

**Future of Privacy Forum
Online Behavioral Advertising “Icon” Study**

Summary of Key Results

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Online Behavioral Advertising “Icon” Study Summary of Key Results

Executive Summary

In May 2009, the Future of Privacy Forum launched a research initiative to examine new methods for communicating with users about online advertising and privacy. This study assessed the communication efficacy of behavioral advertising disclosures based on icons and short disclosures placed near webpage advertisements as an alternative to providing transparency and choice via traditional online privacy notices.

The study employed an internet panel to assess the communication efficacy of behavioral advertising disclosures on the web. Disclosures were tested at 2 levels: (1) a level-1 disclosure comprising of a symbol and a short (2-3 word) phrase that was placed above an ad on the webpage (e.g., “interest based ads” or “ad choice”), and (2) a longer (18-20 word) level-2 disclosure that was revealed when surfers moved their cursor over the level-1 disclosure. This level-2 disclosure was intended to inform people that (a) information about their visit to this site is used to select ads they see here and elsewhere, and (b) to provide a link to “opt out” of this type of advertising.

The study involved five phases or sections:

- Part A: Exposure to webpage with level-1 disclosure. Measure recall of level-1 disclosure;
- Part B: Re-exposure to webpage with level-1 disclosure. Measure comprehension of level-1 disclosure;
- Part C: Re-exposure to webpage with level-2 disclosure. Measure comprehension of level-2 disclosure;
- Parts D & E: Participation in 13 online activities and attitudes toward online behavioral advertising and privacy.

The sample size was 2,604 U.S. adults. The majority of the study participants were active internet users. The average respondent participated in 9 of 13 online activities, with approximately half or more of the sample participating in 12 activities. Only 2% had not participated in any activities. More than half of the sample spent at least 15 hours online/week.

Concern for privacy was measured by nine items using a 5-point scale (5=strongly agree). Average for this scale was 3.88. We also asked whether people had taken any of eight steps to protect their privacy online. The average was 4 steps, with approximately 40% of the participants engaging in 7 of 8 activities. Only 8% had never taken any of these steps.

We measured comfort with OBA with and without two key fair information practices (transparency and choice). Without transparency and choice, only 24% are comfortable with OBA. When transparency and choice are offered, 40% are comfortable with OBA. Approximately 30% are neutral about OBA with or without transparency and choice. Transparency and choice increase comfort for people who are most active online and engage in more privacy protective behaviors.

We tested 14 level-1 disclosures: 2 symbols (“Power I” and “Asterisk Man”) combined with seven phrases (Interest based ads, Custom ads, AdChoice, Your choice, Your info and ads, Why did I get this ad?, and a control phrase, Sponsor ads). We tested one level-2 disclosure which provided transparency and choice.

We measured comprehension of the level-1 disclosure with two multiple-part questions (Q8 and Q9). Comprehension of the level-2 disclosure was measured with one multiple-part question (Q11). Results show that for the level-1 disclosures, two of the seven tested phrases (“Why did I get this ad?” and “Interest based ads”) generally do the best on comprehension. The remaining four phrases don’t do as well as the top two, but still outperform the control phrase (“Sponsor ads”). Also, while the phrase “Adchoice” did not perform as well as the top two on comprehension, it was in some cases less likely to generate agreement with decoy statements (that were unrelated to key communication objectives) than the top phrases. It is important to note, however, that while there were differences in the communication effectiveness of the six different level-1 phrases we tested, in an absolute sense it is not clear that they communicate well enough without additional support. Thus, consumer education will be needed to improve their communication effectiveness over time.

The testing also showed a very slight advantage for the asterisk man icon on some of the comprehension measures (specifically, Q8). Finally, the level-2 disclosure appears to communicate the key issues effectively.

Online Behavioral Advertising “Icon” Study Summary of Key Results

Introduction

It is quite commonplace today that consumers visiting web sites are displayed ads that are selected based on data about their online habits, including the websites and services they visit. While such targeted advertising supports free content and may result in more relevant information being provided to consumers, the lack of transparency about these practices has led to consumer apprehension and government concern. In February 2009, the Federal Trade Commission issued a Staff Report containing self-regulatory principles for online behavioral advertising, including transparency and consumer control.

During spring 2009, the Future of Privacy Forum working with WPP, launched a research initiative to examine new methods for communicating with users about online advertising and privacy. This initiative follows the FTC’s report which called on industry to conduct research about the effects of possible disclosures on consumer understanding related to online behavioral advertising.

This report presents the results of a study which assessed the communication efficacy of behavioral advertising disclosures. The disclosures were based on icons and short disclosures placed near webpage advertisements as an alternative to providing transparency and choice via traditional online privacy notices.

The study employed an internet panel to assess the communication efficacy of behavioral advertising disclosures on the web. These disclosures were in part selected based on the results of two focus groups conducted by the Greenfield Consulting Group on October 22, 2009. Disclosures were tested at 2 levels: (1) a level-1 disclosure comprising of a symbol and a short (2-3 word) phrase that was placed above an ad on the webpage (e.g., “interest based ads” or “ad choice”), and (2) a longer (18-20 word) level-2 disclosure that was revealed when surfers moved their cursor over the level-1 disclosure. This level-2 disclosure was intended to inform people that (a) information about their visit to this site is used to select ads they see here and elsewhere, and (b) to provide a link to “opt out” of this type of advertising. Appendix A contains details on the level-1 and level-2 disclosures. The symbols and study webpages were developed by OgilvyOne Worldwide.

