

**GoodWork® Project Report Series, Number 48**

**Trust Without Knowledge: How Young Persons Carry out Research on the Internet**

Lindsay Pettingill

The GoodWork® Project  
HARVARD UNIVERSITY  
Project Zero  
124 Mt. Auburn St.  
Cambridge, MA 02138

[lindsay\\_pettingill@pz.harvard.edu](mailto:lindsay_pettingill@pz.harvard.edu)

December 2006

Howard Gardner, Series Editor  
GoodWork® Project  
Harvard University

COPYRIGHT 2006. All Rights Reserved.

**Abstract: Trust Without Knowledge: How Young Persons Carry out Research on the Internet**

**Lindsay Pettingill**

I report a study of the internet sources that young people (aged 15-25) trust, how trust is determined in such sources, and how credibility is moderated by frequent participation in social networking sites. The study confirms the "trustee role" assumed by teachers and educators, while extending this trustee role into the New Digital Media (NDM). The study reveals dependence on the traditional media and suspicion and ambivalence regarding the use of digital media, coupled with inadequate skills to determine credibility of web-based sources. I suggest that determinations of technical sophistication, knowledge, and general complexity of reasoning should be taken into consideration when developing interventions and instruments with respect to literacy in the NDM. The study suggests several avenues for future research.

**Introduction:** I describe a small follow-up research study to an online survey carried out during the summer of 2005 and winter of 2005-2006 (Described in Pettingill, 2006). The survey revealed a troubling finding: regular recourse to the internet as a source for information despite dismally low levels of trust in the information found there. As young people spend increasing amounts of time engaged with the new digital media (NDM), the need to understand *what* young people are using the digital media for, and *how* they use them, is underscored. Our current work includes efforts to uncover the mental models young people use as they think about trust in their daily lives. Accordingly we found it opportune to explore trust in the virtual world as well.

With these thrusts in mind, the work described in this paper was guided by the following research questions:

1. What sources of internet testimony do individuals trust or distrust?
2. What aspects of internet testimony signal credibility or deception to young people?
3. Are the above questions moderated by membership in social networks or active participation in discussion boards, blogs, etc.?

**Methods:** Active internet users between the ages of 15-25 were recruited to take part in a research study via postings on craigslist.com, an online classified site. Of the 98 responses we received showing initial interest in the study, 43 subjects completed the research. Three of these responses were declared void (due to lack of technical competence and/or age) and therefore not analyzed. For the first phase of our research subjects completed an

online survey about their internet usage (see Appendix A). The second phase consisted of the completion of two related research tasks. Subjects were asked to choose an issue of interest from a list of global and American political issues, recent natural disasters, recent controversies, or historical/ informational issues and research the issue online (see Appendix B). During the exploration of the issue, the researcher asked subjects to explicate their actions and decisions (see Appendix C).

Data were recorded through field notes that were hand-written by researchers and later transcribed. Data were then coded through a three-step process whereby researchers developed first-round codes individually and then came together to compare and refine codes. After coding another researcher's data using the revised codes, researchers met again to finalize codes. Reliability was achieved through extensive coding and recoding of other researcher's data until consistency was established across data. Data were analyzed using Nvivo qualitative software, allowing for multiple codes and analyses based on codes as well as demographic data collected from the online survey.

**Results:** We analyzed the survey data and research of 40 subjects. The sample included 23 males and 17 females with a mean age of 21.75 years and a standard deviation of 2.19 years. All of our subjects (with the exception of the 16-year old) were either currently enrolled, graduated from, or briefly attended an institution of higher education. These institutions were largely private institution in the greater Boston area. Of this sample, 42% agreed with the statement that 'The internet is the first and only place I would search for the latest headlines in US politics', followed by 40% who agreed that 'the internet is

the first place I would search, but I would probably use other sources', 15% that 'I would first go to other sources and then I would consider using the internet for more information' and 2% 'would not use the internet to search for information'. Additionally, subjects reported the following participation in social networks (such as Myspace, Friendster, Facebook): 70% Every day, 12% 1-2 times/ week, 8% a few times/ month, 10% rarely and never. Among our subjects, the internet is clearly a sphere of influence and activity.

Research Question 1: What sources of internet testimony do individuals trust or distrust?

Findings regarding the veracity or falsity of internet sources concerned the following types of NDM: major news sites, Google, blogs and Wikipedia. Major news sites such as CNN, ABC, and Fox were overwhelmingly cited as the most trusted sites for providing trustworthy sources of information across research topics. Relatedly, major foreign news sites such as the BBC were found particularly trustworthy by subjects who objected to the perceived bias of the US media. Ironically, several subjects cited the (former) British empire's wide colonial reach as reason for their global outlook.

