
Physicians under the Influence: Social Psychology and Industry Marketing Strategies

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*It is easier to resist at the beginning
than at the end.*

– Leonardo da Vinci¹

Physicians often believe that a conscious commitment to ethical behavior and professionalism will protect them from industry influence. Despite increasing concern over the extent of physician-industry relationships, physicians usually fail to recognize the nature and impact of subconscious and unintentional biases on therapeutic decision-making.² Pharmaceutical and medical device companies, however, routinely demonstrate their knowledge of social psychology processes on behavior and apply these principles to their marketing. To illustrate how pharmaceutical marketing strategies use psychological techniques to promote targeted therapies, we draw on the relevant social psychology literature on conflicts of interest and on the six principles of influence articulated by the eminent social psychologist Robert Cialdini.³ Hospitals, professional organizations, medical educators, and other stakeholders must also draw on social psychology to respond effectively to commercial activities that compromise good medical practice.

Believing Biased Information

An extensive literature describes how pharmaceutical firms use financial and nonfinancial inducements to influence health care providers' attitudes and decision-making.⁴ Financial inducements include honoraria, gifts, speakers' fees, unrestricted education grants, sponsored research, and other funding and resources. Nonfinancial inducements include the use of deference, the opportunity to be revered as an expert, and publication productivity facilitated by industry-funded ghostwriters that furthers the health care professional's career.

Physicians often do not recognize their vulnerability to commercial information and subtle selling techniques. Studies suggest that although physicians believe they can extract objective information

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from sales pitches, they routinely fail to distinguish between correct and incorrect information provided by sales representatives.⁵ One study found that physicians' beliefs regarding two commonly used drugs correlated more strongly with promotional than with scientific materials, despite the physicians' claim that they accorded scientific materials more weight.⁶

People are more strongly influenced by messages delivered with confidence and do not take the trouble to ascertain the accuracy of these messages if doing so requires effort or money.⁷ Moreover, people often

serving bias.¹⁶ Educational interventions to reduce bias generally succeeded in convincing people only that their negotiating opponent could be biased, not that they themselves could be. Even people who conceded that they could be biased tended to drastically underestimate how biased they were.¹⁷

Professionalism and Cognitive Dissonance

Professionalism may help to avoid intentional corruption, but cannot reduce unintentional subconscious bias. While articulating and believing in the importance of scientific objectivity, physicians' biases to

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anchor on initial information given to them even after discovering it to be inaccurate or irrelevant.⁸ These cognitive biases may explain the overuse of expensive branded drugs, including the over prescription of second-generation antipsychotics in the face of research showing that first-generation antipsychotics are equivalent or superior.⁹

Self-Serving Biases

Physicians' mistaken belief that they are immune to marketing aligns with research showing that people rationalize and believe what they want to believe.¹⁰ For example, studies consistently show that promotion increases the prescription of targeted drugs,¹¹ yet research also finds that physicians believe their own prescribing behavior is unaffected by industry influence, although they concede that other physicians are susceptible to such influence.¹² As Jason Dana and George Loewenstein note, "It cannot both be true that most physicians are unbiased and that most other physicians are biased."¹³ Social psychology research confirms that people have a "bias blind spot"; namely, they are more likely to identify the existence of cognitive and motivational biases in others than in themselves.¹⁴ Furthermore, educating people about their own self-serving biases does not eliminate those biases.¹⁵ Similar outcomes have been documented in experimental bargaining settings that examine self-

accept industry gifts create cognitive dissonance; that is, discomfort that arises from a discrepancy between conflicting beliefs, or between beliefs and behaviors. Competing cognitions create pressure that must be resolved. Cognitive dissonance theory specifies three methods — not mutually exclusive — by which people manage or reduce dissonance: ¹⁸ (1) *changing one of the dissonant beliefs, opinions, or behaviors* (possibly a difficult or painful process that requires sacrificing a pleasurable behavior or treasured belief); (2) *lowering the importance of one of the discordant factors* (which can be accomplished by denial — forgetting or rejecting the significance of one or more of the conflicting cognitions); and (3) *adding consonant elements* that resolve or lessen dissonance (this may involve rationalizations to buffer the dissonance between conflicting cognitions).

Susan Chimonas and colleagues¹⁹ identified various denials and rationalizations used by physicians to reduce cognitive dissonance regarding their relationships with drug reps. Denial included (a) avoiding thinking about the conflict of interest, (b) rejecting the notion that industry relationships affect physician behavior, and (c) disavowing or universalizing responsibility for problems that arose from conflicts of interest ("there's always a conflict of interest..."). Rationalizations included (a) asserting techniques that would help maintain impartiality and (b) reasoning that

meetings with drug reps were educational and benefited patients.