Data were collected by Kantar Operations (part of Kantar, the insight and consultancy arm of WPP). A pretest was conducted from 11/24/09 to 11/25/09 using an online sample of approximately 100 respondents from Safecount (a WPP company). A few edits were made to the stimuli and the questionnaire after the pretest to make the images clearer and include some further directives to make the respondent experience more user friendly. Appendix B contains the questionnaire. The online survey was conducted from 12/1/09 to 12/4/09 using panel respondents from Lightspeed research (a WPP company). The sample size was 2,604. The sample was balanced to US Census for ages 18-65, minimum income of \$35,000, ethnicity, and minimum high school education.

The study consisted of five phases or parts:

Part A: Respondents were told that the study was about understanding how people experience things online. They were exposed to a webpage and asked to look at it at their own pace. A Toyota ad appeared on the webpage. (See Appendix C for the webpage). Just above the ad was placed one of 14 level-1 disclosures created by combining one of two symbols (“power i” or “asterisk man”) with one of seven short phrases (see Appendix A for details). After respondents had finished looking at the page, it was removed from view and respondents were asked a series of questions designed to assess recall of the level-1 disclosure.

Part B: Respondents were shown the webpage again and were asked to pay particular attention to the level-1 disclosure that appeared above the Toyota ad. Then, they were asked a series of questions designed to assess their comprehension of the disclosure.

Part C: Respondents were shown the webpage again and were asked to move their cursor over the level-1 disclosure. Doing so opened a window with revealing the level-2 disclosure. Respondents were asked to read the level-2 disclosure. Then, they were asked a series of questions designed to assess comprehension of the level-2 disclosure.

Parts D and E: These sections assessed respondent attitudes towards online behavioral advertising, attitudes toward privacy, and participation in internet activities and in privacy protection behaviors.

This report summarizes key results from Parts B, C, D and E. We begin with a discussion of the findings from Parts D and E as they provide contextual information about the survey respondents. This is followed by a discussion of the results of the comprehension testing for the level-1 and level-2 disclosures.

Online Behavioral Advertising and Privacy Survey Questions

This section of the survey consisted of five questions: (1) people’s online activities, (2) how comfortable people are with online behavioral advertising (OBA), (3) how comfortable people are with OBA if provided transparency and choice, (4) whether people had engaged in privacy protective behaviors online, and (5) concern for privacy. These questions sought to understand the attitudes or the study participants toward both online behavioral advertising and privacy, and how these attitudes varied based on their online experience.

Participation in Internet Activities (Q.18)

We asked people whether or not they had ever participated in thirteen different Internet activities such as shopping, searching, used an online mapping service, etc. We added these together to form an overall measure:

- Q.18 “Have you ever.....?” *Please check all that apply.*
- a. Purchased products and services online such as music, books or clothing (Yes=79.5%)
 - b. Used a membership to rent movies online from Netflix, Blockbuster or the like (Yes=39%)
 - c. Used search engines such as Google or Yahoo! to find information (Yes=89.5%)
 - d. Posted or read a blog or bulletin board on a website (Yes=49.2%)
 - e. Read a newspaper or magazine online (Yes=66.1%)
 - f. Participated in a social network such as MySpace or Facebook, or a professional network such as LinkedIn (Yes=64.4%)
 - g. Watched online videos on sites such as YouTube (Yes=77.2%)
 - h. Uploaded a photograph onto a website (Yes=60.6%)
 - i. Done online banking or financial management such as credit cards, investments, or stocks/bonds (Yes=72.7%)
 - j. Sold or bought on eBay, Craigslist or the like (Yes=66.7%)
 - k. Used an online mapping service such as Google Maps or Mapquest (Yes=85.7%)
 - l. Clicked on an ad that appeared on a website (Yes=55.0%)
 - m. Downloaded music or podcasts to an iPod or mp3 player (Yes=48.5%)
 - n. None of the above (Yes=2.1%)

Approximately half or more of the sample had participated in 12 of the 13 activities. On average, each person had participated in 9 of these 13 activities. Only 2% had not participated in any of the activities on the list

Time Spent Online (S5).

One of the demographic questions (S5) measured the total time each participant spends online per week:

Question S5. “Whether for work or personal use, approximately how much time to you spend online per week?”

Response	Percent
1=1-4 hours	5.1
2=5-7 hours	13.5
3=8-14 hours	24.9
4=15-25 hours	28.6
5=More than 25 hours	27.9

More than half of the sample reported being online at least 15 hours per week. Taken together, these two questions indicate that the majority of the sample are active internet users.

Comfort with Online Behavioral Advertising (Q14 & Q15)

Question 14 and Question 15 measured comfort with online behavior advertising with and without fair information practices (transparency and choice):

“The following questions seek your views about online advertising. Here, “online advertisements” refers only to ads that are displayed as part of the content of a webpage. It *excludes* pop-up ads and email advertising.”

Question 14. “Some of you may know that information about your visits to websites across the Internet may be used by advertisers to decide which online advertisements you see in the future.”