Talking heads insist that blogs are proof of the new democracy enabled by the NDM, yet the point is moot if blogs are not regarded as sources of credible information. Half of our subjects (n=20) reported visiting blogs daily, but blogs were generally regarded as someone's unprofessional opinion, an observation corroborated by the lack of professional 'journalistic' identity/ affiliation of bloggers. Subjects found credibility to be

suspect because ‘nothing is at stake’ in blogging- an apparently naïve assumption, but one that is often shared by the traditional media.

Subjects’ comments about Wikipedia were more nuanced and ambivalent than their remarks about blogs. Subjects reported that the credibility of Wikipedia can be easily compromised by the fact that anyone can contribute to a discussion. Though subjects commented that they do not trust the information they find on Wikipedia, they continue to use it. Similarly, subjects spoke about a high amount of compartmentalization regarding the uses of Wikipedia with the typical response indicating “Wikipedia is fine to use for *this* topic, but I wouldn’t use it for *another*”. Many subjects told researchers that they would check information found on Wikipedia with that on other sources, but we did not find actual evidence of this behavior in our observations. In contrast to suspicions about blogs, those subjects who use and approve of Wikipedia expressed faith in the motivations of authors to write honestly. Some subjects opined that wiki technology allows for multiple viewpoints. Additionally, the attractive format allowed for easy reading and navigation of the wiki sites and linked sites, increasing the credibility of the Wikipedia as a source for information in the NDM landscape.

Research Question 2: What aspects of internet testimony signal credibility or deception to young people?

Subjects had various conceptions of what constitutes a credible source in the digital media. Criteria used by subjects to signal credibility involved the following aspects of

the site's content: balance and objectivity, provision of basic facts, accuracy, and perspective. In order to determine the presence of these 'credibility criteria', subjects used various cues: popularity of site, professional reputation/offline reputation (including professional staff with resources to gather definitive and credible information), previous personal experience with site, proof of 'neutral' (not for-profit) affiliation (.gov for government site, .edu for education, .org for non-profits), tone of the writing (neutral vs. opinionated), and elements of style (use of quotes, pictures, by-lines, newspaper layout). It should be noted that while talking about credibility clues, many subjects cited their teachers' or professors' recommendations of appropriate sites to visit for research as stand-alone signals of credibility.

Research Question 3: How are research questions 1 and 2 moderated by membership in social networks or active participation in discussion boards, blogs, etc.?

The following trends were observed for subjects who reported that they used computer-based groups daily (n=15). While subjects were ambivalent about use of Wikipedia generally, those engaging in social networking sites daily were more likely to cite Wikipedia as a trusted source for information. Subjects in this subset also had a tendency to search for content that has a perspective similar to theirs and exhibits consistency with other sites (the only group to mention this). This group also mentioned balance and objectivity as an important indicator of credibility. Recency of data was also important to the subjects in this subset, as well as public recognition of the source. Finally, this group

was quick to mention 'technical issues' (such as a page taking too long to load, or pages requiring login or registration) as reason for leaving a site entirely and searching others.

Of those subjects who use social-networking sites but use them less frequently (n=11), perceived accuracy and perspective are important considerations in determining credibility, as are balance and objectivity. Subjects in this sub-group relied heavily on sites that they had used in the past to determine credibility on new topics. Finally, members of this group were likely to follow the 'first hit' of a search return and deem the information credible based on their 'understanding' of Google's search algorithms which were predicated on the 'wisdom of the crowd'.

Finally, for those subjects who used social networking sites rarely or never (n= 7), no clear patterns emerged signaling credibility in sources, though issues of accessibility and professionalism of sites predominated.

**Discussion:** Our research reveals an ongoing dependence on the traditional news media and suspicion surrounding the NDM. The criteria used to determine credibility in the NDM, while rarely moving beyond the superficial and convenient, are skewed towards traditional sources of information based on a corporate model of information dissemination. While minor differences in determining the credibility of information found on websites were found between frequent and non-frequent users of social networking sites, it is not clear if differences between and among users is the result of technical sophistication, knowledge of the chosen research topics, or general complexity



of reasoning. As we develop instruments and protocols in the future, each of these features should be taken into consideration.

Our findings reveal widespread ambivalence regarding major news sources- subjects hate them and love to hate them but need them nonetheless. Youthful ambivalence is common and can often be countered through education, but with the majority of our subjects nearing the conclusion of their formal education, there is potential for this ambivalence regarding the media to impede adoption and understandings of NDM and associated technologies. Additionally, this ambivalence has major implications for a literate and democratic society. Focused attempts could be undertaken to provide digital literacy skills to adults who may be fluent in their use of the tools of technology but may not feel qualified to weigh the credibility of the information they encounter online.

