

**CONSUMER ATTITUDES TOWARD RELEVANT
ONLINE BEHAVIORAL ADVERTISING:
CRUCIAL EVIDENCE
IN THE DATA PRIVACY DEBATES**

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In today's digital environment, data about Internet usage can be used to tailor content and advertisements to users' interests. But that tailoring has become central to an international policy debate concerning consumer privacy interests in connection with business data collection, transfer and use. Highly restrictive rules in the European Union, such as its ePrivacy directive that regulates website tracking¹ (as well as the EU's broader 's existing data protection directive and draft data protection regulation) seem to be based on the assumption that consumers need to be protected from collection and use of data about their activities. In the United States, policymakers are still grappling with that issue, in the context of online behavioral advertising, and various data-privacy and "Do Not Track" legislative and regulatory initiatives.

Consumer privacy advocacy organizations throughout Europe and North America, and researchers who strongly favor tighter consumer privacy laws, have argued that consumers don't want tailored advertising. In the United States, research from privacy advocates has been frequently cited and used in the policy debate. However, a study conducted at a large Midwestern university by two of the authors, which was specifically designed to avoid prejudicial questions or suggestions of privacy concerns, revealed that, contrary to two often-cited studies, consumers prefer advertisements that are relevant to their interests.

Our study suggests that in addressing consumer privacy issues, policymakers need to consider the real value to consumers of new technologies that allow consumers to receive advertisements directed to their interests. Recognition of this reality may have significant policy consequences. In particular, it suggests that policymakers should carefully balance the benefits from tailored advertising against consumer privacy concerns (rather than brush off such technologies as both invasive and unwanted, as consumer advocates have suggested).

Behavioral Targeting and Data Privacy

Behavioral advertising, and how consumers perceive it, has been central to the public debate on consumer privacy. Online behavioral advertising ("OBA" for short), broadly speaking, refers to tracking an individual's online activities in order to deliver advertising tailored to the individual's interests.²

Behavioral advertising first received broad attention in the United States in late 2008 when U.S.Rep. Edward Markey, D-Mass., held hearings on deep packet inspection technology ("DPI")—a process by which a user's Internet service provider (ISP) allowed an advertising network access to all of the user's activities, and an advertising network then directed ads to that

¹ Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications). This directive, among other things, obligates Member States to ensure that the use of electronic communications networks to store information in a visitor's browser (i.e., cookies) is only allowed if the user is provided with disclosures regarding the cookies and their use, and has given his or her consent.

² FTC Staff, *Self-Regulatory Principles For Online Behavioral Advertising 2*, n.3 (February 2009) [hereafter, "*2009 FTC Report*"] at, available at www.ftc.gov/os/2009/02/P085400behavadreport.pdf.

user, directly targeting the user's interests suggested by his or her browsing activities.³ Soon after it received national scrutiny, DPI largely faded away, and the public focus shifted to other behavioral advertising programs.⁴

First party online behavioral advertising, which is common, involves behavioral ads placed on a website based on the consumer's browsing activity *on that website*. An Internet user browses a website, and the website generates one or more "cookies." "Cookies" are data phrases which gather and save information about a user's preferences, so that different web applications can tailor their information to those preferences. They allow users to save particular page designs and content, to save and correctly place usernames and passwords, and to utilize "shopping cart" programs at e-commerce sites.⁵ Cookies are central to most OBA. To take an oversimplified example, a user of the mythical *usasports.com* website who checks baseball scores and articles may prompt that website to post a cookie to the user's computer, noting that interest. The website operator, thereby knowing the user's baseball interest, may then divert baseball-related content and ads to the user. Similarly if the user made purchases through the website's e-commerce application, cookies may be generated and posted based on those purchases.

First party OBA has been generally viewed as acceptable. In its February 2009 report, the FTC staff defined OBA to encompass only the activities that it felt needed supervision and possible regulation, and it excluded first-party behavioral advertising from that definition. The FTC staff noted that in first-party OBA no data is shared with any third parties, and it found the practice generally appropriate and permissible: "The staff agrees that first party behavioral advertising practices are more likely to be consistent with consumer expectations, and less likely to lead to consumer harm, than practices involving the sharing of data with third parties or across multiple websites."⁶ Put simply, users generally are assumed to trust the websites they frequent, and to understand that that trusted websites will monitor their activities, and post related content in response to the user's apparent interests.

Third party online behavioral advertising—behavioral advertising placed on a website based on a consumer's browsing activity on an *unrelated site*—takes behavioral advertising to the next step. This practice has been the focus of regulatory and Congressional attention since late 2008. In third party behavioral advertising, the suppliers of behavioral advertising (chiefly advertising networks) collect and use consumer information across various websites by placing "cookies" on user computers, and then generating ads in response to what they know about the consumer identified by the cookies. That is, because of information learned about a user's

³ U.S. House of Representatives, Committee on Energy and Commerce, Subcommittee on Telecommunications and the Internet, Hearing on What Your Broadband Provider Knows About Your Web Use: Deep Packet Inspection and Communications Laws and Policies (Thursday, July 17, 2008.)