“How comfortable are you with information about the websites you visit across the Internet being used to decide what ads you see?”

Response	Percent
1=Very uncomfortable	21.8
2=Uncomfortable	24.3
3=Neither comfortable or uncomfortable	31.0
4=Comfortable	18.9
5=Very comfortable	4.0

Question 15. “Assume that a website you visit does the following:

- Explains how information about your visits to websites across the Internet is being used to try to show you online advertisements based on your interests
- Offers you a choice not to receive these customized online ads but to receive general online ads instead.”

“If a website adopted and followed both of these policies, how comfortable would you be with information about the websites you visit across the Internet being used to decide which online advertisements you see?”

Response	Percent
1=Very uncomfortable	12.3
2=Uncomfortable	17.4
3=Neither comfortable or uncomfortable	30.5
4=Comfortable	31.6
5=Very comfortable	8.3

Comparison of Responses to Q14 & Q15 (%)		
Response	No FIP (Q14)	With FIP (Q15)
1=Very uncomfortable	21.8	12.3
2=Uncomfortable	24.3	17.4
3=Neither comfortable or uncomfortable	31.0	30.5
4=Comfortable	18.9	31.6
5=Very comfortable	4.0	8.3

We next computed a measure of how much the bar moved based on observing two key FIPS (providing transparency and choice) by subtracting the response to Q14 from the response to Q15. On average, the bar moved 0.48 points. It is interesting to drill down on these results

- 6% became more negative towards online behavioral advertising
- 57% remain unchanged
- 37% became more positive

Further, there was a positive relationship for people who became more comfortable with OBA if transparency and choice were offered and engaging in privacy protection behavior.

Of the 57% who remain unchanged,

- 38% remain very uncomfortable or uncomfortable with online behavioral advertising
- 33% remain neutral
- 29% remain comfortable or very comfortable

We looked at the relationship between comfort with OBA and privacy and web activities. In general, people who are uncomfortable with OBA are:

- More likely to engage in privacy protection activities and to be concerned about privacy
- More likely to be older.

People who are more likely to be comfortable with OBA if provided with transparency and choice are more likely to be younger, to engage in a wider range of Internet activities, and to be less likely to engage in privacy protective activities. (There was no significant relationship between comfort with OBA and greater participation in a range of Internet activities)

Privacy Concerns and Behaviors (Q16 & Q17)

In Question 16, we asked whether or not people had engaged in any of eight privacy protection behaviors (e.g. opted out, set browser to reject cookies, etc.). We added these together to form an overall measure.

Question 16. "Have you ever....?"

Please check all that apply.

PN: USE MULTI-SELECT BOXES AND ROTATE ORDER OF STATEMENTS SHOWN.
KEEP "None of these" ANCHORED AT THE END OF THE LIST.

- a. Refused to give information to a website because you felt it was too personal or unnecessary (Yes =73.1%)
- b. Asked a website to remove your name and address from any lists used for marketing purposes (Yes=64.3%)
- c. Asked a website not to share your name or other personal information with other companies (Yes=61.8%)
- d. Decided not to use a website or not to purchase something online because you were not sure how your personal information would be used (55.3%)
- e. Set your browser to reject cookies (Yes=45.2%)
- f. Supplied false or fictitious information to a website when asked to register (Yes=26.0%)
- g. Read a website's privacy policy (Yes=59.6%)
- h. Opted out of receiving customized online advertisements (Yes=42.2%)
- i. None of these (Yes=8.0%)

More than 40% of study participants had participated in seven of the eight activities. On average, each person had participated in 4 of these activities. Only 8% had never done any of these

In Question 17, we measured concern for privacy with 9 questions (taken from prior academic research on privacy). Attitudes were measured using a 5-point scale (5=strongly agree). We added these together to form a scale. The average for the scale was 3.88.

Question 17. "To what extent do you agree or disagree with each of the following statements?"

PN: ROTATE ORDER OF STATEMENTS SHOWN.

- a. It bothers me when websites ask me for personal information

Response	Percent
1=Strongly disagree	1.4
2=Disagree	5.2
3=Neither disagree nor agree	23.6
4=Agree	41.9
5=Strongly agree	27.9

- b. I'm concerned that websites are collecting too much personal information about me

Response	Percent
1=Strongly disagree	1.0
2=Disagree	5.5
3=Neither disagree nor agree	22.0
4=Agree	41.8
5=Strongly agree	29.7

- c. It bothers me to give personal information to so many websites

Response	Percent
1=Strongly disagree	1.1
2=Disagree	3.5
3=Neither disagree nor agree	18.8
4=Agree	44.0
5=Strongly agree	32.6

- d. When websites ask for personal information, I sometimes think twice about providing it

Response	Percent
1=Strongly disagree	0.8
2=Disagree	2.2
3=Neither disagree nor agree	14.1
4=Agree	40.9
5=Strongly agree	41.9

- e. Consumers have lost all control over how personal information is collected and used by companies

Response	Percent
1=Strongly disagree	1.7
2=Disagree	7.1
3=Neither disagree nor agree	26.9
4=Agree	38.3
5=Strongly agree	26.0

- f. I feel that as a result of my visiting websites, others know more about me than I am comfortable with