Results confirm earlier data that teachers are regarded as trustees (Pettingill, 2006), particularly regarding how to choose credible sources of information. As a result, teacher preparation and literacy in the NDM is essential. Subjects' reliance on superficial, or even inappropriate indications of credibility, could suggest that students are less critical about using sites approved by their teachers, or other sites that seem to mirror respected sites. It could be helpful to survey educators to learn the sites or credibility criteria teachers and consider when recommending sites to students. Are the standards used by educators to determine credibility in web-based sources similar to those for print sources? Do educators have conversations with students regarding the evaluation of online sources, or are students just given a list of sources to use? The lack of such conversations

could affirm the suspicion of many advocates of new media literacy that educators equate digital natives' fluency in the use of technology with a comparable degree of sophistication in evaluating content.

Scholars of media literacy have done impressive work determining the skills that are essential to full participation in the NDM (See Jenkins 2006). For the purposes of this study the most relevant skill is 'judgment'—or how to evaluate the reliability or credibility of information sources in the NDM. Confirming a recent study by ETS (2006), our research shows that most students have an undeveloped understanding of the web and the sources found there and seem uncritically to transfer understandings of the traditional media to the NDM. In future work we could shed some light on this hypothesis by integrating or adapting the trust dilemmas that we've devised into the realm of the NDM. Alternatively, we could take print material that originates from 'educator approved' trustworthy NDM sources and post the material on a digital media platform that is regarded with suspicion such as a blog or wiki to discover the skills that students use when evaluating the NDM.

**Acknowledgements:** I would like to thank Howard Gardner, Carrie James, and Katie Davis for commenting on drafts of this paper, and Jessica Benjamin for contributing to the research described herein. The Center for Public Leadership at the JFK School of Government at Harvard University provided financial support for the study described herein. Completion of the paper was facilitated by grants from the Rockefeller Brothers Fund, the Carnegie Corporation of New York, and the MacArthur Foundation.

References:

Educational Testing Services. (2006). ICT Literacy Assessment Preliminary Findings. Retrieved 11/29/06 from <http://www.etc.org/ictliteracy>.

Jenkins, H. et al. (2006). Confronting the Challenges of Participatory Culture: Media Education for the 21st Century. *Building the Field of Digital Media and Learning*. Retrieved 11/29/06 from [http://www.digitalllearning.macfound.org/site/c.enJLKQNiFiG/b.2108773/apps/nl/content2.asp?content\\_id={CD911571-0240-4714-A93B-1D0C07C7B6C1}&notoc=1](http://www.digitalllearning.macfound.org/site/c.enJLKQNiFiG/b.2108773/apps/nl/content2.asp?content_id={CD911571-0240-4714-A93B-1D0C07C7B6C1}&notoc=1).

Pettingill, L. (2006). Probing Trust on the Internet: A Comparison of Liberals and Conservatives. *The GoodWork® Project Papers*, 45. Retrieved 11/29/06 from <http://www.goodworkproject.org/publications/papers.htm>.

## Appendix A: Survey

**Question 1:** Check the number that most closely describes what you would do in each scenario. The numbers correspond to the descriptions below.

1. The Internet is the first and only place I would search for information.
2. The Internet is the first place I would search, but I would probably use other sources (friends/family; TV; newspaper; magazine; radio) for more information.
3. I would first go to other sources (friends/family; TV; newspaper; magazine; radio), and then I would consider using the Internet for more information.
4. I would not use the Internet to search for information.

- You hear a rumor about a famous celebrity
- You want to find out the latest headlines in your hometown.
- You feel like buying a couple of new books to read. You want to know about the latest popular books, what they're about and what people are saying about them.
- You're trying to decide whether or not to see a particular movie. You want to find out more about the movie and what people are saying about it.
- You have heard about a new scientific breakthrough.
- You're planning a trip to a place you have never visited. You want to find out more about the area (e.g. history, cultural traditions, attractions, politics).
- You want to find out the latest headlines in US politics.
- You have heard that a natural disaster has just occurred (not near you).
- You have been asked (by a teacher or boss) to write a comprehensive report about a controversial issue in the news (e.g. cloning, terrorism, nuclear power)
- You want to find the latest world news headlines.
- You're looking to buy a new phone. First you want to find out what your options are and what people are saying about each phone.
- You have heard that a terrorist attack has just occurred.
- You have received an unexpected gift from the will of an unknown relative and you want to know how to invest it.

**Question 2:** How often do you participate in online social networks or discussion boards (e.g. myspace, friendster, facebook, hi-five, gather)?

Every day,    1-2 times per week,    A few times per month,    Rarely,  
Never

- If you answered 'every day', how many hours per day on average?

