual design of websites also influences perceptions of credibility (Fidel et al, 1999; Agosto, 2002a, 2002b; Fogg et al, 2003).

There is a significant amount of literature dedicated specifically to credibility assessments of health information online that propose a number of different factors. Metzger & Flanagin (2013) suggest that decisions about credibility are made based on cognitive heuristics; a number of factors

influence the perceived credibility of online information including reputation, endorsement, consistency, self-confirmation, expectancy violation, and persuasive intent. Cultural minorities might seek information from other group members online because of culture and language barriers in other sources of information (Yi et al. 2012).

A subset of the credibility literature focuses specifically on youth and online health information, although there continues to be a need to explore teen assessments of the credibility of health information specific to Social Q&A. Source credibility may be diminished online because expertise is easily faked on the Internet; message credibility is influenced by not only accuracy but also the tone and rhetoric of the information (Eysenbach 2008, 140-141). Teens report that the Internet is limited as a health information source - not all websites are trustworthy, and online information might not be useful for someone suffering from a serious illness. But online health information provides the benefits of instant access to information and multiple perspectives from a number of different sources (Gray et al. 2005).

Young people use a variety of heuristics for determining the credibility of online health information. Subramaniam et al (2015) explored the health information seeking behavior of disadvantaged tweens, ages 11 to 13, and found that situational factors affected their credibility assessment strategies, such as their limited English-language skills, a lack of familiarity with the health information environment, including otherwise well-known sources, and a preference for non-textual modalities such as audio and video.

In their study into how youth, ages 12 to 18, look for mental health information online, Rasmussen et al (2013) found that participants acknowledged the poor quality of online information. The participants used cues such as domain suffix, the writing style, and web pages with many visits, as strategies for determining credibility. Lived experience afforded a certain type of credibility to the participants - people who have lived through mental illness accepted as a reliable, trustworthy source. Interestingly, when asked to actually define credibility, many could not identify specific qualities of credible online health information.

METHODOLOGY
There were two phases in this research project, the first with teens and the second with health professionals. This paper reports on the first phase, where we investigated teen assessments of health information from *Yahoo! Answers* using five question/answer sets on eating disorders gathered using *Yahoo! Answers Application Programming Interface* (API).

Data Collection
Two instruments were used to collect data: a web-based questionnaire and a focus group interview with teens. 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.

Questionnaire Design
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. Each question was accompanied by a minimum of three answers.

The purpose of the questionnaire was twofold: 1) to compare the teens' assessment of "best" answer to that of the asker (anonymous to us) and 2) to provide a platform where teens could express their views on what constitutes high value health information. The five question/answer sets were selected following a team review of 29 question/answer sets from *Yahoo! Answers*. One concern was that the question/answer sets required a fair amount of reading and that the teen participants would "tune out", as it were, if we had too many samples. We therefore focused on those questions that had been designated as "best" by the asker and which clearly reflected either an informational or emotional need. One of the five question/answer sets was a "mixed intention" question (i.e. a mix of informational need coupled with an emotional, social, or school-task need). For a more complete description of how the question/answer sets were collected, classified, and processed, please see Bowler et al, 2012. The questionnaire used a combination of 3 and 5-point rankings and open-ended questions. The participants read each question and answer set and then selected the best answer. Each participant then rated their "best" answer in terms of reliability, accuracy, credibility, and helpfulness. Open-ended questions asked the teens to explain the rationale for their rankings in writing.
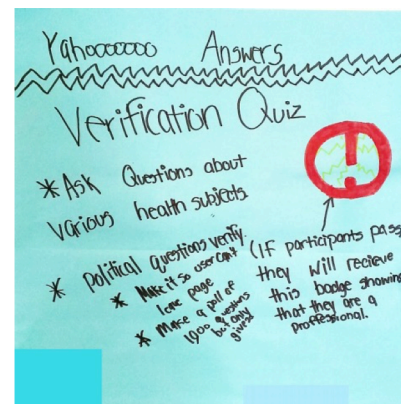

Figure 2. An example of a teen's sketch for designing verification mechanism on a Social Q&A site