Response	Percent
1=Strongly disagree	1.8
2=Disagree	8.2
3=Neither disagree nor agree	30.9
4=Agree	37.6
5=Strongly agree	21.5

- g. I believe that as a result of visiting websites, information about me that I consider private is now more readily available to others than I want it to be

Response	Percent
1=Strongly disagree	1.5
2=Disagree	6.7
3=Neither disagree nor agree	25.0
4=Agree	43.0
5=Strongly agree	23.8

- h. I feel that as a result of my visiting websites, information about me is out there and, if used, will invade my privacy

Response	Percent
1=Strongly disagree	1.5
2=Disagree	7.6
3=Neither disagree nor agree	27.3
4=Agree	40.8
5=Strongly agree	22.9

- i. I feel that as a result of my visiting websites, my privacy has been invaded by others who collect data about me

Response	Percent
1=Strongly disagree	2.0
2=Disagree	7.8
3=Neither disagree nor agree	26.5
4=Agree	39.5
5=Strongly agree	24.1

We ran correlations among the OBA, privacy and demographic variables and found that people who are more concerned about privacy are:

- More likely to engage in privacy-protective behavior
- Less likely to be comfortable with OBA
- Still less likely to be comfortable with OBA when offered transparency & choice; however there is a positive relationship between being concerned for privacy and the bar moving towards being more comfortable
- More likely to be older
- More likely to spend more time online per week

Comparison with the Penn/Berkley Survey

In September 2009, researchers at the University of Pennsylvania and the University of California, Berkeley released the results of a study of consumer attitudes toward online behavioral advertising. The study was based on telephone interviews with 1,000 adult internet users living in the United States¹. To compare privacy attitudes across the two studies, we asked

¹ Joseph Turow, Jennifer King, Chris Jay Hoofnagle, Amy Bleakley, and Michael Hennessy, "Americans Reject Tailored Advertising and Three Activities that Enable It," September 28, 2009. Available at: http://repository.upenn.edu/asc_papers/137.

one privacy question (Q17e) that was also asked in the Penn/Berkley survey: “Consumers have lost all control over how personal information is collected and used by companies”

Comparison of Responses for Q17e		
Response	Penn/Berkeley	FPF
1=Strongly disagree	4%	2%
2=Disagree	27%	7%
3=Neither disagree nor agree	-	27%
4=Agree	47%	38%
5=Strongly Agree	20%	26%

Comprehension of Behavioral Advertising Disclosures

Comprehension of Level-1 Disclosures

As noted earlier, the study tested both level-1 and level-2 disclosures. Seven phrases were combined with two symbols for a total of 14 level-1 disclosures (see Appendix A for the disclosures tested). Part B of the study assessed the communication effectiveness of these disclosures through two sets of closed-ended questions (Q8 and Q9).

First, we examined responses to Q8. (“As best you can tell, what is the purpose of placing this symbol and phrase above the ad for Toyota?”). Respondents rated their agreement/disagreement with six different statements on a 5-point scale (1=definitely not, 5=definitely). Of these statements, two (Q8c: “tell you how this ad was chosen for you” and Q8f: “tell you that the ad is personalized for you”) were intended to reflect successful communication as intended, and four (Q8a, Q8b, Q8d, and Q8e) served as decoys.

Responses to the two “correct” statements were highly correlated with each other (.69) but not with responses to the other four “decoy” statements (generally less than .30). Hence, responses to these two items were averaged into a composite measure of comprehension. A 2 (symbol) by 7 (phrase) ANOVA was run on this composite measure. Results showed that:

-- there is a small but significant effect due to symbol type. Specifically, asterisk man does slightly better than power i regardless of phrase.

-- there is a significant effect due to phrase (and no interaction). The phrases and their average ratings (out of 5, where 1=definitely not, 5= definitely) are as follows:

Measure	(a) “why did I get this ad?”	(b) “interest-based ads”	(c) “custom ads”	(d) “your info and ads”	(e) “ad choice”	(f) “your choice”	(g) “sponsor ads” (control)
Composite “correct” score (Q8)	3.60 c,d,e,f,g	3.48 d,e,f,g	3.33 g	3.23 g	3.13 g	3.13 g	2.64

Note: Letters indicate significant difference between corresponding columns at $p < .05$ using the Bonferroni method.

These results suggest that the top two phrases are about equally good and significantly outperform the bottom four.

We also ran a 2 by 7 ANOVA on a composite measure created by averaging the responses to the four decoy statements for Q8, i.e., on the composite “decoy” score. Since these statements are unrelated to the communication objectives of the tested phrases, we did not expect any effects on this measure. Unexpectedly, however, there was a significant effect of phrase type. Post-hoc comparisons (using the Bonferroni method) showed that respondents who saw the phrases “interest based ads” or “why did I get this ad?” were more likely to agree with the decoy statements when compared with respondents who saw the phrase “adchoice.” No other differences were significant. These results suggest that while the phrases “interest based ads” and “why did I get this ad?” outsourced most of the other phrases on the composite “correct” score, this performance may not be solely attributable to their ability to communicate key issues effectively since these two phrases scored higher on the composite “decoy” score as well (but only relative to the phrase “adchoice.”)