Sense of Entitlement

Most physicians view the favoring of self-interest over profession obligations with repugnance. Physicians express indignation at the suggestion that accepting gifts or compensation affects therapeutic choices because they understand that such an exchange would mean they have made a deliberate decision to act unethically.²⁰ Physicians, who would never, for example, engage in a *quid pro quo* exchange of money for prescriptions, may believe that such a conscious and genuine commitment to ethical behavior renders them immune to commercial influence.²¹ This righteous but wrong assumption derives from not knowing that many psychological processes occur below conscious awareness.

A famous slogan in advertising history, cosmetic company L'Oréal's "Because I'm worth it," coined in 1973, was a daring declaration of confident entitlement.²² In a recent article, Sunita Sah and George Loewenstein investigated a self-serving rationalization for the acceptance of gifts and industry compensation: physicians' sense of entitlement and belief that "they are worth it."²³ Both implicit and explicit rationalizations were shown to alter physicians' sense of entitlement to industry-funded benefits.

In the study, family medicine and pediatrics residents were randomized to one of three online surveys that asked the same questions but ordered differently. Doctors in the "implicit reminders" group were first asked about sacrifices they had made in pursuit of their medical education and about their working conditions, then asked about the acceptability of receiving industry-funded gifts such as sponsored continuing medical education, sponsored research, payment for talks, and office and personal gifts. Doctors in the "explicit rationalization" group were also first asked about their sacrifices and working conditions and were then asked to indicate their level of agreement with the statement: "Some physicians believe that the stagnant salaries and rising debt levels prevalent in the medical profession justifies accepting gifts and other forms of compensation and incentives from the pharmaceutical industry." Finally, they were asked the questions about the acceptability of accepting industry-funded gifts. Doctors in the control group were asked first about gift acceptability and then about

personal sacrifices and whether such sacrifices justify accepting gifts.

Implicitly reminding physicians of the burdens of medical training and their working conditions more than doubled their reported willingness to accept gifts, from 22 percent in the control group to 48 percent. Providing the explicit potential rationalization boosted reported willingness to accept gifts to 60 percent, despite the fact that the majority of physicians

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responded negatively to the rationalization itself. This implies that rationalizations rejected on a conscious level can nevertheless help us unconsciously rationalize questionable behavior.

Principles of Influence

Robert Cialdini and his colleagues identified six principles of influence and persuasion: reciprocation, commitment (and consistency), social proof, liking, authority, and scarcity.²⁴ Social psychology research has demonstrated that these principles are used to subtly influence decisions.

Reciprocity

The norm of *reciprocity* — the obligation to help those who have helped you — is one of the guiding principles of human interaction.²⁵ In many cultures, accepting a gift without reciprocation is socially unacceptable. The relationship between physicians and industry exhibits noticeable similarities with the formalized gift-giving rituals of leaders negotiating conflict settlements documented by anthropologist Marcel Mauss.²⁶ Physicians pay back industry gifts through changes in their practice.²⁷ Michael Oldani, an anthropologist and former drug rep, says that "the importance of developing loyalty through gifting cannot be overstated."²⁸ As he explains, "The essence of pharmaceutical gifting is... 'bribes that aren't considered bribes.'"²⁹

Gene Carbona, another former drug rep, tells the story of how he persuaded Astra Merck, his employer, to pay for a practice management consultant to advise a multispecialty practice of 50 physicians on how to maximize its profits.³⁰ The consultant was told that "if

he were successful there would be more business for him in the future, and by *successful*, we meant a rise in prescriptions for our drugs.” The consultant reminded the doctors of the valuable service Carbona had provided to them and the grateful doctors did indeed reciprocate; their prescriptions for Astra Merck drugs increased.

Anthropologists view gift-giving as an economic exchange between different, often opposing, groups; it is not “voluntary, spontaneous, or disinterested.”³¹ Industry provides gifts of many forms at all levels. At the national level, for example, there are industry grants to national medical organizations and public-private partnerships, in which industry co-funds projects with federal agencies. At the institutional level, industry provides educational grants for grand rounds and journal clubs (meetings in which physician trainees analyze articles from the medical literature), and also funds continuing medical education.³² Medical device companies also regularly provide travel expenses to surgical residents so they can visit facilities to practice implanting the company’s medical devices. Finally, at the individual level, fees for research, consulting, or speaking, and gifts of meals, medical equipment, and books are commonplace.