Focus Group with Teens

Within a month of completing of the web questionnaire, we conducted a focus group with six of the 18 teens in order to explore dominant themes revealed in the questionnaire. The participants in the focus group session were composed of 4 females and 2 males, ages 15 to 16. Conversation began with a general discussion about how teens look for health information on the Internet. We then reviewed three of the five question/answer sets with the teen participants, projecting screen images of the questions as they appear in *Yahoo! Answers* (saved in html). The teens talked about their impressions of the question/answer sets in the questionnaire and their interpretation of credibility, reliability, accuracy, and helpfulness. Finally, the teens were asked to think about how a Social Q&A site might help teens assess the credibility of health information. To help make their thoughts concrete, the teens were asked to sketch a badge or mechanism for verifying the credibility of answers in *Yahoo! Answers*. An image of one of the teen's sketches is provided in Figure 2.

Data Analysis

The unit of analysis for this study is the group, using aggregates of the data, even though we had data at the individual level. Results from the web questionnaire were collected and gathered into an Excel file. A first review of the web questionnaire helped to structure the focus group protocols, which concentrated on emergent themes related to empathy, expertise, personal experience, and information quality. Following the focus group, each researcher wrote and shared a memo. Themes were extracted from the researchers' observation notes and used to initiate a detailed content analysis of the open-ended questions in the web-based questionnaire, seeking to further reveal deeper trends and triangulate the findings from the focus group with data from the web questionnaire. Open-coding resulted in 122 codes along two axes: "why best answers" and "why

helpful." These two axes were used in our data analysis in order to provide another angle through which to consider the quality of health information. While the two concepts of "best" and "helpful" overlapped, there were interesting areas of divergence as well, suggesting that health information that meets the criteria of "best" doesn't necessarily fulfill the actual health information need. At the level of interpretive analysis, the 122 descriptive codes were grouped into 18 larger conceptual categories and then finally, seven cross cutting themes. The results are presented in Table 1.

RESULTS

The teen participants in this study engaged seriously with questions about health information, how they preferred to look for it, what they found valuable, and the downsides of finding health information online. Their level of awareness of the risks associated with health information from unsubstantiated sources was high. But there were some surprises in the results, one of which was how highly the teen participants rated the accuracy, credibility, and reliability of the answers they chose as "best", despite the fact that the content was often riddled with spelling and grammatical errors and the participants knew that the sample questions had come from the Internet. It was this dichotomy that pointed the way toward a broader understanding of what teens deem as "good" and "bad" health information. The seven broad themes uncovered in this study, as well as our analysis of what constitutes "best" versus "helpful" health information, together provide an explanation as to why teens in this study could simultaneously judge online health information as both a risk and a benefit. Below we look more closely at the *best-helpful axis* and the themes of *information quality, opinion, communication style, emotional support and encouragement, guidance, personal experience*, and *professional expertise*. The analysis suggests that teens do

Table 1. Themes reflected in participants' assessments of "best" and "helpful" answers to eating disorder questions in *Yahoo! Answers*

Themes	Description
Information Quality	Sources and citations, accuracy, reliability, facts rather than opinion, comprehensive.
Opinion	The answer reflects a point of view and is not grounded factual evidence. The answer offers a diagnosis not based on empirical evidence. The answerer is using *Yahoo! Answers* as a platform for personal expression.
Communication style	Linguistic factors embedded in the written responses to questions, such as grammar, vocabulary, spelling, tone, rhetorical style, and complexity of sentence structure.
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 world view. The answer appears to come from a peer - another teen.
Professional Expertise	The answer reflects the answerer's status as someone who purports to have credentials and professional expertise.

ground their assessments of health information from the usual stance of credibility, accuracy, and reliability. But the themes revealed in this study suggest other heuristics at play as well.