Next, we examined responses to Q9 (“To what extent, if at all does this symbol and phrase placed above the ad for Toyota say or suggest the following?”). Respondents rated their agreement/disagreement with seven different statements on a 5-point scale (1=definitely does not suggest, 5=definitely suggests). Of these statements, four (Q9c: “the ads you see here are based on your visits to this and other websites,” Q9d: “this ad is targeted to you based on websites you have visited in the past,” Q9e: “this ad has been chosen to be relevant to you,” and Q9f: “this website shows you ads that are chosen to match your needs”) were intended to reflect successful communication as intended, and three (Q9a, Q9b, Q9g) served as decoys.

Responses to the four “correct” statements were highly correlated with each other (usually around .70) but not with responses to the other three statements (generally less than .30). Hence, responses to these four items were averaged into a composite measure of comprehension. A 2 (symbol) by 7 (phrase) ANOVA was run on this composite measure. Results showed that:

- there is no significant effect due to symbol type and no interaction effect.
- there is a significant effect due to phrase. The phrases and their average ratings (out of 5, 5=“definitely suggests”) are as follows:

Measure	(a) “why did I get this ad?”	(b) “interest-based ads”	(c) “custom ads”	(d) “your info and ads”	(e) “ad choice”	(f) “your choice”	(g) “sponsor ads” (control)
Composite “correct” score (Q9)	3.59 d,e,f,g	3.61 d,e,f,g	3.40 f,g	3.36 g	3.22 g	3.17 g	2.68

Note: Letters indicate significant difference between corresponding columns at $p < .05$ using the Bonferroni method.

These results also suggest that the top two phrases are about equally good and significantly outperform the bottom four.

We also ran a 2 by 7 ANOVA on a composite measure created by averaging the responses to the three decoy statements (i.e., the composite “decoy” score) for Q9. As expected, neither treatment factor produced significant effects on this measure.

Overall, the results for Q9 and (to a lesser extent) Q8 suggest that (1) the top 2 phrases (a and b) outperform most of the other phrases tested, (2) the remaining four phrases (c through f) don’t do as well, although they do better than the control phrase (g) so there is some communication there, and (3) the symbol makes very little difference, but there is a slight advantage for asterisk man (based on Q8 but not Q9).

It is important to note, however, that while there were differences in the communication effectiveness of the six different level-1 phrases we tested, in an absolute sense it is not clear that they communicated as well as ideally desired. The fact that the six phrases consistently scored higher than the control phrase (“sponsor ads”) on the composite “correct” score for both Q8 and Q9 is evidence that they communicated well. However, when one compares scores for the six phrases for the composite “correct” score versus the composite “decoy” score, there is less evidence of effective communication. For example, the table below show the composite “correct” score and the composite “decoy” score for Q8 and Q9 collapsed across the two icons and the six phrases we tested (the control phrase “sponsor ads” is not included):

Composite “correct” score (Q8)	Composite “decoy” score (Q8)		Composite “correct score (Q9)	Composite “decoy” score (Q9)
3.31	3.33		3.39	3.18

As the table shows, the average composite “correct” score and the average composite “decoy” score are virtually identical for Q8. This suggests that when responding to the Q8 items, respondents generally agreed/disagreed with the “correct” items and the “decoy” items at about

the same level. If the six tested phrases had been really effective in communicating key aspects of behavioral advertising, the composite “correct” score would have been higher than the composite “decoy” score. The data for Q9 show that the composite “correct” score is higher than the composite “decoy” score, but the difference is modest. Overall, these data suggest that respondents may have taken away much broader messages from the level-1 disclosures; consequently they tended to show similar or only modestly higher level of response to the “correct” statements as compared to the “decoy” statements. They further suggest that while there are differences between the communication effectiveness of the different level-1 disclosures, substantial repetition and consumer education may be needed to improve their communication effectiveness over time.

Comprehension of Level-2 Disclosure

The study tested a single level-2 disclosure. Part C of the study assessed the communication effectiveness of this disclosure through Q11 (“To what extent, if at all, does this information presented in the pop-up window say or suggest to you that...”).

Respondents rated their agreement/disagreement with seven different statements on a 5-point scale (1=definitely does not suggest, 5=definitely suggests). Of these statements, four (Q11a: “your visit to this website is being monitored,” Q11d: “the ads you see here are based on your visits to this and other websites,” Q11e: “the ads you see on other websites in the future may be based on activity during your visit here,” and Q11f: “this website shows you ads that are chosen to match your needs”) were intended to reflect successful communication as intended. The other three statements (Q11b: “everyone who visits this website sees the same ads,” Q11c: “this website does not collect any information about your visit here,” and Q11g: “this website protects your privacy by not sharing your information”) were intended to reflect ideas inconsistent with the level 2 disclosure. Thus, we expected respondents who understood the disclosure to disagree with these statements.

As expected, responses to the four “correct” statements were correlated with each other (generally between 0.40 and 0.60), and they were negatively correlated with the “incorrect” statements. Also as expected, the three “incorrect” statements were correlated with each other (generally between 0.50 and 0.60).