⁴ "NebuAd Faces Class Action Suit, Phorm's ISPs Drop Like Flies," *Marketing Vox*, Nov. 14, 2008; found at <http://www.marketingvox.com/nebuad-faces-class-action-suit-phorms-isps-drop-like-flies-041972/>; *Valentine v. Nebuad, Inc.*, 804 F.Supp.2d 1022 (N.D. Cal. 2011).

⁵ 2009 *FTC Report* at 26.

⁶ *Id.*

activities on website A, targeted interest-based ads may be placed to that user weeks later, when he or she is visiting unaffiliated website B.

Ad networks place their behavioral ads based on information about particular users' browsing activities. More precisely, they use cookies to identify users with certain interests, as revealed by past browsing activity. As an example, a user of usasports.com who frequently views hockey-related content on that website might be presented with hockey-related ads when he or she browsed unrelated websites. That would occur because an ad network allied with usasports.com initially recognized the user's hockey interest, and placed a cookie on his computer. Then, when the consumer visits another website, the ad network was able to place a hockey-related ad there, knowing that hockey was one of the consumer's interests. Although oversimplified, this example describes how advertising networks work—they take note of user interests as found on various websites, and they then arrange for posting of targeted ads when those users visit websites where the ad networks have contracts to place ads.⁷ The FTC has so far concluded that this kind of cookie-based behavioral advertising across unaffiliated websites should be subject to either government regulation or robust self-regulation.⁸

Industry Self-Regulation

Four advertising industry groups (AAAA, ANA, IAB, and DMA), together with the U.S. Council of Better Business Bureaus, have created detailed principles for industry self-regulation of third-party OBA.⁹ The self-regulatory principles, based on an opt-out model, call for notifying consumers of third-party behavioral advertising practices through either in-ad notices or other notices placed on webpages containing behavioral ads. A special trademark (a small “i” and triangle design) was created as the “Advertising Option Icon,” to identify behavioral ads and allow users to click for more information and choices. After clicking on the Advertising Option Icon, or other notices, users would be given various ways that they could express their preferences as to what behavioral ads they wished to receive or not receive—for example, by completing forms on the aboutads.info website used by many ad networks.

Proposed Regulation

From 2008 through mid-2010, online behavioral advertising (initially, deep packet inspection, and later, third party behavioral advertising) was the sole focus of data privacy

⁷ See generally Imran Kahn et al., *The Rise of Ad Networks: An In-Depth Look at Ad Networks*, JP Morgan Chase, North American Equity Research, October 11, 2007, found at <http://www.mediamath.com/docs/JPMorgan.pdf>.

⁸ 2009 FTC Report, pp. 27, 28; Federal Trade Commission, *Protecting Consumer Privacy in an Era of Rapid Change: A Proposed Framework for Businesses and Policymakers*, Dec. 1, 2010, p. 55, available at [http://www.ftc.gov/os/2010/12/10120\]privacyreport.pdf](http://www.ftc.gov/os/2010/12/10120]privacyreport.pdf).

⁹ See *What is the Self-Regulatory Program for Online Behavioral Advertising?*, found at <http://www.aboutads.info/how-interest-based-ads-work/what-self-regulatory-program-online-behavioral-advertising-0>; “Self-Regulatory Principles for Online Behavioral Advertising,” July 1, 2009, found at <http://www.aboutads.info/resource/download/seven-principles-07-01-09.pdf>; Implementation Guide, Oct. 2010, found at <http://www.aboutads.info/resource/download/OBA%20Self-Reg%20Implementation%20Guide%20Full%20Text.pdf>.

initiatives in Washington. But in mid-2010, then-U.S. Rep. Rick Boucher, D-Va., whose House subcommittee considered Internet laws, announced a proposed omnibus data privacy bill—that is, a federal law that would not only cover OBA, but all aspects of data privacy, in every industry.¹⁰ By late 2010, the privacy focus had shifted in Washington from just online behavioral advertising to data privacy in general, and more proposals for broad data privacy regulation followed.

Before long, multiple privacy proposals were placed in the congressional agenda, some of them offered by congressional leaders such as Senators John Kerry, John McCain, and Jay Rockefeller.¹¹ Many of those bills, if passed, would significantly transform the requirements on business with respect to non-transactional collection, use and disclosure of information about individuals. Some of their provisions would require businesses to adopt privacy policies, and disclose their privacy practices whenever collecting personal information, except for information collected and used solely as part of a particular business transaction. Other proposals would give individuals the ability to prevent businesses from transferring information about them to unrelated companies unless they affirmatively agreed (opted in) to such transfers. Such prohibitions could, for example, restrict the private sales of business lists of customers or prospective customers for marketing purposes unless customers specifically allowed it. Other proposals would impose very stringent requirements on collection and use of particular kinds of data, including medical, financial and geolocation data. Still other proposals specifically target privacy practices in the mobile telephone and mobile app area.