Best Versus Helpful

Our data analysis was framed along the two axes of "best" and "helpful" in order to provide a richer view of the data. In addition to ranking their chosen answers in terms of *credibility,* we also asked the participants to consider factors such as *accuracy,* and *reliability* – assumed qualities of trustworthy health information - as well as *helpfulness*. Despite the apparent flaws in the health content the participants reviewed, responses to the web questionnaire reflected a mostly positive stance. From the quantitative data in the web questionnaire, we see that the teen participants gave the content they assessed a high overall ranking for credibility, accuracy, and reliability, even though they were offered the possibility of giving it a low score (In other words, they could have chosen a "best" answer, but considered it the "best of the worst" and still given it low scores for credibility, accuracy, and reliability). Table 2 and 3 below show the scores for credibility, accuracy, reliability, and helpfulness from the questionnaire. Note that the scores are aggregated from the responses of all 18 participants across all five question/answer sets. The total of 90 points is distributed over different rates for a given quality in Tables 2 and 3. Almost half (48.8%) of the possible points for credibility were assigned a rank of "high" and, if we combine the scores for both high and medium, we see that 80.3% of the possible points indicate a general level of acceptance in terms of credibility. Similar numbers are reflected in the scores for reliability and accuracy. The participants also

Table 2. Scores for Information Quality: Credibility, Accuracy, and Reliability (90 responses)

Rating	Credibility	Accuracy	Reliability
High	44	32	40
Medium	36	43	33
Low	9	9	14
Not at all	1	3	1
I don't know	0	3	2

Table 3. Scores for Helpfulness (90 responses)

Rating	Helpful
Very helpful	46
Somewhat helpful	37
Not helpful at all	7

found most of the answers to be helpful, with 46 of a possible 90 points assigned to the category of "very helpful" and another 37 points for "somewhat helpful". Only 7 out of 90 points were assigned to the category "not helpful". Table 2 and 3 below show the scores for credibility, accuracy, reliability, and helpfulness.

Although there were points of convergence between the concepts of "best" and "helpful", they did not universally intersect, meaning that the "best" answer might not necessarily be the most helpful and vice versa. An answer could be "best" for one reason but "helpful for another. This balancing of "best" and "helpful" could be seen in the participants' responses to the answer below.

> *"If you are anorexic, I encourage you to seek help immediately, before you do some serious damage to your body. Good luck. Source(s): I am an Adolescent Counselor."*

This answer was deemed as "best" by eight participants, six of them finding it highly reliable, due to the assumed credibility of its source ("adolescent counselor"). Explaining why it was selected as *best* one participant wrote, that it is "from an educated adult" but that same participant then explained that it was *helpful* because it "may give comfort to teens who are suffering." Another participant wrote that they chose this answer as *best* because it "uses facts and believable evidence" but it was *helpful* in the way that it "explains the problem" and "encourages these people to seek help."

In the focus group's review of the question/answer sets, the participants would often identify the weaknesses of the answer but then still rate it highly in terms of helpfulness. Somehow, they found a value that lay beyond the traditional boundaries of what constitutes "good" information (i.e. credible, reliable, accurate information from a known source), suggesting that teens seek and use health information from a variety of stances. This value is related to *helpfulness,* which was as important to the teens as credibility, reliability, and accuracy. The paradox here is that health information that does not meet the traditional standards of quality can, at the same time, be helpful to teens. Helpfulness here is interpreted through a distinctly adolescent eye, one teen in the focus group telling us that teens are stubborn and don't like to be "bossed around", suggesting that tone, not just content, matters when it comes to helpful health information for teens. In the never-ending struggle for teens to assert themselves in an adult world, health information – even reliable health information – is not helpful if it is forced upon them by adults and, in the words of one participant, "overly pushy". Helpful information, therefore, might be that which acknowledges a teen's desire for automony. This struggle for independence led one participant in the web questionnaire to compromise and choose an answer that was only just good enough, explaining that the right answer (talking to a doctor) might be rejected outright by teens:

"I would have chosen the answer that suggested talking to a doctor or counselor instead, because that is the advice I would give to anyone, but I instead chose the answer that suggested a seemingly safe website for the girl. Teens are stubborn and will probably need more convincing than just one question to actually go talk to a doctor, so this answer at least provides a more reliable website that the girl can use."

Other factors came into play in terms of determining helpfulness. Providing comfort and advice rather than just facts, explaining and encouraging rather than telling, and giving hope, were features that distinguished the helpfulness of an answer from the information quality that it delivered. Ultimately, most of the participants agreed that the most helpful answers were those that had a lot of information and practical advice that you could apply to real life.