Responses to the four “correct” statements were averaged into a composite measure of comprehension. A 2 (symbol) by 7 (phrase) ANOVA was run on this composite measure. Results showed that while there was a small but significant effect due to phrase type, there were no differences between any of the seven phrases based on post-hoc comparisons (using the Bonferroni method). No other effects were significant. A similar analysis run on a composite measure of the three “incorrect” statements produced no significant effects at all. This suggests that the communication effects of the level-2 disclosure were not influenced (either strengthened or weakened) by showing respondents any of the level-1 disclosures in part B of the study.

Next we examined the average rating for the two composite scores (out of 5, 5= “definitely suggests”):

<u>Composite Score</u>	<u>Rating</u>
For “correct” items	4.04

These results suggest that the level 2 disclosure did a good job of communicating key aspects of behavioral advertising to respondents.

Conclusions

The comprehension testing found that for the level-1 disclosures, two of the seven tested phrases (“Why did I get this ad?” and “Interest based ads”) generally do the best on comprehension. The remaining four phrases don’t do as well as the top two, but still outperform the control phrase (“Sponsor ads”). Also, while the phrase “Adchoice” did not perform as well as the top two on comprehension, it was in some cases less likely to generate agreement with decoy statements (that were unrelated to key communication objectives) than the top phrases. It is important to note, however, that while there were differences in the communication effectiveness of the six different level-1 phrases we tested, in an absolute sense it is not clear that they communicate well enough without additional support. Thus, consumer education will be needed to improve their communication effectiveness over time.



The testing also showed a very slight advantage for the asterisk man icon on some of the comprehension measures (specifically, Q8). Finally, the level-2 disclosure appears to communicate the key issues effectively.

The survey results further indicated that a minority of people are comfortable with OBA. Providing transparency and control increases the comfort level overall, however, more than 50% remain unchanged in their attitudes (some of these people were already positive towards OBA), and 30% are still uncomfortable or very uncomfortable with OBA. Further, people who are uncomfortable with OBA are more likely to be concerned about privacy and to engage in privacy protection activities. We did not measure whether or not people would opt out of OBA if offered the choice. While transparency and choice don’t fully resolve the current privacy issues with OBA, they do move the bar toward increased comfort, particularly for people who are most active online (and most likely to be exposed to OBA) and for those who engage in the most activities to protect their privacy, suggesting this project is worth pursuing.

APPENDIX A

FPF PROJECT DISCLOSURES FOR QUANTITATIVE TESTING

Level-1 Disclosures

Each of the seven Level-1 disclosure phrases is combined with one of two possible symbols ( and ) to create a total of 14 level-1 disclosures for testing. The disclosure is placed just above the Toyota ad on the test webpage for the study.

Level 1 Disclosure Phrases:

Interest based ads

Custom ads

AdChoice

Your choice

Your info and ads

Why did I get this ad?

Sponsor ads (control phrase)

Level-2 Disclosure

Level-2 disclosure is revealed via mouseover in a later phase (part C) of the study.

Level-2 Disclosure:

Your browsing activity at this site is used to select ads you see here and on other sites.

OPT OUT CHOICE MORE INFO

APPENDIX B

BEHAVIORAL ADVERTISING STUDY QUESTIONNAIRE

Part A

We are interested in gaining a better understanding of how you experience things online. In a moment, we will show you a web page that you may or may not have seen before. Please look through the page at your own pace and click the “NEXT” button at the bottom when you are finished. Be sure to scroll down and look at the entire page.

PN: SHOW RESPONDENT WEB PAGE CONTAINING AD WITH LEVEL 1 DISCLOSURE (SYMBOL PLUS PHRASE). DISABLE MOUSEOVER (LEVEL 2) DISCLOSURE. THE WEB PAGE SHOULD ONLY HAVE THIS ONE AD.

1. What was your overall impression of the web page you just looked at? Would you say that it was:

5	4	3	2	1
Very	Somewhat	Neither	Somewhat	Very
Favorable	Favorable	Favorable Nor	Unfavorable	Unfavorable
		Unfavorable		

2. Was there an advertisement on the web page you just looked at?

1 Yes

2 No (**SKIP TO PART B**)

9 Don't Know/Not Sure (**SKIP TO PART B**)

2a. What was the name of the advertised product?

1 xxxxxxxxx

2 yyyyyyyyy

3 qqqqqqqq

4 zzzzzzzzz

9 Don't Know/Not Sure

3. Was there a symbol placed outside of but near the advertisement?

1 Yes

2 No (**SKIP TO Q4**)

9 Don't Know/Not Sure (**SKIP TO Q4**)

- 3a. Where was the symbol placed relative to the advertisement? Was it placed:
- 1 Above and to the left
 - 2 Above and to the right
 - 3 Below and to the left
 - 4 Below and to the right
 - 9 Don't Know/Not Sure
- 3b. What color was the symbol? Was it:
- 1 Yellow
 - 2 Blue
 - 3 Green
 - 4 Orange
 - 5 Some other color (please insert) _____
 - 9 Don't Know/Not Sure
- 3c. What did the symbol look like? Did it look like:
- 1 aaa
 - 2 bbb
 - 3 ccc
 - 4 ddd
 - 9 Don't Know/Not Sure
4. Do you recall seeing a short phrase that was placed outside of but near the advertisement?
- 1 Yes
 - 2 No **(SKIP TO PART B)**
 - 9 Don't Know/Not Sure **(SKIP TO PART B)**
- 4a. What was the short phrase that you saw?
- INSERT OPEN TEXT BOX.
- Don't Know/Not sure

- 4b. Was the short phrase...?
- 1 aaaaaaaaaaaaaaaaaaaaaa
 - 2 bbbbbbbbbbbbbbbbbbb
 - 3 cccccccccccccccccccc
 - 4 ddddddddddddddddddd
 - 9 Don't Know/Not Sure

Part B

Now we are going to show you the web page again. This time, we would like you to look at the advertisement for Toyota that appears on the webpage **and pay particular attention** to the symbol and phrase that appears just above the advertisement.

