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The Impact of Risk Communication on Consumption and Consumer Well-Being

Ingrid M. Martin

Professor of Marketing
Director, Graduate Business Programs
College of Business
California State University
Long Beach, CA 90840, USA
Ingrid.martin@csulb.edu

David W. Stewart

President's Professor of Marketing and Business Law
Vice President, Publications
American Marketing Association
Department of Marketing
Loyola Marymount
1 LMU Drive
Los Angeles, CA 90045, USA
David.stewart@lmu.edu

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The Impact of Risk Communication on Consumption and Consumer Well-Being

Ingrid M. Martin¹ and David W. Stewart²

¹*California State University, CA 90840, USA; Ingrid.martin@csulb.edu*

²*Loyola Marymount University, CA 90045, USA;*

David.stewart@lmu.edu

ABSTRACT

In this monograph, we build on the risk communication and the psychology of information processing and decision-making literatures, while extending this work through an explicit discussion of the philosophical foundations of risk communication, regulations, and the implications for communication and policy decisions. In addition, we explore the multidimensional context in which individuals confront risks and make trade-offs with respect to the costs and benefits in specific situations. We discuss various examples of risk-related products and behaviors, which are offered to illustrate the issues that arise when addressing risk in a multidimensional context where scientific information is incomplete and/or ambiguous and there are economic and social costs, as well as benefits, associated with any policy related to communicating and managing risk.

Questions remain about how government and policy can respond to the increasing pace of technology change. The regulatory process is, by definition, slow and has difficulty keeping up with the accelerating dynamics of the

environment. Are there more responsive market mechanisms that can substitute for government regulation, while still providing protection to individuals? Finally, as society creates “safer” products and processes, there is the potential for triggering more severe risks as a result of the feeling of safety and security.

We invented the concept of risk to help us understand and cope with the dangers and uncertainties in life.

—Chauncey Starr (1969)

Life is filled with risks. People experience accidents, disease, adverse effects, natural disasters, and allergic reactions, even when they take actions to avoid them. Even the simple act of leaving home exposes a person to the possibility of an automobile accident, even as a pedestrian; to the criminal actions of others; to exposure to disease; to falling down stairs; and to a host of other hazards. However, staying home is even riskier, as the majority of injuries occur in the home (Centers for Disease Control and Prevention, 2018). Many of these risks are foreseeable; some are not. Moreover, some of these risks are greater for some people than others because of specific physical or physiological characteristics or differences in behavior and/or lifestyle. Some of these risks are associated with severe outcomes, serious injury, or even death, while others may be associated with more modest or trivial outcomes. The outcomes associated with some risks may be immediate, such as when one touches a hot stove, while the outcomes associated with other risks may take years to become evident, as may be the case for a chronic smoker.

Given the pervasive nature of risk and the many forms it can take, it is remarkable how well the human species has navigated a world filled with hazards. Fortunately, human beings have the capacity to learn and do not need to acquire knowledge of the outcomes associated with risk only through consumption experiences, though this remains a common form of learning. Rather, people learn from the collective experiences

of others, including the studies of scientists, health care professionals, and other experts who bring specialized tools to the study of risk. As a result, more is known now about various types of risks than at any other time in history.

Despite this accumulated knowledge, the multidimensionality of risk and the uncertainties associated with many types of risk make communications about risk a challenge. Providing meaningful and useful information to an individual about risk involves more than applying the labels “risky” and “not risky.” Informed risk-taking is a necessary element of human life, but several questions remain: (1) What information should be provided? (2) How should this information be provided? and (3) To what extent is the risk certain, probabilistic, or unknown? In this monograph, we aim to understand how consumers think about and respond to risk through their consumption behaviors. Risky consumption also poses societal risks, leading to regulatory decisions such as bans on smoking, the use of seatbelts and motorcycle helmets, and so on. In the end, consumer well-being is the goal of risk communication by mitigating the harm of risky consumption.

In this monograph, we bring together literature on risk, risky consumption behaviors, risk communication, and consumer well-being. The monograph builds on prior work on risk communication (Cox *et al.*, 1997; Fischhoff and Downs, 2011; Fischhoff *et al.*, 1998; Kozup *et al.*, 2012; Lepkowska-White and Parsons, 2001; Morris *et al.*, 1980; Wilkie, 1985; Wogalter, 2006a), as well as prior work on the psychology of information processing and decision-making (McGuire, 1976) and extends this prior work through an explicit discussion of the philosophical foundations of risk communication and management and the implications of specific foundations for communication and policy decisions. In addition, the monograph explores the implications of the multidimensional context in which individuals confront risks and make trade-offs with respect to risks and benefits in specific situations.