Information Quality versus Opinion
The quality of health information on the Web is an ongoing concern for health professionals. Do teens have the evaluative skills needed to filter through the noise of information on the Web? Themes to emerge from the web questionnaire suggest the participants did ground their decisions about the "best" answers in traditional notions surrounding credibility, accuracy, and reliability.

Throughout the focus group, participants alluded to a number of different ways that they judged the credibility of the answers in *Yahoo! Answers* reviewed in this study, but few were able to articulate their personal understanding of the terms credibility, accuracy, or reliability, nor could they connect their personal understanding to the points they had made earlier in the discussion. However, during the course of group discussion, many of the teens unknowingly alluded to these concepts. For example, one participant reported that she knew the answer suggesting teens eat 1300 calories a day was inaccurate because she'd learned otherwise in her health class. Participants measured health information against things they had learned through other, credible sources in order to analyze its accuracy.

Participants in the focus group also seemed concerned about safety, illustrating an interpretation of "reliability" that hinges on notions of personal security. Asked about answers in *Yahoo! Answers* that refer people to chat rooms, one participant remarked that "anyone can lie" in a chat room, and that "there might be pedophiles...for all you know." Several of them were also disturbed by the answer to one of the questions suggesting that teenagers eat 1300 calories a day, which was a dangerous suggestion that "would kill you a little bit." This concern over safety was reflected in their recommendations for a more regulated space.

One aspect of health information in *Yahoo! Answers* that the teen participants were quick to detect (and criticize) were opinions offered without the support of facts or

expertise. Describing why one answer was only moderately helpful, one participant wrote, "The info is only some what helpful because all of it is personal opinion. None of it are the cold hard facts [*sic*]." Another answer cited a reliable, medical web site and was thus judged as best because it was "real and has helpful information, as opposed to opinions from people who may not be trustworthy."

Communication Style
Participants identified a number of ways they analyzed the credibility of online answers that weren't verifiably produced by professionals. Several reported that they read grammatical errors, or the overuse of ellipses, as a sign that it wasn't produced by a credible source. Others reported that they could "just tell" or "just know" whenever an answer was produced by a credible source, through some sense of the tone or rhetoric. Communication style offered many clues as to the credibility of the answer. For example, one "best" answer selected by several participants offered friendly advice, not hard facts, in an apparent effort to encourage the question asker to get help. Several participants pointed to authenticity in style and tone of writing as an indication of the trustworthiness of the answer, saying, "It's what I would say" or its "something I would say to a friend." Good grammar lent answers authority. Participants explained that they chose an answer as best because, "His answer is error free and very informing" and "Answer 2 is well written and well explained."

The length of the answer and complexity of sentence structure seemed to matter as well. More is more when it comes to the way that teens value health information. Teens evaluate the quality of web sites based on surface elements such as the amount of information in the site and the graphics. Apparently, not much has changed in the nearly two decades since Fidel's 1999 study into how teens evaluate web resources found that teens take their cues from the look and amount of content rather than what it actually says or who said it. While communication style can certainly offer helpful clues as to the credibility of health information, it's use as an assessment tool also raises a red flag. If the believability of health information is simply based on visual and textual presentation, then the barrier between teens and inaccurate health information is thin indeed.

Emotional Support, Encouragement, and Guidance
Responses to the web questionnaire often referred to the value of getting advice, encouragement, and sharing personal experiences with a fellow teen. Interestingly, the focus group participants were somewhat skeptical about the ability of people asking questions on *Yahoo! Answers* to choose the appropriate answer to their problems. Instead, they suggested that most teens would just pick the answer that told them what they wanted to hear. Perhaps the real reason behind this was that the asker was seeking to fulfill an emotional, rather than informational need, a finding in earlier studies on Social Q&A (References removed for

anonymous review). The relatively high rank for helpfulness suggests that the participants aligned their assessments with a perhaps unconscious recognition of the emotional need of the asker in *Yahoo! Answers*.

Guidance was also valued. Answers that offered a diagnosis or medical treatment were generally frowned upon by the teen participants, but the kind of practical, step-by-step advice that sounded like something they "would say to a friend" was ranked as helpful. Indeed, guidance and support that appeared to come from another teen would be valued because "help from a fellow-sufferer appeals more often, than does information from an adult."