Gifts associated with a subtle implicit request may be more likely to achieve compliance than gifts that call for an explicit reciprocation. The pens, pads, mugs, and other inexpensive “reminder” items that the pharmaceutical industry lavished on physicians until 2008, when the Pharmaceutical Research and Manufacturers Association revised its Code on Interactions with Healthcare Professionals,³³ kept brand names uppermost in physicians’ minds (known as “top of mind” by industry) while triggering reciprocity norms. “Reps know that gifts create a subconscious obligation to reciprocate,” states Shahram Ahari, a physician and former drug rep. “Gifts are used to enhance guilt and social pressure.”³⁴

The common belief that low-value gifts, such as calendars and coffee mugs, are not enough to influence a doctor’s professional behavior reflects the misperception that professionals consciously trade off the risk of bias against the benefit of receiving the gift. In fact, gifts of negligible value can influence the gift recipient in ways which they are not aware of.³⁵ An experimental study conducted by Ulrike Malmendier and Klaus Schmidt,³⁶ for example, revealed that a small gift strongly affected recipients’ decisions in favor of the gift-giver, even at the expense of a third party. Even subjects aware that the gift was given with the intention of influencing behavior reciprocated. Another study demonstrated that raffle tickets were much more likely to be bought by participants who received

the trivial gift of a soft drink than by those who did not receive a gift.³⁷ Unlikable characteristics in a gift-giver reduced, but did not eliminate, the perceived obligation to reciprocate.

Hershey Friedman and Ahmed Rahman conducted an experiment in a restaurant to determine the effects of being greeted upon entry and receiving a small gift (either a cup of yogurt or an inexpensive key chain). Customers who received a greeting and either of the two gifts spent considerably more money (on average, 46 percent more), rated the restaurant more highly, and recommended the establishment more strongly than those who received no gift or greeting.³⁸ But while a gift to a restaurant patron may increase the patron’s own bill, a gift to a physician ends up increasing the bill for patients and insurance providers.

Commitment and Consistency

The pharmaceutical industry is well aware of the power of small commitments, which is why drug reps ask, for example, “Will you try my drug on your next five patients with diabetes?” Agreeing to a small request like that increases the likelihood that the physician will start using the targeted drug. Physicians who agree to such statements casually — maybe even just to make the sales rep go away — may then feel an obligation to keep their word.³⁹ Drug reps are able to track physicians’ prescribing,⁴⁰ and those physicians who have not yet honored their commitments may be reminded and encouraged yet again to try the drug.

Consistency is highly valued in our society and associated with rationality and stability.⁴¹ After committing to a decision or opinion, people justify that choice or opinion by remaining consistent with it. Bettors at a racetrack are much more confident that their horse will win after they have bet on it.⁴² By extension, a physician will be more positive about a drug after rather than before prescribing it. Written commitments — and a prescription is a written commitment — are even more effective than oral commitments in changing behavior.⁴³ After prescribing a drug several times, a physician may persuade himself or herself that the drug really is the best choice.

A significant commitment becomes more likely in the wake of a small commitment or even of agreement with a statement. In one experiment, the number of people who agreed to let a representative of the Hunger Relief Committee visit their homes to sell cookies nearly doubled when the telephone solicitor first asked, “How are you feeling this evening?” and waited for the inevitable response of “Fine” or “Good,” compared to a control statement of “I hope you are

feeling well this evening.” The reflexive statement attesting to one’s own well-being subconsciously made it harder to subsequently refuse to help the less fortunate.⁴⁴

Social Proof

If accepting industry gifts is a cultural norm in medicine, physicians will continue to do so. The opinions of colleagues are often used by industry representatives to sway physicians to adopt a particular therapy. *Social proof*, also referred to as *social validation* or *conformity*, is the practice of deciding what to do by looking at what others are doing.⁴⁵

Social proof can also augment — or undermine — official academic policies. Trainees in an institution, for example, are affected by the institution’s stated policies but also — and sometimes more so — by what they see their mentors do. A recent study of 14 U.S. medical schools that restricted industry gifts found that physicians who had graduated from the schools after the gift restriction policies had been implemented were less likely to prescribe two of three newly introduced psychotropic medications than those who had graduated prior to the gift restrictions.⁴⁶ Another study found that Lipitor (atorvastatin) promotional items favorably affected implicit attitudes towards Lipitor amongst fourth-year medical students at the University of Miami, Miller School of Medicine, but negatively affected implicit attitudes towards Lipitor amongst fourth-year students at University of Pennsylvania School of Medicine, which has strong restrictive policies on pharmaceutical marketing.⁴⁷

A systematic review of 32 studies that examined medical students’ interactions with industry found that student attitudes towards industry generally aligned with the policies of their schools, and students in schools that restricted industry access were more skeptical about marketing messages than students in schools that did not restrict industry access.⁴⁸ Conversely, eight studies found that the frequency of contact between students and industry representatives correlated with favorable attitudes toward industry interactions.