At the same time, other agencies joined with new privacy initiatives. The Federal Trade Commission expanded its inquiry beyond behavioral advertising into a broader look at the field of data collection, transfer and use.¹² The Commerce Department initiated a multi-stakeholder program to lead development of industry best-practices guidelines for collection and use of data.¹³ The White House issued its own Consumer Privacy Bill of Rights and report.¹⁴

Studies Concerning Behavioral Advertising and their Influence in the Policy Debate

In the last few years, researchers at Carnegie-Mellon University, the University of California at Berkeley, Stanford University, the University of Pennsylvania, and other

¹⁰ “Rep. Boucher Announces Details Of Online Privacy Legislation,” American Business Media, May 3, 2010, available at <http://www.americanbusinessmedia.com/abm/NewsBot.asp?MODE=VIEW&ID=2291>

¹¹ E.g., “Commercial Privacy Bill of Rights Act,” S. 799 (112th Congress), “BEST PRACTICES Act, H.R. 611 (112th Congress), “Consumer Privacy Protection Act,” H.R. 1528 (112th Congress).

¹² Federal Trade Commission, *Protecting Consumer Privacy in an Era of Rapid Change: Recommendations For Businesses and Policymakers*, (2012) <http://www.ftc.gov/os/2012/03/120326privacyreport.pdf>.

¹³ U.S. Commerce Dept., *Commercial Data Privacy and Innovation in the Internet Economy: A Dynamic Policy Framework* (Dec. 15, 2010), available at <http://www.commerce.gov/blog/2010/12/16/released-policy-framework-protecting-consumer-privacy-online-while-supporting-innova>.

¹⁴ The White House, *Consumer Data Privacy In a Networked World: A Framework For Protecting Privacy And Promoting Innovation In The Digital Global Economy* (2012), available at www.whitehouse.gov/sites/default/files/privacy-final.pdf [hereafter, *White House Report*].

institutions, have authored a series of studies relating to Internet privacy issues, including behavioral advertising. Some of these researchers overtly seek to have their studies affect national policy, and many of their studies have clearly had dramatic and immediate effects in the legal, business, and policy worlds.

To take one example of the impact of the researchers, on August 10, 2009, Ashkan Soltani and several of his colleagues published a paper, “Flash Cookies and Privacy,” concerning a phenomenon in which Flash cookies (files that often accompany Flash videos) could regenerate HTTP cookies that a privacy-conscious user had deleted.¹⁵ Several class action lawsuits were filed in 2009 based on such conduct. Then, in 2010, the *Wall Street Journal*, with Soltani’s consulting help, highlighted the same phenomenon, in an article headlined, “Lawsuit Tackles Files that ‘Re-Spawn’ Tracking Cookies.”¹⁶ By the fall of 2011, such files, now lumped with other files as “supercookies,” were subjects of Congressional and regulatory inquiry and outrage.¹⁷

As yet another example of the direct influence of researchers on policy and practice, within days after a University of California Berkeley study highlighted practices of the KISSmetrics tracking firm, that firm drastically changed its practices. According to the study, KISSmetrics, which provides analytical information regarding web traffic, provided code that allowed website operators to track users regardless of which browser they used or whether they deleted their cookies. *Wired* magazine reported the study’s finding on July 29, 2011 and by August 2, 2011 it followed up with the story that KISSmetrics had “quietly overhauled its web tracking methods over the weekend, and is now permitting users to block its surveillance.”¹⁸

The *Wall Street Journal* “What They Know” series about OBA and data privacy, which began running during the summer of 2010, dramatized behavioral advertising, making both consumers and policymakers better aware of what had until then been something of an insider debate. Much of the *Journal’s* series tracked and relied upon various Berkeley, Stanford and Carnegie-Mellon research studies and reports.

Several of the most prominent university researchers are unabashedly advocates for more extensive legal privacy protections for consumers. Soltani describes himself as an “independent researcher and consultant focused on privacy, security, and behavioral economics.”¹⁹ His

¹⁵ Ashkan Soltani, Shannon Canty, Quentin Mayo, Lauren Thomas, and Chris Jay Hoofnagle, Flash Cookies and Privacy (August 10, 2009). Available at SSRN: <http://ssrn.com/abstract=1446862> or <http://dx.doi.org/10.2139/ssrn.1446862> [hereafter *Flash Cookies I*].

¹⁶ Jennifer Valentino-DeVries. 2010, “Lawsuit Tackles Files That ‘Re-Spawn’ Tracking Cookies,” *Wall Street Journal*, (2010), available at <http://blogs.wsj.com/digits/2010/07/30/lawsuit-tackles-files-that-re-spawn-tracking-cookies/>.

¹⁷ “FTC Is Asked to Crack Down on ‘Supercookies’ as Data Privacy Violation,” *FTC Beat*, Sept. 28, 2011, available at <http://ftcbeat.com/tag/internet-privacy/page/4/>.

¹⁸ Ray Singel, “Web-Analytics Firm KISSmetrics Reverses Course on Sneaky Tracking,” *Wired*, Aug. 1, 2011, available at http://www.wired.com/epicenter/2011/08/kissmetrics_reversal/.