Click the "NEXT" button at the bottom when you are finished.

PN: SHOW RESPONDENT WEB PAGE CONTAINING AD WITH LEVEL 1 DISCLOSURE (SYMBOL PLUS PHRASE). DISABLE MOUSEOVER (LEVEL 2) DISCLOSURE).

Now we would like to ask you some questions about the symbol and phrase that appeared above the advertisement for toyota you just looked at.

PN: INSERT SYMBOL PLUS PHRASE HERE.

PN: KEEP LEVEL 1 DISCLOSURE IN VIEW FOR Q5-Q9.

5. Have you seen this symbol on the web before?

PN: INSERT ONLY THE SYMBOL HERE.

- 1 Yes
- 2 No
- 9 Don't Know/Not Sure

6. Have you seen this phrase on the web before?

PN: INSERT ONLY THE PHRASE HERE.

- 1 Yes
- 2 No
- 9 Don't Know/Not Sure

7. What, if anything, does this symbol and phrase communicate to you?

Please be as complete as possible.

PN: INSERT SYMBOL PLUS PHRASE HERE.

8. As best as you can tell, what is the purpose of placing this symbol and phrase above the ad for Toyota.

PN: RANDOMIZE ORDER OF STATEMENTS SHOWN.

1	2	3	4	5
Definitely	Probably	Not Sure	Probably	Definitely
Not	Not			

- a. to attract your attention to the ad
 - b. to get you to click on the ad
 - c. to tell you how this ad was chosen for you
 - d. to give you more information about the advertised product
 - e. to get your reactions to the ad
 - f. to tell you that the ad is personalized for you
9. To what extent, if at all, does this symbol and phrase placed above the ad for Toyota say or suggest the following?

PN: RANDOMIZE ORDER OF STATEMENTS SHOWN.

1	2	3	4	5
Definitely	Probably	Not Sure	Probably	Definitely
Does Not	Does Not		Suggests	Suggests
Suggest	Suggest			

- a. You can choose to learn more about the advertised product.
- b. You can turn off advertisements on this website.
- c. The ads you see here are based on your visits to this and other websites.
- d. This ad is targeted to you based on websites you have visited in the past.
- e. This ad has been chosen to be relevant to you.

- f. This website shows you ads that are chosen to match your needs.
- g. This ad is from one of the website's premier partners.

Part C

Now we are going to show you the web page again. This time, we would like you to move your cursor over the symbol and phrase that appears just above the advertisement for Toyota. (PN: INSERT SYMBOL AND PHRASE HERE). Moving your cursor over this symbol and phrase will open a pop up window with some additional information. Please read this information carefully.

Click the "NEXT" button at the bottom when you are finished.

PN: SHOW RESPONDENT WEB PAGE CONTAINING AD WITH LEVEL 1 DISCLOSURE (SYMBOL PLUS PHRASE). ENABLE MOUSEOVER (LEVEL 2) DISCLOSURE).

- 9a. Did you place your cursor over the symbol and phrase, and read the information that was revealed in the pop up window?
 - a. Yes
 - b. No

PN: IF "NO" IS SELECTED IN Q9a, SHOW SEPARATE SCREEN WITH SYMBOL AND PHRASE OVER THE AD WITH THE FOLLOWING TEXT ABOVE THE IMAGE.

Please put your cursor over the symbol and phrase to open the pop up window with additional information. When you are done, please select "next" to go the next screen.

Now we would like to ask you some questions about the information that was displayed in the pop up window when you moved your cursor over the symbol and phrase that appeared above the advertisement for xxx.

PN: KEEP LEVEL 2 DISCLOSURE IN VIEW FOR EACH SCREEN IN THIS SECTION (q10-q13).

- 10. What does this information presented in the pop up window communicate to you?

Please be as complete as possible.

11. To what extent, if at all, does this information presented in the pop up window say or suggest to you that...?

PN: RANDOMIZE ORDER OF STATEMENTS SHOWN

1	2	3	4	5
Definitely	Probably	Not Sure	Probably	Definitely
Does Not	Does Not		Suggests	Suggests
Suggest	Suggest			

- a. your visit to this website is being monitored
- b. everyone who visits this website sees the same ads
- c. this website does not collect any information about your visit here
- d. the ads you see here are based on your visits to this and other websites
- e. the ads you see on other websites in the future may be based on activity during your visits here
- f. this website shows you ads that are chosen to match your needs
- g. this website protects your privacy by not sharing your information

12. If you encountered this information in the pop up window while browsing a website, how likely would you be to click on the link labeled **MORE INFO**?