Disturbingly, however, students’ attitudes tended to become more favorable towards industry as their training progressed from the preclinical to the clinical years. Only 29 to 62 percent of preclinical students reported that promotional information provides useful information about new drugs, but 53 to 71 percent of clinical students did.⁴⁹ This apparent attitude drift may help explain why graduates of programs that limit or prohibit interactions with industry representatives are just as likely as graduates of programs without such restrictions to see drug reps in their practices.⁵⁰

Trainees forbidden to interact with drug reps may still interact with mentors who receive industry compensation for speaking, consulting, or research. The effect of observing trusted mentors accepting hospitality and funds from industry may be more powerful than the influence of institutional policies or formal curricula. The example set by educators has been called the “hidden curriculum.”⁵¹ Policies not strongly supported by faculty are likely to have only a limited effect on trainees because social proof, when it conflicts with institutional policies, tends to prevail.

Liking

Liking, or rapport, increases with familiarity; that is, with the frequency of interactions and the duration of a relationship. Drug reps expend considerable effort befriending physicians. “I frame everything as a gesture of friendship,” states Shahram Ahari, a former drug rep. “I give them free samples not because it’s my job, but because I like them so much. I provide office lunches because visiting them is such a pleasant relief from all the other docs. My drugs rarely get mentioned by me during our dinners.”⁵² “You are absolutely buying love,” says Jamie Reidy, a former pharmaceutical sales representative.⁵³ Jordan Katz, also a former pharmaceutical sales representative, says that “a lot of doctors just write [prescriptions] for who they like.”⁵⁴

Physicians often feel overworked, underpaid, and unappreciated. Drug reps dispense sympathy, flattery, food, gifts, services, and income-enhancing opportunities and seem to ask nothing in return but scholarly consideration of the benefits of their drugs. In fact, drug reps will often not continue relationships with physicians who are not prescribing a targeted drug or otherwise helping boost its market share.⁵⁵

Authority and Scarcity

The pharmaceutical and medical device industry engages “key opinion leaders” (KOLs) — typically high-status, respected, academic physicians — to influence and guide their peers.⁵⁶ The industry’s use of opinion leaders is clearly a use of *authority*, but is also a use of *scarcity* — the concept that opportunities are more valuable when they are limited; not every physician is eligible for the plum job of KOL.

For physicians, having KOL status is attractive. Research funding, consulting fees, and increased publication productivity through industry-funded ghostwriting can help a KOL’s career. KOLs also receive the cherished psychological reward of being acknowledged as special and important.⁵⁷ Erick Turner, a psychiatrist who spoke for the industry, said of being a KOL: “It strokes your narcissism...They make you feel like you’re special...The first thing they do is ferry you

to a really nice hotel. And sometimes they pick you up in a limo, and you feel very important, and they have really, really good food....”⁵⁸

From an industry perspective, the best KOLs radiate status and authority while successfully convincing their peers (and perhaps themselves) of their illusory independence and lack of bias. Former rep Shahrām Ahari states, “I was always in pursuit of friendly ‘thought leaders’ to groom for the speaking circuit.... Local speaking gigs are also auditions.... Subtle and

meal.⁶⁶ The combined effects of authority and social proof may have lasting effects on trainees’ attitudes.

Discussion

Pharmaceutical companies and medical device manufacturers anticipate a return on their investment of billions of dollars on promotion. The effectiveness of specific marketing messages is calculated on the basis of uplifts in prescriptions or medical device sales from sales rep visits, gifts, meetings, continuing

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tactful spokespersons were the ideal candidates.” Ahari noted that physicians were evaluated for their allegiance to the company’s drug and that speakers “with charisma, credentials, and an aura of integrity” had a chance to be elevated to the national circuit.⁵⁹

KOL speakers not only influence audience members’ prescribing behavior,⁶⁰ but also — as predicted by cognitive dissonance theory⁶¹ — become more convinced themselves of the benefits of the products they endorse. Experimental evidence demonstrates that people forced to improvise a speech convince themselves of the stand taken; one’s private opinion often changes to correspond with one’s overt behavior.⁶² Research on conformity further supports the concept that publicly exhibited norms are gradually internalized.⁶³