¹⁹ *About Ashkan Soltani*, <http://ashkansoltani.org/about/>.

university webpage lists his participation with the *Wall Street Journal* series.²⁰ It also describes his master's thesis as one that was overtly intended to influence policy.²¹

Chris Jay Hoofnagle, of Berkeley, a leading privacy scholar, led or participated in many of the Internet privacy studies that have been publicized, and considered in the national policy debate, in recent years. He co-authored the original Flash cookies study,²² a 2011 follow up,²³ various law review articles on privacy,²⁴ and recent studies on mobile phone privacy²⁵ and mobile payments.²⁶ Although he participates in litigation and writes position papers²⁷ as a consumer privacy advocate, he suggests that his consumer attitude research is valuable as reliable empirical research.²⁸

Given that the conclusions of this group of researchers have been afforded great attention, through articles in the *New York Times*, citations in agency comments and reports, and even in the White House's report on privacy, the validity of its research methodology and conclusions is important to all. Our study focused in particular on one of the group's key sets of studies concerning consumer perception of behavioral advertising.

²⁰ See UC Berkeley School of Information, *Wall Street Journal Releases Privacy Research by Ashkan Soltani* (2010), available at <http://www.ischool.berkeley.edu/newsandevents/news/alumninews/20100731soltani>.

²¹ Ashkan Soltani, *Know Privacy: a web privacy investigation* (2009) ("The goal of KnowPrivacy was to influence policy governing data collection and sharing practices employed by popular Internet sites."). Available at <http://ashkansoltani.org/work/knowprivacy-a-web-privacy-investigation/>.

²² *Flash Cookies I*, note 15 *supra*.

²³ Mika Ayenson, Dietrich James Wambach, Ashkan Soltani, Nathan Good, and Chris Jay Hoofnagle, *Flash Cookies and Privacy II: Now with HTML5 and ETag Respawning* (July 29, 2011). Available at SSRN: <http://ssrn.com/abstract=1898390> or <http://dx.doi.org/10.2139/ssrn.1898390>. Also published as, *Can Advertisers Learn that No Means No?*, 10 *Privacy & Security Law Report* 1398 (Sept. 26, 2011).

²⁴ "Behavioral Advertising: The Offer You Cannot Refuse," 6 *HARVARD LAW & POLICY REVIEW* 273 (2012); *Unpacking Privacy's Price*, with Professor Jan Whittington, in 90 *North Carolina Law Review* 1327 (2012); Daniel J. Solove, and Chris Jay Hoofnagle, "A Model Regime of Privacy Protection: (Version 3.0)," *GWU Law School Public Law Research Paper No. 132*; *University of Illinois Law Review*, Vol. 2006, No. 2, 2006. Available at SSRN: <http://ssrn.com/abstract=881294>.

²⁵ Jennifer M. Urban, Chris Jay Hoofnagle, and Su Li, "Mobile Phones and Privacy" (July 10, 2012). BCLT Research Paper Series; UC Berkeley Public Law Research Paper No. 2103405. Available at SSRN: <http://ssrn.com/abstract=2103405> or <http://dx.doi.org/10.2139/ssrn.2103405>.

²⁶ Chris Jay Hoofnagle, Jennifer M. Urban, and Su Li, "Mobile Payments: Consumer Benefits & New Privacy Concerns: (April 24, 2012). Available at SSRN: <http://ssrn.com/abstract=2045580> or <http://dx.doi.org/10.2139/ssrn.2045580>.

²⁷ Chris Jay Hoofnagle, "Privacy Self Regulation: A Decade of Disappointment" (January 19, 2005). Available at SSRN: <http://ssrn.com/abstract=650804> or <http://dx.doi.org/10.2139/ssrn.650804> (written for Electronic Privacy Information Center).

²⁸ See Chris Jay Hoofnagle, "Behavioral Advertising: The Offer You Cannot Refuse," 6 *HARV. L & POLICY REV.* 273, 273 (2012) ("We are informing political debates surrounding online privacy through empirical study of website behavior"; "these empirical observations are valuable for the political debate surrounding online privacy").

Key Behavioral Advertising Studies

Privacy researchers published two key and frequently cited studies of consumer preferences. One study authored by Joseph Turow of the University of Pennsylvania (and co-authored by Hoofnagle) concluded, “Americans Reject Tailored Advertising.”²⁹ Another, of Aleecia M. McDonald and Lorrie Faith Cranor of Carnegie-Mellon, concluded that consumer expectations were violated by behavioral advertising and that consumers understood it as a source of privacy harm.³⁰ The McDonald-Cranor study was cited by the White House report as supporting the assertion that “many consumers and privacy advocates find tracking and the advertising practices that it enables invade their expectations of privacy”.³¹

While surveys of consumer attitudes with respect to emerging technologies present some significant challenges, and must be evaluated with the understanding that no survey can perfectly probe such subjects, the design of the Turow and McDonald-Cranor studies raise significant concerns about the validity of the results obtained.

The Turow study was designed with the laudable purposes of “disentangl[ing] Americans’ attitudes toward tailored content from their opinions about three common behavioral tracking methods” and of asking “the right questions of the right samples.”³² Despite these stated purposes, the study can be questioned in terms of its sample of Internet users, and the questions it used to probe their attitudes about tailored content.

First, the study was conducted *offline*, not online, and swept in a wide group of persons as Internet users; it covered anyone who even occasionally used email, even if he or she answered “no” to even occasionally “go[ing] online” or “us[ing] the internet.” Hence, persons with email-only devices, and even older executives who have their assistants send and receive email for them, could participate—a strange population definition given that third-party behavioral advertising addresses multi-site web users, not occasional email-only users.