Participants also ranked highly the answers that offered "plenty of tricks that anyone can use" or a range of options "instead of just stating the obvious answer of stop eating so much" or "just counting calories." Even though the participants emphasized the value of credible, factual information from experts throughout the study, they did acknowledge that the guidance received in *Yahoo! Answers* could be helpful and exactly what some teens might be seeking if it was general, non-medical, lifestyle information and in the voice of a caring peer - even if it didn't come from a health professional.

Personal Experience versus Professional Expertise
Expertise was a major theme to emerge in this study, playing a large role both in how teens seek out health information and how they judge the value of information from online sources. The teens in the focus group were particularly focused on expertise, raising the topic multiple times during the course of discussion. But whose expertise? Who is an expert? In our study, we saw two forms of expertise – the credentialed health professional and the person who could report on personal experience. The expertise of a health professional was highly valued and, according to the teens in this study, should be actively sought. But there was an interesting dichotomy between what the participants said in the web questionnaire and then later in the focus group with regard to expertise (even though the teens in the focus group were the same teens who had completed the web questionnaire). The focus group teens were highly cynical about finding health information online at all, quite adamant that the *Yahoo! Answers* website was neither credible, reliable, nor accurate, and that a proper source of information should be a doctor. Even if someone claimed to be a doctor online, one participant said, "you don't listen to a doctor on *Yahoo! Answers*, that's stupid." And yet, participants in the web questionnaire ranked the answers from medium to high in terms of credibility and, as the example of the "adolescent counselor" above illustrates, seemed to take claims of expertise at face value.

One way expertise might present some complications came up in the focus group discussion about helpfulness, in which one participant said that answers from experts should not be "like *too* doctorly, so you don't really understand what they're talking about. And they don't go off talking about percentages of body fluids and...things. Because I don't understand that." Others said that suggestions to go to a doctor in real life might be ill met because teens could respond by rebelliously refusing to, or might not be able to go to the doctor because of time and money restraints.

Finally, in explaining their brainstorm sketching for a new verification service online – usually in the form of a quiz - several of the focus group participants alluded to not only verifying the expertise of people answering the questions, but also making public things like education, occupation, and age, increasing transparency about the expertise of people providing health information online. The complexity of the proposed quizzes suggested by the teens, as well as their preoccupation with verifying identity, reflects the general nervousness about online environments raised throughout the discussion in the possibility of "hackers" who could spoof the verification process, or cheaters who might look up the answers to the questions elsewhere (several participants suggested a quiz that would reset if you opened a new tab, etc.).

In addition to professional expertise, the teens acknowledge another form of expertise – the personal experience of people with eating disorders or issues with healthy body image. Personal experience is not only a useful tool for education, but also a mechanism for getting personalized answers for health questions, rather than general advice that could apply to anyone. Sensitivity to the individual situations of teens seeking health information reappeared multiple times, particularly in discussion of sensitive topics like eating disorders. When one participant suggested that people should seek health information from doctors, another responded that some people might not want to go to a doctor with those kinds of questions "because you might feel embarrassed that you're thinking of this, and you're afraid maybe the doctor will talk to your parents about it too." But personal experience was not always considered valuable, especially in cases where the person who answers a question in *Yahoo! Answers* appears to use it as a platform to talk about themselves. Several participants took issue with the tone of answers formulated as personal experience, because they "just sounded like they wanted to talk about themselves in the answer. They're like, what *I* didn't eat, *I* did this, and it was less about trying to help the person who was asking the question."

CONCLUSION
In this study we presented teens' assessments of the answers to eating disorder questions in *Yahoo! Answers* along a *best-helpful axis* and through seven themes to emerge from the data (*information quality, opinion, communication style, emotional support and encouragement*, *guidance, personal experience*, and *professional expertise*). The teen participants in this study placed a high emphasis on the importance of interactions with medical professionals, both offline and in finding information online. However, participants painted a picture

of a complex relationship between medical professionals and teens that warrants careful negotiation of expertise, information flow, and "pushiness" in their interactions. It seems that going to a doctor in person raises some barriers for teens, such as their own stubbornness and dislike of being told what to do, not being able to afford it, not having the time, or being afraid that the doctor would report particularly vulnerable problems, such as eating disorders, to a parent, and serves as an explanation as to why teens might choose to use a Social Q&A service to seek answers to their health questions.