Physicians who speak on behalf of drug companies often use company-provided slides. That these physicians often, in our experience, use the same slides when giving non-industry-funded talks is an example both of mitigating one’s cognitive dissonance (“I’m not a puppet of industry; I happen to agree with what is in these slides”) and of aligning one’s private behavior with one’s publicly declared messages. This view is bolstered by the fact that opinion leaders’ own prescribing practices favor their sponsors’ drugs.⁶⁴ Industry-paid speakers were almost 30 times as likely to request that specific drugs be added to a hospital formulary as physicians who were not paid by industry.⁶⁵

A more direct form of authority is invoked in training settings. Fred Sierles found that 93 percent of third-year medical students had been requested or required by a superior to attend an industry-sponsored

medical education seminars, and so on. Companies use “response curves” demonstrating the differential impact of different promotions on sales of a specific drug to optimize their marketing investments by targeting the right doctors with the right message at the right frequency through the right channel. This rational, highly sophisticated marketing behavior serves the pharmaceutical business model of optimizing profits, but not the needs of physicians and patients.

Industry uses principles of social psychology to manipulate prescribing behavior; physicians unaware of such subtle influences will not try to avoid the resulting conflicts of interest. Amongst people in general, unrealistic optimism — that is, the belief that one is less at risk of a specified hazard than one’s peers — is independent of age, gender, and educational or occupational group.⁶⁷ Because people do not attempt to avoid risks to which they do not consider themselves susceptible, the first step towards increasing physicians’ resistance to industry influence is for them to understand and accept that they *are* individually vulnerable to subconscious bias. An educational slideshow, “Why Lunch Matters,” presented nationally at grand rounds and seminars, is the first intervention shown to increase physicians’ and medical students’ awareness of their own susceptibility to industry marketing. Designed to first induce a sense of vulnerability and then expose manipulative marketing practices, the module changed the attitudes of attending physicians, residents, and students, particularly in questions addressing influence of salespeople on physicians in general and on the respondent individually.⁶⁸

Physicians must resist industry influence. A culture in which the acceptance of gifts engenders shame in physicians will make the practice of accepting gifts less common and mitigate the social norm of reciprocity. If a critical mass of respected physicians avoids being placed in positions of indebtedness to industry and if greater academic prestige accrues to an arms-length rather than to a close relationship with industry, then a new social norm may emerge that rejects transactions fraught with conflicts of interest. That norm would promote rather than undermine patient care and scientific integrity.

The illusion that industry is a generous, avuncular partner to physicians is the cornerstone of a sophisticated, multifaceted process of pharmaceutical and medical device promotion. Subconscious biases render physicians unable to assess the effects of conflicts of interest. In addition to educating faculty and students about the social psychology underlying such manipulative marketing techniques and how to resist them, academic medical institutions need to counteract the medical profession's improper dependencies on industry by enacting strong policies and regulations.

