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Jonathan Lazar, Editor

Envisioning Persuasion Profiles: Challenges for Public Policy and Ethical Practice

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Eleven-year-old Joey has resisted following his doctor's weight-loss plan—skipping his daily bike ride to play video games, trading his healthy lunches for soft drinks, and sneaking snacks at night. His dad, Martin, is frustrated. Joey seems frustrated, too. Concerned about some recent bullying, Martin goes online to check the parental-control settings on his son's social network account. He then sees something he's never noticed before: Joey's persuasion profile. During his extensive use of the site, Joey has been shown countless ads for products, games, and other websites. Each time the persuasion profile recorded Joey's response: Did he click the ad? Did he play the game? Reading on, Martin learns that Joey rarely acts on recommendations from experts or celebrities but likes what his peers like and does what his peers do. Martin thinks, I wonder if we could use that to help Joey. He finds an online weight-loss program that helps kids motivate each other by sharing their successes.

Persuasion profiles [1,2,3] are sets of estimates of the effectiveness of particular influence strategies

on individuals, based on their past responses to these strategies. In Joey's case, this profile indicates he is much more receptive to the consensus strategy (*I do as others do*) than to the authority strategy (*I do as authorities say*). Persuaders can use this profile to automatically or manually select the most effective strategy for their target.

This process is different from existing forms of behavioral adaptation—for example, recommender systems used by websites like Amazon.com—in that the same influence strategies can apply across different domains, from selling books to promoting physical activity. While knowing that Joey likes superhero comics might help Amazon sell him books, this information is unlikely to be helpful for addressing his obesity. By contrast, a persuasion profile could be used both to sell books and promote healthy behavior.

In our scenario, Joey's profile was based on his behavior on a social network site (SNS, like Facebook)

and was repurposed—without him knowing—to choose a more effective health intervention for him. The repurposing of persuasion profiles may sometimes be done in an individual's interest, and sometimes against his or her interest. Here, we present the Envisioning Cards [4] as an approach to generate and evaluate future uses of persuasion profiles (such as the scenario above) and discuss the policy implications of this new form of behavioral profiling.

Contemporary social science research shows that persuasion profiles can increase the effectiveness of persuasive technologies, technologies that aim to change what people think and do. Persuaders and social scientists have long known that a careful choice of influence strategy can significantly increase compliance [5].

Indeed, recent studies have found that different people respond differently to particular influence strategies. Some people seem to be less susceptible to persuasion over-

all [2], while other people are more susceptible to some strategies than to others [6]. Explorations of this heterogeneity—revealed through people’s responses when repeatedly exposed to multiple strategies—all show a similar picture: Any influence strategy, such as authority or consensus, increases compliance on average. But for some people, a particular strategy leads to *lower* compliance. These people do not respond adversely to every strategy. For example, like Joey, some people who respond negatively to authority respond positively to consensus.

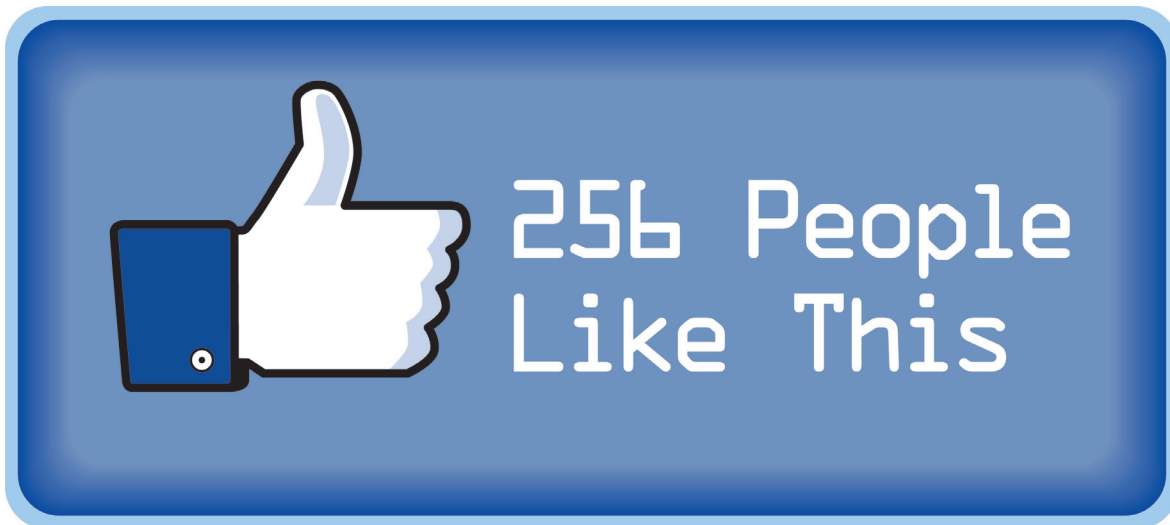
an explanation of why a particular book was recommended.