6	5	4	3	2	1
Very	Quite	Somewhat	Only Slightly	Not At All	Not
Likely	Likely	Likely	Likely	Likely	Sure

12a. PN:ASK ONLY OF RESPONDENTS WHO CHOSE ONE OF THE FIRST FOUR OPTIONS (Very Likely to Only Slightly Likely) AT Q12. What additional information would you like?

13. Please rate the information presented in pop up window on the following scale:

1	2	3	4	5
Easy To				Hard To
Understand				Understand

16. Have you ever....? *Please check all that apply.*

PN: USE MULTI-SELECT BOXES AND ROTATE ORDER OF STATEMENTS SHOWN.
KEEP "None of these" ANCHORED AT THE END OF THE LIST.

- a. Refused to give information to a website because you felt it was too personal or unnecessary
- b. Asked a website to remove your name and address from any lists used for marketing purposes
- c. Asked a website not to share your name or other personal information with other companies
- d. Decided not to use a website or not to purchase something online because you were not sure how your personal information would be used
- e. Set your browser to reject cookies
- f. Supplied false or fictitious information to a website when asked to register
- g. Read a website's privacy policy
- h. Opted out of receiving customized online advertisements
- i. None of these (DO NOT ROTATE – goes at end)

17. To what extent do you agree or disagree with each of the following statements?

PN: ROTATE ORDER OF STATEMENTS SHOWN.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree

- a. It bothers me when websites ask me for personal information
- b. I'm concerned that websites are collecting too much personal information about me
- c. It bothers me to give personal information to so many websites
- d. When websites ask for personal information, I sometimes think twice about providing it
- e. Consumers have lost all control over how personal information is collected and used by companies
- f. I feel that as a result of my visiting websites, others know more about me than I am comfortable with
- g. I believe that as a result of visiting websites, information about me that I consider private is now more readily available to others than I want it to be
- h. I feel that as a result of my visiting websites, information about me is out there and, if used, will invade my privacy
- i. I feel that as a result of my visiting websites, my privacy has been invaded by others who collect data about me

Part E

18. Have you ever.....? *Please check all that apply.*

PN: USE MULTI-SELECT BOXES AND ROTATE ORDER OF STATEMENTS SHOWN.
KEEP "None of the above" ANCHORED AT THE END OF THE LIST.

- a. Purchased products and services online such as music, books or clothing
- b. Used a membership to rent movies online from Netflix, Blockbuster or the like
- c. Used search engines such as Google or Yahoo! to find information
- d. Posted or read a blog or bulletin board on a website
- e. Read a newspaper or magazine online
- f. Participated in a social network such as MySpace or Facebook, or a professional network such as LinkedIn
- g. Watched online videos on sites such as YouTube
- h. Uploaded a photograph onto a website
- i. Done online banking or financial management such as credit cards, investments, or stocks/bonds
- j. Sold or bought on eBay, Craigslist or the like
- k. Used an online mapping service such as Google Maps or Mapquest
- l. Clicked on an ad that appeared on a website
- m. Downloaded music or podcasts to an iPod or mp3 player
- n. None of the above (LAST ITEM, DO NOT ROTATE)

APPENDIX C

WEB PAGE USED IN PART A

The screenshot shows the homepage of the website <http://www.howstuffworks.com/>. The browser's address bar shows the URL, and the page title is "Welcome to the Apple Store - Apple Store (U.S.)". The website header includes the "howstuffworks" logo, a search bar, and navigation links for "Video", "RSS", and "Random". A blue navigation bar lists various categories: Home, Adventure, Animals, Auto, Communication, Computer, Electronics, Entertainment, Food, Geography, Health, History, Home & Garden, Money, People, and Science.

The main content area features a featured article titled "Why can't we solve the Amelia Earhart mystery?" with a sub-headline "Amelia Earhart vanished more than 70 years ago, and her fate still perplexes the world. What happened to this internationally acclaimed pilot? What's keeping us from finding out?". Below the article is a "More Great Links" section with links to "How to Survive a Plane Crash" and "How GPS Receivers Work".

Below the featured article is a row of four small article thumbnails: "Autism", "Amelia Earhart", "Fresher Vegetables", and "Frown Lines".

The page is divided into several sections:

- quizzes**: Includes "What's the best way to treat dandruff?", "How much do you know about bicycles?", "Do you know how a car's clutch functions?", and "Are you an international comfort food expert?".
- top 5s**: Includes "5 Amazing Corn Mazes", "5 Ways to Snare Dinner in the Wild", "Top 5 Ways to Make Money on the Internet", "5 Anti-aging Diets", and "Top 5 Most Popular Guns -- and Why".
- pics & puzzles**: Includes "What's the image of the day?", "Puzzle: Cliff Diver", "Puzzle: U.S. Mint", "Puzzle: Eskimo Nebula", and "Puzzle: Gardening Tools".
- Interest based ads**: A Toyota advertisement for "Toyota Innovation" featuring a white car and the text "Toyota has more hybrids on the road than all other automakers combined."
- blogs**: Includes "FanStuff '2012' and the Disaster Movie as Fairy Tale" by Tracy V. Wilson and "ScienceStuff Own Everything, Advertise Everywhere" by Robert Lamb.
- stuff you want to know**: A section titled "Jeremy from Williamsport, Pa. asks: What's an axolotl?".
- videos: best of the week**: A section at the bottom left.