Second, the questions that were designed to solely test desire for tailored advertisements did not present real-life situations; rather, those questions posed theoretical issues for the lay respondents to address: “Please tell me whether or not you want the websites you visit to show you ads that are tailored to your interests.” (Alternative formulations geared to news and shopping sites asked respectively about “news” or “discounts” tailored to the user’s interests.) The abstraction of these questions makes the answers a questionable fit with real-life

²⁹ Joseph Turow, Jennifer King, Chris Jay Hoofnagle, Amy Bleakley, and Michael Hennessy, “Americans Reject Tailored Advertising and Three Activities that Enable It” (September 29, 2009). Available at SSRN: <http://ssrn.com/abstract=1478214> or <http://dx.doi.org/10.2139/ssrn.1478214>. (hereafter, *Turow*).

³⁰ Aleecia McDonald, M. &, and Lorrie Cranor, Faith, “Americans’ Attitudes About Internet Behavioral Advertising Practices,” WPES ’10 Proceedings of the 9th Annual ACM Workshop on Privacy in the Electronic Society (2010). available at <http://dl.acm.org/citation.cfm?id=1866929> and www.aleecia.com/authors-drafts/wpes-behav-AV.pdf. (hereafter, *McDonald-Cranor*).

³¹ *White House Report*, note 14 *supra* at 12.

³² *Turow* at 5, 9.

preferences. Consider, for example, two alternative surveys of consumer buying preferences: one that asks consumers, “Do you prefer national brands or store brands?” and another that uses test and control groups to test user selections when confronted with national and store brands. The test of real-life examples would presumably be more valid than the responses to abstractions unfamiliar to consumers in their daily activities. Legal authorities recognize that consumer attitudes should be surveyed in conditions as close as possible to real-life situations.³³

Next, the Turow study asked questions designed to elicit reasons for the results found from the abstract belief questions. In this section of the test, respondents were presented with various attitude statements and asked whether they agreed, disagreed, or had no opinion. Again, the statements presented were framed as abstractions. In addition, in the course of this section, respondents were presented with so many questions involving the concept of protection of consumer privacy, that almost any respondent would pick up the idea that he or she was expected to have strong preferences on the subject, likely in favor of greater protection of that interest.³⁴ Specifically, respondents were asked their opinions of a series of 17 privacy-focused assertions, beginning with “Consumers have lost all control over how personal information is collected and used by companies.” Then, at the conclusion, they were asked, “Beyond a fine, companies that use a person’s information illegally might be punished in other ways. Which *one* of the following ways to punish companies do you think is the most important?” With this buildup it is hardly surprising that only three percent found no punishment appropriate, and more than half supported truly draconian penalties (“The company should be put out of business.” [18%]; “Executives who are responsible should face jail time.” [35%]).

The McDonald-Cranor study repeated the Turow questions, but used them on an online study, from a population of students who were familiar with the Internet. The study thus avoided one of the deficiencies of the Turow study, its population which included users who did not regularly use the Internet. The other key difference was that McDonald and Cranor first conducted “qualitative interviews” designed “to identify a range of views” before they conducted the online survey. They then inserted additional questions derived from these qualitative interviews into the survey, between the initial abstract questions about preferences for tailoring, and the litany of 18 questions about privacy attitudes. Most of these inserted questions appeared to relate to specifics about internet tracking technologies – for example, “What is a cookie?,” “Are there ways cookies can help you?,” and “Are there ways cookies do not help you?”. Other inserted questions suggested the concepts of private browsing, clearing cookies, and using opt-out cookies. Then, as a final prelude to the Turow questions, the study described behavioral advertising, and asked respondents “How would you feel about this practice?” Respondents were offered three negative responses and two positive or neutral responses; the negatives

³³ *Heileman Brewing Co., Inc. v. Anheuser-Busch, Inc.*, 873 F.2d 985, 995 (7th Cir. 1989) (“Consumer perception should be assessed by examining the average potential consumer in the context of the existing marketplace and exposed to the information currently available in the marketplace. ... The opinions of the totally uninformed in an abstract, hypothetical context are of dubious relevance because they do not accurately reflect the perceptions of [consumers].”).

³⁴ See *People's United Bank v. Peoplesbank*, 2010 WL 2521069 at *7 (D.Conn. 2010) (discounting survey results where survey provoked a "demand effect" because leading questions suggested to respondents what the survey was testing).

overwhelmingly won—not surprising, since the respondents had been primed with scores of questions about poorly understood background technical processes that were portrayed as enabling behavioral advertising. The full litany of technically-based questions, of course, served to focus respondents on Internet tracking technologies, priming them to be suspicious of such technologies and to be alert to privacy concerns by the time the Turow assertions were presented to them. Unsurprisingly with this build-up, respondents responded to those assertions with great concern for consumer privacy, on a level generally similar to the Turow respondents.