Since persuasion profiles can be used across multiple contexts and without an individual’s knowledge, they sound scary and perhaps unethical. We contend they will be one of the marketing currencies of the future. Persuasion profiles can be created, used, shared, and sold [1]. And for Joey, for now, it was for the better.

Joey can’t sleep—he’s too excited about going to school tomorrow wearing the new jeans his dad bought him. He’s lost 15 pounds over the last few

near future, how should we respond to it as technology designers, as individuals, and as a society? That is, how can we imagine the effects of widespread persuasion profiling? The Envisioning Cards [4], a set of prompts that help a design team anticipate the ethical implications of new technologies, can help spark our moral imagination.

The cards fall into four major categories. *Stakeholders* cards help designers consider effects for intended users, unintended users, and non-users. *Time* cards suggest long-term perspectives on technol-



Joey had no clue that the SNS collected this type of information, nor was he aware of the use or effectiveness of influence strategies. This, too, makes the persuasion profile distinct from the kinds of online profiles with which we are already familiar. Even if we don’t understand exactly how it works, we know that Amazon.com profiles our book preferences because we see that its recommendations relate to our past purchases. This profiling is disclosed and somewhat transparent. We can even click to get

months—earning many thumbs-up along the way from his new friends online. He goes down to the kitchen to get a glass of water. On the stairs, he overhears his parents talking—maybe about him. “Such a miracle”... “never would have done anything on his own”... “good thing I found out”.... Found out what? Suddenly worried, Joey listens a bit more and then quietly heads back upstairs.

Envisioning Futures

Given the possibility of persuasion profiling emerging now and in the

ogy use. *Values* cards help designers envision impacts of the technology on values, such as privacy, inclusivity, self-efficacy, and trust. Finally, cards focused on *pervasiveness* support imagining the technology’s potential effects outside the context for which it was originally designed. Each card suggests an activity or poses a question. For example, the Value Tension card states, “Value tensions occur when supporting one value challenges another value. They can occur within a single individual (honesty

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vs. kindness), between individuals (conformity vs. autonomy), between an individual and a group (individual privacy vs. national security), or across different groups (a culture that values independence vs. a culture that values interdependence).” The card directs each team member to write down two values they would like the technology to support and then pass their list to the left; each person then identifies values that may conflict with the desired values listed.

During the 2010 International Conference on Persuasive Technology in Copenhagen, five participants applied the Envisioning Cards to persuasion profiling in the context of a pervasive SNS (Facebook). Here, we discuss how two particular cards led to Joey’s scenario.

The first card, Value Tensions, led us to think about tensions—and congruence—between the values of advertisers and those of SNS users. Whereas benefits for advertisers are obvious, we now also focused on possible benefits to the users themselves. For example, persuasion profiling could boost the effectiveness of applications designed to help people change their own behavior, such as by suggesting timely strategies for avoiding overeating. And

whereas before we had been thinking of persuasion profiles applied automatically, without humans in the loop, we realized that users might want to share their own profiles with trusted friends and family who are helping them meet their goals, consistent with the SNS values of connectedness and sharing.

That said, our scenario would never have focused on Joey without the direction to *consider children*: “Children often appropriate systems designed for adults. How might this system influence children’s social and moral development?” We asked, what about an 11-year-old on a SNS? We have long been concerned about children’s susceptibility to advertising; persuasion profiling could make ads even more effective. To protect children and families, should children never be profiled? Or should parents have control over children’s persuasion profiles? As in our scenario, parents might use persuasion profiling to influence children to do what is best for them. At the same time, would it harm children’s growing self-determination? If kids learn they are being manipulated, it could damage the trust between them and their parents. Or could persuasion profiles become a tool for self-knowledge, enabling kids to resist persuasion?