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References

1. E. McCurdy, *The Mind of Leonardo da Vinci* (New York: Dover Publications, 2005): at 23.
2. S. Sah, "Conflicts of Interest and Your Physician: Psychological Processes That Cause Unexpected Changes in Behavior," *Journal of Law, Medicine & Ethics* 40, no. 3 (2012): 482-487.
3. R. B. Cialdini, *The Psychology of Persuasion* (New York: Quill William Morrow, 1984).
4. A. Wazana, "Physicians and the Pharmaceutical Industry: Is a Gift Ever Just a Gift?" *JAMA* 283, no. 3 (2000): 373-380; J. P. Orlowski and L. Wateska, "The Effects of Pharmaceutical Firm Enticements on Physician Prescribing Patterns. There's No Such Thing as a Free Lunch," *Chest* 102, no. 1 (1992): 270-273; M. M. Chren and C. S. Landefeld, "Physicians' Behavior and Their Interactions with Drug Companies," *JAMA* 271, no. 9 (1994): 684-689; C. Elliott, *White Coat, Black Hat: Adventures on the Dark Side of Medicine* (Boston: Beacon Press, 2010).
5. A. F. Shaughnessy, D. C. Slawson, and J. H. Bennett, "Separating the Wheat from the Chaff," *Journal of General Internal Medicine* 9, no. 10 (1994): 563-568; W. Molloy, D. Strang, G. Guyatt, J. Lexchin, M. Bédard, S. Dubois, and R. Russo, "Assessing the Quality of Drug Detailing," *Journal of Clinical Epidemiology* 55, no. 8 (2002): 825-832.
6. J. Avorn, M. Chen, and R. Hartley et al., "Scientific Versus Commercial Sources of Influence on the Prescribing Behavior of Physicians," *American Journal of Medicine* 73, no. 1 (1982): 4-8.
7. S. Sah, D. A. Moore, and R. MacCoun, "Cheap Talk and Credibility: The Consequences of Confidence and Accuracy on Advisor Credibility and Persuasiveness," *Organizational Behavior and Human Decision Processes* 121, no. 2 (2013): 246-255.
8. A. Tversky and D. Kahneman, "Judgment Under Uncertainty: Heuristics and Biases," *Science* 185, no. 4157 (1974): 1124-1131; F. Strack and T. Mussweiler, "Explaining the Enigmatic Anchoring Effect: Mechanisms of Selective Accessibility," *Journal of Personality and Social Psychology* 73, no. 3 (1997): 437-446; I. Skurnik, C. Yoon, D.C. Park, and N. Schwarz, "How Warnings about False Claims Become Recommendations," *Journal of Consumer Research* 31, no. 4 (2005): 713-724.
9. M. Makhinson, "Biases in Medication Prescribing: The Case of Second-Generation Antipsychotics," *Journal of Psychiatric Practice* 16, no. 1 (2010): 15-21.
10. See Sah, *supra* note 2; S. Sah and G. Loewenstein, "Effect of Reminders of Personal Sacrifice and Suggested Rationalizations on Residents' Self-reported Willingness to Accept Gifts: A Randomized Trial," *JAMA* 304, no. 11 (2010): 1204-1211.
11. N. Lurie, E. C. Rich, D. E. Simpson, J. Meyer, D. L. Schiedermayer, J. L. Goodman, and W. P. McKinney, "Pharmaceutical Representatives in Academic Medical Centers," *Journal of General Internal Medicine* 5, no. 3 (1990): 240-243; A. Wazana, "Physicians and the Pharmaceutical Industry: Is a Gift Ever Just a Gift?" *JAMA* 283, no. 3 (2000): 373-380; M. M. Chren and C. S. Landefeld, "Physicians' Behavior and Their Interactions with Drug Companies: A Controlled Study of Physicians Who Requested Additions to a Hospital Drug Formulary," *JAMA* 271, no. 9 (1994): 684-689.
12. W. P. McKinney, D. L. Schiedermayer, N. Lurie, D. E. Simpson, J. L. Goodman, and E. C. Rich, "Attitudes of Internal Medicine Faculty and Residents toward Professional Interaction with Pharmaceutical Sales Representatives," *JAMA* 264, no. 13 (1990): 1693-1697; M. A. Steinman, M. G. Shlipak, and S. J. McPhee, "Of Principles and Pens: Attitudes and Practices of Medicine Housestaff toward Pharmaceutical Industry Promotions," *American Journal of Medicine* 110, no. 7 (2001): 551-557; S. K. Sigworth, M. D. Nettleman, and G. M. Cohen, "Pharmaceutical Branding of Resident Physicians," *JAMA* 286, no. 9 (2001): 1024-1025.
13. J. Dana, and G. Loewenstein, "A Social Science Perspective on Gifts to Physicians from Industry," *JAMA* 290, no. 2 (2003): 252-255.
14. E. Pronin, D. Y. Lin, and L. Ross, "The Bias Blind Spot: Perceptions of Bias in Self Versus Others," *Personality and Social Psychology Bulletin* 28, no. 3 (2002): 369-391; E. Pronin, T. Gilovich, and L. Ross, "Objectivity in the Eye of the Beholder: Divergent Perceptions of Bias in Self Versus Others," *Psychological Review* 111, no. 3 (2004): 781-799.
15. E. Pronin, T. Gilovich, and L. Ross, "Objectivity in the Eye of the Beholder: Divergent Perceptions of Bias in Self Versus Others," *Psychological Review* 111, no. 3 (2004): 781-799; L. Babcock, G. Loewenstein, and S. Issacharoff, "Creating Convergence: Debiasing Biased Litigants," *Law & Social Inquiry* 22, no. 4 (1997): 913-925.
16. L. Babcock and G. Loewenstein, "Explaining Bargaining Impasse: The Role of Self-Serving Biases," *Journal of Economic Perspectives* 11, no. 1 (1997): 109-126; L. Babcock, G. Loewenstein, S. Issacharoff, and C. Camerer, "Biased Judgments of Fairness in Bargaining," *American Economic Review* 85, no. 5 (1995): 1337-1343; G. Loewenstein, S. Issacharoff, C. Camerer, and L. Babcock, "Self-Serving Assessments of Fairness and Pretrial Bargaining," *Journal of Legal Studies* 22, no. 1 (1993): 135-159.
17. *Id.* (Babcock and Loewenstein, "Explaining Bargaining Impasse: The Role of Self-Serving Biases," *Journal of Economic Perspectives* 11, no. 1 (1997): 109-126.
18. L. Festinger, *A Theory of Cognitive Dissonance* (Stanford University Press, 1957): at 1-31.
19. S. C. Chimonas, T. A. Brennan, and D. J. Rothman, "Physicians and Drug Representatives: Exploring the Dynamics of the Relationship," *Journal of General Internal Medicine* 22, no. 2 (2007): 184-190.
20. See *supra* note 2.
21. S. Sah and R. Larrick, "I Am Immune: A Sense of Invulnerability Predicts Increased Acceptance of, and Influence from, Conflicts of Interest," *Research in Progress* (2013); E. Pronin, D. Y. Lin, and L. Ross, "The Bias Blind Spot: Perceptions of Bias in Self Versus Others," *Personality and Social Psychology Bulletin* 28, no. 3 (2002): 369-391.
22. L'Oréal Paris, available at http://www.loreal-paris.co.uk/_en/_gb/lorealinsider/news-and-reviews/news-article.