Many of the teens were skeptical of the possibilities for online health information in general. What's more, only a few of the participants were optimistic about the *Yahoo! Answers* model of allowing people at multiple levels to answer questions; in several of the brainstorming sketches, participants proposed heavily monitored, identity-verified spaces rather than the anonymous marketplace of answers available on *Yahoo! Answers*. Despite their skepticism, when presented with health information from online sources, the participants identified a number of factors they used to decide which information was helpful. In assessing the answers to questions on *Yahoo! Answers*, participants in both the focus group and web questionnaire acknowledge the value of answers that had useful information with practical applicability, that matched previous understandings they had from their health education, that were presented well, including proper grammar, and which encouraged and guided, rather than directed and commanded.

While general themes and patterns arose across the data, there were also differences in the way that the participants responded in the web questionnaire versus the focus group. This dichotomy is intriguing. For example, most participants in the focus group were ambivalent about the helpfulness of hearing about personal experience, as opposed to help from experts. In contrast, comments in the web questionnaire were more open in citing the personal experience of the answerer or accepting helpful advice and guidance rather than factual information as their reason for selecting an answer. In the web questionnaire, the participants ranked the answers to eating disorder question in *Yahoo! Answers* a medium to high rank for credibility. In several examples from the web questionnaire, the participants accepted at face value the self-reported expertise of answerers in *Yahoo! Answers*. In contrast, participants in the focus group (the same participants as in the web questionnaire) insisted that there was little credibility in health information in *Yahoo! Answers*. We speculate that this difference in responses might reflect the difficulty in transferring broad principles of evaluation to specific contexts. Teens in the focus group were good at understanding the general rules of evaluation, effectively mirroring the words of warning that they had heard from adults, but they may have had difficulty in transferring these principles to the specific context of an answer in

Yahoo! Answers. The difference between the focus group and the web questionnaire may also reflect what happens when adults are in the room with teens – teens might simply be giving the response they have been trained to provide. All this 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.

The focus group raised interesting questions about not only teens' attitudes about health information, but also about their online activities in general. Several participants suggested that they could "just tell" when information came from a reliable source, which raises interesting questions about the way contemporary teens might be reading and drawing conclusions about text. And while a lot of literature about the Internet either emphasizes the possibilities of anonymity or questions the decisions teens make about their online privacy, the teenage participants in this study were skeptical at best, and fearful at worst, of anonymous communication online. What's more, they reported that they did not talk to real-life friends online on social sites like *Facebook* about health information, but rather that they would prefer to get health information provided by doctors in an identity-verified space. These complicated preoccupations with expertise, facts, and regulated spaces create an interesting friction when measured against the language of grassroots liberation often present in literature about teens and technology, suggesting that health is a subject that introduces its own complexities to teens' relationship with information and the Internet.

Throughout the focus group session, participants also reflected on how to make health information more accessible to teenagers. Most of their suggestions had to do with the tone and rhetoric of the information. Participants preferred information that wasn't too "pushy" - that provided knowledge without "prejudice," providing facts without a diagnosis. Advice that was too pushy, several participants said, might make obstinate teens even less likely to follow it. Despite the fact that most participants seemed very invested in the importance of the expertise of medical professionals, they suggested that health information that tells you to go to a doctor fell into the category of "too pushy" and might backfire, discouraging those seeking help from going and getting the help they needed.

As newer forms of Social Q&A emerge on the scene, most likely mobile, teens will continue to use anonymous question and answer platforms to seek information on sensitive and embarrassing health information topics. This paper helps to build a theoretical foundation in the area of Social Q&A that is grounded in the real-world practices and thinking of young people. Themes and patterns discovered in this study contribute to the greater understanding of the role that Social Q&A plays in the provision of health information for young people and can contribute to the design of instructional interventions in health information literacy for teens.

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