Throughout the monograph, we discuss various examples of risk-related products and behaviors. These examples are offered to illustrate the issues that arise when addressing risk in a multidimensional context where scientific information is incomplete and/or ambiguous and there are economic and social costs, as well as benefits, associated with any

policy related to communicating and managing risk. These examples are not intended to be exhaustive reviews of the particular example, nor are they intended to suggest specific policy alternatives. Rather, they are intended to provide a context for the complex issues that are the focus of this monograph.

For the purposes of this research, we define “risk communication” as an exchange of information about threats with the goal to enhance knowledge and understanding while building trust and credibility, encouraging discourse, and influencing attitudes and behavioral change (Covello, 2008). Risky consumption behaviors are behaviors that result in harm from both the risk inherent in the product or behavior and the risk inherent in the situation or context within which the behavior takes place (Martin *et al.*, 2013). When referring to consumer well-being, we are focused on consumer experiences related to acquisition, consumption, and ownership that are beneficial to both consumers and society. Thus, risky consumption behaviors when reframed and used in a positive way can result in benefits to consumers rather than harm. For example, texting and driving is a risky consumption behavior that can result in extreme harm, whereas by altering the context within which the behavior occurs, texting can be a beneficial way to enhance consumer well-being. Given the complexity of the risk construct, in the next section we focus on clearly defining risk and its inherent dimensions. Issues surrounding risk that consumers and society face are embedded in how risk is defined.

1

How Do We Define Risk?

A foundational issue in risk communication is the very definition of risk. What does it mean when we say that something is (or is not) risky? Defining risk in one way results in a set of solutions or decisions within that definition or context, while defining it another way with other underlying assumptions may result in a different set of solutions or decisions for the same risk. Values are inherent in risk assessment; they are reflected in how risks are characterized, resulting in disagreements between laypeople and experts about the degree of “risk” in a consumption behavior (Fischhoff, 1995). Feelings of dread have been shown to be a strong determinant of risk perception and the individual’s willingness to accept a risk. Research has shown that consumers tend to use heuristics or mental strategies to evaluate the likelihood of harm from potential risk (e.g., Slovic, 1987, 2006). Such heuristics can create a biased assessment not only of what is truly risky and what is less risky but also of what is an acceptable risk (riding a bicycle or paragliding) and what is not (smoking or using cocaine).

Individuals’ assessment of a risk can be overestimated and underestimated, which in turn may influence how they interpret risk information. New evidence for a risk will be evaluated as reliable and

informative if it is consistent with preexisting beliefs. For example, if you believe that genetically modified foods are potential carcinogens, you are more likely to believe new evidence suggesting a high risk of these foods. When that risk information is contrary to an individual's held beliefs, however, he or she is likely to discount the reliability and validity of the information. For example, if you engage in vaping and published evidence shows that vaping can lead to the same risks as smoking, you are less likely to believe the evidence. You will find ways to dismiss the evidence as erroneous or unrepresentative. Strongly held beliefs will persevere even after evidence for the belief has been invalidated by new evidence (Shultz *et al.*, 2001). Even in the absence of such biases, individuals differ in the type and degree of risk they are willing to tolerate. Some people engage in inherently risky behavior despite knowing full well the risks involved. For example, people skydive, go rock climbing, use various recreational drugs, and smoke cigarettes, despite their knowledge of the risks. Other individuals have little or no tolerance for risks, while still others are sensitive to only certain types of risk and go to great lengths to avoid them.

It is important to keep in mind that many voluntary hazards are associated with positive affect (e.g., skydiving, smoking, vaping, using recreational drugs). This results in decreasing the level of perceived risk (Keller *et al.*, 2006). Further complicating such differences is the possibility that these same individuals may be risk takers in some circumstances but risk averse in others. In addition, some behaviors pose risks for some people (e.g., peanuts, phenylalanine) but not for others. Establishing management practices and policies regarding risk in the face of such individual differences can be challenging.