The McDonald-Cranor insertion of many technical questions seems highly prejudicial. In assessing consumer attitudes toward Internet advertising, the focus should be on what the consumer thinks of what is done (both in terms of data collection and use, and presentation of ads), not behind-the-scenes technology. To ask what one thinks of books, one should at least ask “Do you find books useful?” not “Do you understand offset printing?” The McDonald-Cranor report, however, asked technology, not functionality questions. Such questions do little to address consumer perceptions of the needs, benefits and costs of behavioral advertising, but do much to suggest to participants that sneaky things are going on behind the scenes that they really should be afraid of. McDonald and Cranor contend that their questions were justified based on “qualitative” interviews they did prior to the study. However, while “qualitative” research such as focus groups has its place in commercial market research, it is not generalizable to any consumer population and responses from participants in such research may be heavily influenced by session leaders. For these reasons, such research does not meet the scientific reliability standard required for use in judicial proceedings.³⁵

The Turow and McDonald-Cranor studies, in short, provide problematic data on consumer perceptions regarding the benefits or detriments of online behavioral advertising. Neither objectively answered the question, “What do Internet users feel about online behavioral advertising?” For that reason, we designed a study in which we sought to more appropriately answer that question.

Relevant Advertising

One of the arguable consumer benefits of OBA is that advertisements online can be targeted to consumer interests. Targeted ads are generally thought to have a better chance of breaking through the information clutter and engaging the consumer. High levels of personal relevance have been found to improve consumer attitudes toward a message while low levels of personal relevance have been shown to do the opposite.³⁶ Messages that elicit personal connections are considered more personally relevant to the recipient and may be more likely to

³⁵ *E.g., Scotts Co. v. United Industries Corp.* 315 F.3d 264, 278 (4th Cir. 2002) (“the manner in which the focus groups were conducted allowed the moderator to shape the opinions of the participants to mirror Scotts' theory of the case and then report those shaped opinions as evidence to support Scotts' claim”; plaintiff's focus group study results found “utterly unreliable”).

³⁶ D. Campbell and R. Wright, “Shut-up I Don't Care: Understanding The Role Of Relevance And Interactivity On Customer Attitudes Toward Repetitive Online Advertising,” *Journal Of Electronic Commerce Research* 9 (1):62-76 (2008).

increase involvement with those messages while those that are less personally relevant are more likely to invoke low involvement.³⁷ Consumers who have high motivation to process a message about a product or a service may be more likely to attend to the message. And high involvement is critical for effective advertising³⁸

A key issue, then, is whether consumers presented in an online environment with ads relevant to their interests will like such ads, or whether they will shun them (as the Turow-McDonald studies suggest). A consumer preference for such ads would represent a win-win situation, since advertisers clearly prefer ads that engage consumers.

For our study, we hypothesized that consumers prefer advertising that is relevant to their interests to advertising that is not relevant. We tested this hypothesis through a mixed survey and quasi-experiment, in which the belief statements used in the Turow and McDonald-Cranor studies were combined with new experimental questions that tested respondents' attitudes toward targeted advertising in real-life situations rather than in the abstract.

Survey Methodology

We first asked respondents to rate their feelings about five different scenarios involving targeted advertising. The scenarios were chosen to emulate real life experiences where the consumer would likely encounter either first party or third party behavioral advertising. Unlike previous studies, we did not ask questions in the abstract about "privacy" and other abstract concepts; rather, we laid out real life scenarios where the consumer could envision himself or herself receiving advertising based on her previous online behavior and personal interests. Each respondent saw four scenarios dealing with online advertising and one that dealt with an offline behavioral advertising situation. The offline behavioral advertising situation was intended to be a foil to prevent the respondents from guessing the manipulation and was not included in the analyses. There were three groups of respondents so that no respondent would see two sites with the same manipulation. For example, one person would see a relevant NewYorkTimes.com ad and an irrelevant CNN.com ad but never an irrelevant and relevant ad for the same site. This method of testing both relevant and non-relevant ads gave our study an internal control, in that the respondent's reaction to targeted advertising could be directly compared to his or her reaction to non-targeted advertising.³⁹

A respondent in one of the groups would encounter this scenario: Imagine you are an avid photographer and you are on a news website (e.g., NewYorkTimes.com, CNN.com) reading some news articles. You notice some advertisements about camera-related products (e.g., camera lenses, camera cases). The relevant ads were included to mimic real life behavioral

³⁷ Richard E. Petty, John T. Cacioppo, and David Schumann, "Central and Peripheral Routes to Advertising Effectiveness: The Moderating Role of Involvement," *Journal of Consumer Research* 10 (2):135-146 (1983).

³⁸ *Id.*

³⁹ Shari Seidman Diamond, Reference Guide on Survey Evidence, in Federal Judicial Center, REFERENCE MANUAL OF SCIENTIFIC EVIDENCE (3rd ed. 2011), at 398-401 (control group design particularly useful in avoiding bias from question wording).

advertising based on consumer interests. Three websites were used in the study: one news-related website, one social-media website, and a retailer website. We used the types of websites on which consumers would most likely encounter advertising targeted to their behavior online. Each type of site could be said to fit into a type of behavioral advertising. The retailer website offered as first party behavioral advertising, the news website offered as third party behavioral advertising, and the social media scenario offered a mix of third party and deep packet inspection. Respondents also saw two scenarios that were not online. A scenario involving a woman's magazine with an advertisement for men's shoes served as the contextual advertising example, a type of behavioral advertising that is least controversial and common offline as well as online. The other scenario involved receiving coupons from a grocery store based on in-store purchases. Again, the two scenarios were not analyzed as part of this study but were added to the survey in an effort to reduce the emphasis from online advertising to advertising that is targeted based on consumer behavior.