- aspx?cat=Skincare&id=201203_News029> (last visited July 2, 2013).
23. See S. Sah, and G. Loewenstein, "Effect of Reminders of Personal Sacrifice and Suggested Rationalizations on Residents' Self-reported Willingness to Accept Gifts: A Randomized Trial," *JAMA* 304, no. 11 (2010): 1204-1211.
 24. R. B. Cialdini, *Influence: The Psychology of Persuasion* (New York: HarperBusiness, 2006); N. J. Goldstein, S. J. Martin, and R. B. Cialdini, *Yes!: 50 Scientifically Proven Ways to Be Persuasive* (New York: Free Press, 2008).
 25. See Cialdini, *supra* note 24, at 17-56.
 26. M. Mauss, *The Gift: The Form and Reason for Exchange in Archaic Societies* (London: Routledge, 2006).
 27. C. Mather, "The Pipeline and the Porcupine: Alternate Metaphors of the Physician-Industry Relationship," *Social Science Medicine* 60, no. 6 (2005): 1323-1334.
 28. M. M. Oldani, "Thick Prescriptions: Toward an Interpretation of Pharmaceutical Sales Practices," *Medical Anthropology Quarterly* 18, no. 3 (2004): 325-356.
 29. See Elliott, *supra* note 4, at 63.
 30. *Id.*, at 55-56.
 31. See *supra* note 27.
 32. See, M. Rodwin, "Five Un-Easy Pieces to Pharmaceutical Policy Reform," *Journal of Law, Medicine & Ethics* 41, no. 3 (2013): 581-589.
 33. PhRMA Code on Interactions with Healthcare Professionals, available at <http://phrma.org/sites/default/files/pdf/phrma_marketing_code_2008-1.pdf> (last visited April 8, 2013).
 34. A. Fugh-Berman and S. Ahari, "Following the Script: How Drug Reps Make Friends and Influence Doctors," *PLoS Medicine* 4, no. 4 (2007): 621-625.
 35. See Cialdini, *supra* note 24, at 17-56; R. B. Cialdini, J. E. Vincent, S. K. Lewis, J. Catalan, D. Wheeler, and B. L. Darby, "Reciprocal Concessions Procedure for Inducing Compliance: The Door-in-the-Face Technique," *Journal of Personality and Social Psychology* 31, no. 2 (1975): 206-215; U. Malmendier and K. M. Schmidt, "You Owe Me," *Working Paper* (2011); H. Friedman and A. Rahman, "Gifts-Upon-Entry and Appreciatory Comments: Reciprocity Effects in Retailing," *International Journal of Marketing Studies* 3, no. 3 (2011): 161-164.
 36. *Id.* (Malmendier and Schmidt).
 37. D. T. Regan, "Effects of a Favor and Liking on Compliance," *Journal of Experimental Social Psychology* 7, no. 6 (1971): 627-639.
 38. See Friedman and Rahman, *supra* note 35.
 39. See *supra* note 33.
 40. A. Fugh-Berman, "Prescription Tracking and Public Health," *Journal of General Internal Medicine* 23, no. 8 (2008): 1277-1280.
 41. See Cialdini, *supra* note 24, at 57-113.
 42. R. E. Knox and J. A. Inkster, "Postdecision Dissonance at Post Time," *Journal of Personality and Social Psychology* 8, no. 4 (1968): 319-323.
 43. See *supra* note 40.
 44. D. J. Howard, "The Influence of Verbal Responses to Common Greetings on Compliance Behavior: The Foot-In-The-Mouth Effect," *Journal of Applied Social Psychology* 20, no. 14 (1990): 1185-1196.
 45. R. B. Cialdini, *Influence: Science and Practice* (Illinois: Scott, Foresman Glenview, 1985): at 116; S. E. Asch, "Studies of Independence and Conformity: I. A Minority of One Against a Unanimous Majority," *Psychological Monographs: General and Applied* 70, no. 9 (1956): 1-70; M. Deutsch, and H. B. Gerard, "A Study of Normative and Informational Social Influences upon Individual Judgment," *Journal of Abnormal and Social Psychology* 51, no. 3 (1955): 629-636.