**Question 3:** How often do you participate in person (personally, face-to-face) in clubs or interest groups (e.g. sporting teams, community service, book club, religious organizations)?

Every day,    1-2 times per week,    A few times per month,    Rarely, Never

- If you answered 'every day', how many hours per day on average?

**Question 4:** How often do you use the Internet for the following activities?

1. Most often
2. Frequently
3. Fairly often
4. Occasionally
5. Never

- Download digital media
- Visit chat rooms
- Research for a class or a job
- Current entertainment news
- Current political news or information
- Read Reviews (products, movies, books)
- Online games or gambling
- Read blogs
- General Interest (recipes, travel, etc)
- Online Social Networks (myspace, friendster, facebook, etc)
- Instant Messaging
- Online Purchases
- Email

**Question 5:** See the list of persons and entities below. How much confidence do you have in each of them?

1. a great deal of confidence
2. quite a lot of confidence
3. not very much confidence
4. not at all confident

- educators
- government
- the media
- the Internet
- large corporations
- religious organizations

- non-profit groups (including advocacy groups and NGOs)

**Question 6:** How important is trust? (Agree/Disagree)

- Skepticism is important to democracy
- Too much trust can be damaging to democracy
- Democracy cannot function in the absence of trust

## **Appendix B**

**Task 1: Instructions:** Choose **one** of the issues below to research on the Internet. Keep track of the information you find out. You could take notes by hand or in a word document. You could also copy and paste text from websites into a word document.

### **Issues:**

- Politics US (rumor of resumption of the draft to recruit soldiers to fight in Iraq, President Bush's controversial wiretapping of US citizens, Recent bill on financial aid/ Pell Grants for college students); Global (Iran's nuclear ambitions, US involvement in alleged secret prisons in Eastern Europe, Cloning controversy in South Korea, Darfur crisis, Protests in Nepal, Student protests in France)
- Recent controversy: ("The Israel lobby and US foreign policy" by Stephen Walt and John Mearsheimer, charges of sexual assault against Duke lacrosse players, James Frey's memoir)
- Recent natural disaster (e.g. Reconstruction after Hurricane Katrina, Tsunami, Earthquake in Pakistan)
- Historical/ Informational (discovery of Machu Picchu, an Incan city that had been buried for 500 years, figure in the civil rights movement, Gandhi and the salt march, Global Warming/ the search for Renewable sources of energy that, unlike oil or coal, can never be depleted)

**Task 2: Instructions:** Choose another one of the issues below to research on the Internet in Preparation for a (mock) debate. You'll find a list of websites that might be useful to you. You may use as many or as few of them as you want, or none of them at all. Keep track of the information you find and the sources that you use. You could take notes by hand or in a word document. You could also copy and paste text from websites into a word document.

### **Issues:**

- Parental control over teens' use of the Internet
- Google censoring webpages for Chinese market
- Digital music downloading
- Holidays and political correctness
- NBA-mandated players' dress code
- Ethical standards in reporting for gossip columnists

### **Search Engines**

- Google – google.com
- Yahoo – yahoo.com
- Other: \_\_\_\_\_

### **Online News Sources**

- Google News – news.google.com
- Yahoo News – news.yahoo.com
- Reuters – go.reuters.com
- The Smoking Gun – thesmokinggun.com
- Slate – slate.com
- Fox News- foxnews.com
- Other: \_\_\_\_\_

### **Newspaper Websites**

- New York Times – nytimes.com
- Washington Post – washingtonpost.com
- Boston Globe – boston.com
- Other: \_\_\_\_\_

### **TV News Websites**

- CNN – CNN.com
- BBC – News.bbc.co.uk
- NBC – nbc.com
- Other: \_\_\_\_\_

### **Popular Blogs**

- Boing Boing – boingboing.net
- Jason Kottke’s blog – kottke.org
- Instapundit – Instapundit.com
- Other: \_\_\_\_\_



**Appendix C:** Probing Questions used during the interview:

Why did you begin at (name of beginning page/ url, i.e. Google)?

What kind of information are you looking for and what kinds of sites will give you that information?

What features of the search results do you pay attention to (title of link, url, link summary)?

How did you determine that this link was one to follow?

What factors played a role? (been to site before, reputation, name, topically relevant summary, graphics, etc)

Why didn't you choose the other pages listed?

Would the process you just explained change if you were given a different topic to study?

What on this website are you paying attention to most?

Do you think the information on this website is accurate?

What is most useful/least useful about this site?

If you had more time to search for information, where else would you go? What additional information would you be looking for?

Was your behavior today like that when you are given an assignment at school or have a question at home? If not, in what ways was it different?