Second, to test the relationship of consumer preferences to answers to questions about abstract questions about "privacy" we also asked certain questions that were also asked by Turow and McDonald-Cranor to see if our respondents would answer the questions in similar ways. We expected that the way the questions were worded and presented would result in similar negative responses from our respondents.

As examples, the statements at issue from the prior studies addressed much more than just the concept of consumer perceptions of behavioral targeting, and tended to use judgment-laden language suggesting that consumers were expected to have privacy-based concerns. For example, one statement said "someone keeping track of my activities online is invasive." That question is not about whether people prefer advertisements that are relevant to their own interests. It does not explain that the "keeping track of my activities" can mean something as unthreatening as remembering what items you have in your shopping cart. Many statements in the prior surveys about privacy were structured like this one and therefore likely to create a biased perception that would lead to negative response. For example, other statements included, "privacy is a right and it is wrong to be asked to pay to keep companies from invading my privacy" and "companies asking me to pay them not to collect data is extortion."

Our online survey used 150 student respondents recruited from a large Midwestern university. The respondents completed the online questionnaire in exchange for a chance to win an ebook reader. The respondents first completed the scales measuring their attitudes generated in the five scenarios and then proceeded to answer questions from the Turow and McDonald and Cranor studies.

Results

Attitudes Towards Relevant Advertising

To measure consumer perceptions towards the scenarios, respondents were given 12 statements concerning the advertisements in issue, half positive, half negative. Respondents rated these statements on a 5-point scale, with 5 being "Strongly Agree." A one-way repeated measures analysis of variance was calculated, comparing the positive and negative scores towards the advertising with the relevant and irrelevant scenarios. A significant effect was found

across each scenario with one exception. For the relevant-advertising retailer scenario the relevant positive scores ($M=3.76$, $SD=.71$) and the negative scores ($M=2.30$, $SD=.77$) $F(1,57) = 18.65$, $p<.001$ were significantly different with the positive scores higher. For the irrelevant advertising retailer scenario the positive response ($M=2.63$, $SD=.97$) and the irrelevant retailer scenario negative response ($M=2.79$, $SD=.76$), $F(1,57) = 31.90$, $p<.001$ were significantly different with the negative response higher.

For the news site the relevant ad positive scores ($M=3.524$, $SD=.784$) were significantly higher than the relevant ad negative scores ($M=2.66$, $SD=.85$), $F(1,57)=46.67$, $p<.001$). For the news site with irrelevant ads the positive scores ($M=2.355$, $SD=.664$) were significantly lower than the irrelevant negative scores ($M=2.69$, $SD=.71$), $F(1,57)=5.582$, $p<.022$.

For the social media scenario, the relevant advertisement positive scores ($M=3.47$, $SD=.65$) were significantly higher than the relevant negative scores ($M=2.73$, $SD=.82$), $F(1,59)=50.29$, $p<.001$). In the irrelevant advertising social media scenario, the difference between the positive and negative scores was only marginally significant, but in the predicted direction ($F(1,59)=2.85$, $p<.10$).

If “attitude toward the ad” is conceptualized as the net combination of negative and positive scores, then clearly the relevant ad conditions were significantly more desired than the irrelevant ads. Therefore the study results strongly supported the hypothesis that consumers prefer advertising that is relevant to their interests to advertising that is not relevant.

This conclusion, of course, is diametrically opposite that reached in the Turow study, which was dramatically headlined, “Americans Reject Tailored Advertising.” (The full title of the report, published directly on the web and not in a peer-reviewed journal, is “Contrary to what marketers say, Americans Reject Tailored Advertising And Three Activities That Enable It.”) The table below shows the key results of Turow, McDonald-Cranor, and our study:

	Turow	McDonald	Our Study
	Do you want the websites you visit to show you ads/discounts that are tailored to your interests?		Desire for relevant ads/discounts, based on real-life scenarios
Tailored ads	32%	45%	53%
Tailored discounts	47%	80%	86%

Responses to Belief Statements

To test whether our study respondents had different attitudes and beliefs from those in the Turow or McDonald-Cranor studies, we also asked some of the same questions as those studies did, to determine if respondents would respond similarly to those questions. We surmised that if the responses were similar, that would suggest that those responses were due to the structuring of the questions, rather than a dislike of tailored advertising. Our respondents did respond

similarly. Our college student respondents differed slightly from those in the McDonald-Cranor study. Our respondents rated ten of the questions slightly more pro-advertising than did those in the previous study. On six of the questions, there were no significant differences. Thus, even though the respondents in our study showed a clear positive response to relevant over irrelevant ads, when tested with real-life scenarios and no prejudicial suggestions about privacy concerns, they responded to the leading wording of McDonald-Cranor's and Turow's questions quite similarly.

Findings and Implications

Our study sought to offer a more accurate view of consumer perceptions of behavioral advertising, a piece of the regulatory policy debate that we believe must be incorporated into future decisions about the use of consumer information.