 46. M. King, C. Essick, P. Bearman, and J. S. Ross, "Medical School Gift Restriction Policies and Physician Prescribing of Newly Marketed Psychotropic Medications: Difference-in-Differences Analysis," *BMJ* 346 (2013): 1-9.
 47. D. Grande, D. L. Frosch, A. W. Perkins, and B. E. Kahn, "Effect of Exposure to Small Pharmaceutical Promotional Items on Treatment Preferences," *Archives of Internal Medicine* 169, no. 9 (2009): 887-893.
 48. K. E. Austad, J. Avorn, and A. S. Kesselheim, "Medical Students' Exposure to and Attitudes about the Pharmaceutical Industry: A Systematic Review," *PLoS Medicine* 8, no. 5 (2011): 1-12.
 49. *Id.*
 50. B. B. McCormick, G. Tomlinson, P. Brill-Edwards, and A. S. Detsky, "Effect of Restricting Contact between Pharmaceutical Company Representatives and Internal Medicine Residents on Posttraining Attitudes and Behavior," *JAMA* 286, no. 16 (2001): 1994-1999; R. P. Ferguson, E. Rhim, W. Belizaire, L. Egede, K. Carter, and T. Lansdale, "Encounters with Pharmaceutical Sales Representatives among Practicing Internists," *American Journal of Medicine* 107, no. 2 (1999): 149-152.
 51. See Steinman et al., *supra* note 12; F. S. Sierles, A. C. Brodkey, L. M. Cleary, F. A. McCurdy, M. Mintz, J. Frank, and D. J. Lynn, et al., "Medical Students' Exposure to and Attitudes about Drug Company Interactions: A National Survey," *JAMA* 294, no. 9 (2005): 1034-1042.
 52. See *supra* note 33.
 53. See Elliott, *supra* note 4, at 64.
 54. *Id.*, at 56.
 55. See *supra* note 33.
 56. See, S. Sismondo, "Key Opinion Leaders and the Corruption of Medical Knowledge: What the Sunshine Act Will and Won't Cast Light On," *Journal of Law, Medicine & Ethics* 41, no. 3 (2013): 635-643.
 57. See Elliott, *supra* note 4; M. A. Steinman, G. M. Harper, M.-M. Chren, C. S. Landefeld, and L. A. Bero, "Characteristics and Impact of Drug Detailing for Gabapentin," *PLoS Medicine* 4, no. 4 (2007): 743-751.
 58. See Elliott, *supra* note 4, at 77.
 59. See *supra* note 33.
 60. S. E. Goldfinger, "A Matter of Influence," *New England Journal of Medicine* 316, no. 22 (1987): 1408-1409.
 61. L. Festinger, *A Theory of Cognitive Dissonance* (Stanford, CA: Stanford University Press, 1957); L. Festinger and J. M. Carlsmith, "Cognitive Consequences of Forced Compliance," *Journal of Abnormal and Social Psychology* 58, no. 2 (1959): 203-210.
 62. *Id.* (Festinger and Carlsmith).
 63. H. C. Kelman, "Attitude Change as a Function of Response Restriction," *Human Relations* 6, no. 3 (1953): 185-214.
 64. See Goldfinger, *supra* note 60; Chren and Landefeld, *supra* note 11.
 65. *Id.* (Chren and Landefeld).
 66. See Sierles et al., *supra* note 51.
 67. B. J. Sagarin, R. B. Cialdini, W. E. Rice, and S. B. Serna, "Dispelling the Illusion of Invulnerability: The Motivations and Mechanisms of Resistance to Persuasion," *Journal of Personality and Social Psychology* 83, no. 3 (2002): 526-541.
 68. A. Fugh-Berman, A. Scialli, and A. M. Bell, "Why Lunch Matters: Assessing Physician's Perceptions about Industry Relationships," *Journal of Continuing Education in the Health Professions* 30, no. 3 (2010): 197-204.