Originally, our vision of persuasion profiles was focused on using them with adults in commerce and health applications; considering just a few cards opened possibilities that we had not considered before—both dark scenarios and desirable uses. Our scenario with Joey is but one example of the possible alternative uses inspired by the Envisioning Cards. Using the cards revealed tensions not only between the use of this powerful tool to good and bad ends, but also between making persuasion effec-

tive and respecting the privacy and autonomy of the individual.

Policy Implications

Combining these two pieces—evidence that suggests persuasion profiling is effective, and a method for envisioning future use—gives us the opportunity to proactively discuss the policy implications of persuasion profiling.

A close analogue to persuasion profiling is behavioral advertising, in which individuals are presented with different advertisements based on inferences from their prior behavior. Persuasion profiling can be thought of as behavioral advertising in which not the *ends* (the promoted products) but rather the *means* (the ways in which products are promoted) are tailored to the individual.

Currently, behavioral advertising is subject to more general laws about advertising and Web-browser cookies, which are the primary means by which individuals are tracked for behavioral advertising. In the U.S., the Children’s Online Privacy Protection Act (COPPA) limits online collection of information about children, with the aim of protecting children from undesirable marketing practices; it authorizes the Federal Trade Commission (FTC) to enact updates to COPPA rules for new technologies. For all consumers, the FTC recommends “transparency and consumer control” [7]. The Interactive Advertising Bureau, an industry self-regulation group, has been lauded for developing a universal online behavioral advertising icon, which notifies users of the advertising and explains how users can opt out [8].

In Europe, the Privacy and Electronic Communications (PEC) Directive requires users’ consent for storing cookies on their computers.

The PEC Directive has been widely interpreted as requiring disclosure and the opportunity to opt out. However, the Article 29 Working Party's June 2010 Opinion on behavioral advertising argues that opt-outs are rarely sufficient to meet PEC's requirements for consent; opt-in consent is necessary. Although this Opinion is not itself a law, it is likely to guide further regulation and enforcement [8].

Should persuasion profiling be considered identical to behavioral advertising in the context of government regulation or industry self-regulation? The analogy between behavioral advertising and persuasion profiling is limited. Behavioral advertising often *benefits* from some degree of transparency. Advertisements and recommendations that are ostensibly tailored to individuals' interests are more persuasive, so transparency benefits both the advertiser and its customers. By contrast, social science findings indicate that influence strategies become less effective once their use is pointed out to users. Revealing that an ad uses a particular influence strategy only undermines the ad's persuasiveness. Unfortunately, we expect that the same applies when persuasion profiling is used not for advertising but for supporting one's own goals. Transparency could have left Joey obese, rather than proud of his successes.

Then how should persuasion profiling be regulated? We are of two minds.

On the one hand, persuasion profiling without transparency and user control seems manipulative: Profiling should require explicit consent. In addition to transparency, the FTC recommends "special treatment of sensitive data" [7]. Arguably, a persuasion profile

would constitute such "sensitive data"; it is psychologically intimate and potentially damaging due to its context-independence. Opt-in consent seems problematic for advertisers. Although it's clear why consumers would permit advertisers to profile their interests, it's unclear why consumers would cooperate with advertisers' efforts at psychological profiling. But this doesn't doom persuasion profiling altogether. In the context of supporting one's own goals, one might indeed consent to be profiled.

On the other hand, persuasion profiling could be used beneficially in many applications. Regulating too strictly, too soon, could prevent the development of effective techniques. Though these techniques will likely originate in commerce, they may eventually promote social goods, such as health. Thus, is the greater concern that overly restrictive regulation could stifle beneficial innovations, or conversely, that a lack of regulation opens Web users to being harmed without their knowledge? Does the balance shift over time as applications of persuasion profiling emerge and become pervasive, or is this a matter that demands a strong response at the beginning?

Conclusion

Persuasion profiling could greatly benefit businesses, individuals, and society, while at the same time leaving us more vulnerable to unwanted influences. This contrast requires the active engagement of policy makers before persuasion profiling becomes commonplace, with all of its associated dangers and benefits. Although persuasion profiling might fall within the realm of emerging regulation of behavioral advertising, we argue that it is a distinct technique with distinct uses, risks, and

benefits. We invite an active discussion among designers and policy makers to ensure responsible future use of this emerging technology.

ENDNOTES:

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