We began our study by offering real-life scenarios and asking respondents to rate those scenarios. Respondents were asked about online situations that they were likely familiar with and in which they had seen many advertisements. The task for them was much more ecologically valid than answering the kinds of questions offered in the prior studies. It seems unlikely that responses to such abstract inquires could be anywhere near as reliable as questions focused on specific situations.

Across all of the scenarios, we found that consumers preferred advertising that was targeted to their interests to advertising that was irrelevant to them. The scenarios involving relevant advertising stimulated both higher positive responses and lower negative responses. On the other hand, our scenarios that offered non-relevant advertising stimulated higher negative responses and lower positive responses. These findings are in line with other research⁴⁰ and consistent with the approach-avoidance theory of advertising where simultaneous positive and negative emotions exist in response to an advertisement. An explanation for the higher positive response in relation to the targeted advertising scenario is that the negative response to advertising is mitigated by the personal relevance which enhances product involvement and leads to a more favorable attitude toward the ad. Thus, it is clear that advertising based on information about online activity will offer consumers advertising that they find useful and that they like more in contrast to irrelevant advertising. We assert that our scenarios are a fair and accurate way to measure consumer perceptions of behavioral targeting.

The fact that a group of young adult Internet users would clearly prefer "tailored" advertising to "non-tailored" messages contradicts the assertion that consumers "reject tailored advertising." In fact, they prefer relevant to irrelevant advertising.

Policy Implications

The proper focus of the public policy debate on data privacy must be on consumer needs and preferences. But those needs and preferences must be correctly understood and balanced.

⁴⁰ C.D. Ham, 2011. *Responding to user-generated advertising: The Persuasion Inference Model*, Dissertation, Journalism, University of Missouri, Columbia.

The suggestion from studies undertaken by privacy advocates, that consumers don't even want tailored advertising, does not appear credible or supported by fair research. That, of course, is not necessarily the end of the analysis with respect to privacy legislation and regulation. Consumers may have multiple attitudes and concerns about advertisements. They may find tailored advertisements highly useful, but also have concerns with how they are developed. Those privacy concerns, however, need to be probed and tested in a fair, impartial and non-suggestive manner, and separated from the issue of whether consumers prefer advertisements relevant to their interests. Then, policymakers must balance the benefits of such advertisements with any privacy-related concerns. That balancing is properly left to policymakers, acting on complete and credible research on all aspects of the issue.

Additionally, the usefulness and persuasiveness of surveys that address privacy issues from technical and abstract viewpoints is a recurring issue. For example, one of Hoofnagle's recent papers, "Privacy and Modern Advertising," asserts as a fact that consumers do not want activity tracking or behavioral advertising.⁴¹ But the studies he relies on, like his key study with Turow, seem to reach their conclusions in large part because of the way questions were asked, using technical terms and abstractions, not real-life situations. "Privacy and Modern Advertising," for example, reached conclusions regarding consumer concerns about "Do Not Track" procedures even though the survey population was overwhelmingly unfamiliar at the outset with the "Do Not Track" concept. In the study, respondents were told about various DNT configurations, and asked which they liked best. The study thus did not measure either pre-existing beliefs, or attitudes toward real-life options. Rather, it measured simply choices made among a closed-end list of abstract technology options, as presented to respondents with no knowledge or background in the technology. Yet the resulting preferences were claimed by the study proponents to demonstrate that consumers do not want relevant ads produced through behavioral tracking. But abstract technology choices selected by lay people in a test setting do not equate to what people want or expect in their ordinary lives. By analogy, if test respondents, asked to select between two water filtration and delivery technologies that they previously knew nothing about, picked technology other than the one their own municipal water system used, it would not indicate that "consumers don't want to drink their town's water." If, as the results of our study suggests, survey designs focused on abstractions and technologies do not truly reveal consumer preferences, then policy makers should consider the limitations of those designs, and give more weight to surveys that more closely utilize real-life situations.

Conclusion

Online behavioral advertising is important not only in its relevance to the advertising industry but because the debate on OBA has opened up a much broader policy review of data collection and use—sometimes known as "data privacy."

The privacy bills and regulations, if enacted, would represent a sea change in United States privacy laws, and could broadly affect the collection and use of data in connection with

⁴¹ Chris Jay Hoofnagle, Jennifer M. Urban, and Su Li, Su, "Privacy and Modern Advertising: Most US Internet Users Want 'Do Not Track' to Stop Collection of Data about their Online Activities," Amsterdam Privacy Conference (October 8, 2012).. Available at SSRN: <http://ssrn.com/abstract=2152135>.

advertising and marketing. In the important public policy debate on privacy, fair and reliable data about consumers and their needs and preferences is crucial. More research, under conditions as close as possible to real life, should be conducted to understand consumer attitudes to targeted advertising. To the extent possible, that research should study consumer actions in response to real-life situations, not consumer responses to abstractions.

Our findings, while not conclusive, suggest that despite previous headlines, consumers do prefer targeted advertising over being served random ads. As policy makers and consumer advocates begin to make decisions about potential regulation for advertisers, they should be aware that advertising based on information collected about consumer behavior is both likely to be effective and also desired by consumers. A fair privacy debate should focus on the balance between the benefits and detriments of information collection, not on the unlikely contention, as yet unverified by credible evidence, that those benefits do not exist.