1.1 Philosophical Foundation for Policy Development

At the heart of most policy debates regarding risk are four distinctly different philosophical orientations toward risk management and risk communication: (1) "safe minimum standards"; (2) bounded rationality, based on the "rational man" perspective; (3) libertarian paternalism, founded in behavioral economics; and (4) the "precautionary principle," when considering harm to human health or the environment.

These philosophical foundations are completely consistent with an evidence/science-based approach to analyzing risks (Eddy, 1996). When researchers are able to determine the risk of a behavior/product based on data (e.g., ppm), this is important information. However, even when risk is clearly identifiable, there remain questions about how this information is to be used for purposes of communication, education and policy formulation. Further, there are questions about what information to use or ignore, how to deal with information that is ambiguous, uncertain, and embedded in contexts characterized by numerous potential hazards and benefits that require trade-offs. In addition, the optimality of such trade-offs may be different across people, groups, and usage contexts. Thus, there is a need for a philosophical grounding when using evidence to design communications and establish policy regarding risk and risk management. The four philosophical approaches do not necessarily lead to the same prescriptions.

First, safe minimum standards set the minimum level of safety (acceptable level of harm) that a risk can pose to an individual, to society, or to the environment. If this level is violated, the costs of damage to stakeholders are deemed unacceptable and regulators would step in to protect society and the environment (Crowards, 1997). For example, should regulators allow an activity and impose regulatory restrictions only if there is scientific consensus that the activity is harmful?

Second, the bounded rationality perspective holds that individuals who are appropriately informed can make their own trade-offs regarding risks and manage the risks they encounter from their own respective preferences. Inherent in this approach is the assumption that individuals are “well-informed” and have the cognitive capacity to process scientific information to manage the risks in their lives (Simon, 1955, 1972). In addition, the degree of how “well-informed” is bounded or constrained by incomplete information on alternatives as well as the individual’s ability to make choices among those competing alternatives. Finally, individuals will choose to satisfice when they reach the limit of their cognitive effort to search out and evaluate alternatives. For example, information on the risks of cancer from smoking is provided to society through mandated warnings, educational interventions, and other means;

however, some questions still remain as to whether smoking is “certain” to cause cancer. Thus, an individual may choose to search out and evaluate more information, but at some point, he or she may choose to satisfice—deciding whether or not to smoke from partial information. This leaves the final decision on whether to accept the risks of engaging in a risky consumption behavior to the individual rather than regulators.

Third, the Libertarian Paternalism perspective is based on the concepts of both bounded rationality and bounded self-control. It aims to influence risky consumption behavior while also respecting the freedom of individual choice (Sunstein and Thaler, 2003). When faced with making a choice as to a risky behavior, consumers are often not presented with well-defined information, and thus they can be influenced by the framing of a choice, the starting point of a decision, or the default rules that define that decision. The goal of this perspective is to provide information to influence choices in a way to encourage welfare-promoting behaviors without eliminating the ability to make a choice. Thus, an individual could select a less risky choice or could decide that the benefits from undertaking the risky behavior outweigh the costs of that risk. For example, employers can present the choice of whether to set aside a certain amount of your monthly salary in a 401(k) as an opt-out or opt-in choice. The difference between this default rule of opt-out versus opt-in can influence the likelihood of whether you will decide to save now for retirement or not. It is possible that you may not want to enroll in a 401(k) at this time but your preference changes knowing that your employer has made enrollment automatic. You have the freedom to opt-out if you so choose.

Fourth, the precautionary principle approach is a strategy to cope with possible risks that have the potential to cause morally unacceptable harm that is plausible but lacks the scientific understanding of the likelihood and extent of the harm (e.g., nanotechnology, climate change, systemic insecticides). This principle has been applied to numerous international climate change treaties, including the Montreal Protocol (1987), the Rio Declaration (1992), Stockholm convention (2001), and later treaties. The goal is to prevent threats to health and/or the environment when there is a “need to act to reduce potential hazards before there is strong proof of harm, considering the benefits and

1.2. *Cost–Benefit Analysis and Different Philosophical Perspectives* 9

costs of action and inaction” (“better safe than sorry”) (European Environmental Agency, 2001). For example, in the 1930s before polychlorinated biphenyl (PCB) drew concerns about its potential risk of poisoning people, industry was keeping that information within their respective companies, and it was not circulated among policy makers and other stakeholders. In retrospect, some critics have argued that had the precautionary principle been applied at that time, it may have been able to avoid the toxic legacy of extreme harm to humans and animals (Koppe and Keys, 2001). The critical question is, should the activity (e.g., PCBs, GMOs, climate change) be restricted until scientific consensus surfaces that the activity is harmful or not harmful? Similarly, to what degree must it be harmful or not harmful?

1.2 Cost–Benefit Analysis and Different Philosophical Perspectives

These four philosophical approaches use cost–benefit analysis to determine the acceptable level of risk for all stakeholders. First, the importance of a cost–benefit analysis is implicit in all four perspectives. Second, its goal is to determine whether the benefits outweigh the costs of a particular decision or regulatory action. Under safe minimum standards, regulatory action is justified when analysis of the risks (and ensuing harms) shows that the benefits of regulation exceed the costs of regulation by a “sufficient” margin. This sufficient margin can be the result of some objective decision rule or can be based on the “subjective” opinions of a panel of experts. The bounded rationality approach suggests that the trade-offs regarding risks should be left to the individual. While such a view is consistent with personal freedom to choose, it does not take into consideration the negative externalities that the risky consumption behavior could impose on society and the environment.

Cost–benefit analysis in the libertarian paternalism perspective is considered from the individual not the societal level and is a way to shine light on important social and economic facts that would not otherwise be found either in private or at the societal level. Then, cost–benefit analysis becomes a way to ensure “better priority-setting and of overcoming predictable obstacles to desirable regulation, whatever

may be our criteria for deciding the hardest questions about that topic” (Sunstein, 2000, p. 1060). The goal is to measure the full ramifications of the design selected to nudge individuals toward a certain choice. The process is based on a subjective evaluation of the welfare consequences without eliminating freedom of choice; then, the benefits “outweigh” the costs. Under the automatic enrollment in 401(k) plan, some employees may be better off if, under an opt-in framing, they would not have acted, while others could be worse off if they do not have the income to save at this point in their lives and choose not to opt-out (inertia). In a cost–benefit analysis, there should be an evaluation of these gains and losses. Under what conditions should the “nudger” be able to decide or override the preferences of the “nudgee” in terms of conceptions of well-being? Libertarian paternalism is based on the underlying assumption that individuals make poor decisions because they do not have complete information, lack the motivation to pay attention, or lack self-control (Sudgen, 2009).

The precautionary principle approach requires that policy makers determine the level of risk “for which there is no definitive proof that the damage will materialize” (de Sadeleer, 2012, pp. 3–4). The foundation of this approach shifts the burden of proof from demonstration of potential harm to demonstration that a behavior or product is “safe.” The approach to cost–benefit analysis would also include assessment of what is acceptable according to public input, ethical considerations, and other qualitative approaches. Debate is ongoing over how to most effectively integrate benefits and costs that are difficult to quantify, whether they relate to qualitative values, or whether they are too uncertain to estimate with reasonable confidence (Brill, 2016).

References

- Abrams, D. B. (2014). “Promise and peril of e-Cigarettes: Can disruptive technology make cigarettes obsolete?” *Journal of the American Medical Association*. 311(2): 135–142.
- Albarracin, D., J. B. Cohen, and T. G. Kumkale (2003). “When communications collide with recipients’ actions: Effects of post-message behavior on intentions to follow the message recommendations”. *Personality and Social Psychology Bulletin*. 29(July): 834–845.
- Alter, A. (2017). *Irresistible: The Risk of Addictive Technology and the Business of Keeping Us Hooked*. New York: Penguin Press.
- Ambler, T. and S. Goldstein (2003). *Copy testing: Practice and best practice*. Henley-on-Thames: World Advertising Research Council.
- American Institute for Cancer Research (2017). *The facts about cancer: Facts vs. fears*. URL: <https://www.aicr.org/press/press-releases/americans-cant-separate-fears-from-facts.html>.
- Andrews, C., R. Netemeyer, J. Kees, and S. Burton (2014). “How graphic visual health warnings affect young smokers’ thoughts of quitting”. *Journal of Marketing Research*. 51(2): 165–183.
- Argo, J. J. and K. J. Main (2004). “Meta-analyses of the effectiveness of warning labels”. *Journal of Public Policy & Marketing*. 23(Fall): 193–208.

- Aven, T. and O. Renn (2009). "On risk defined as an event when the outcome is uncertain". *Journal of Risk Research*. 12(1): 1–11.
- Bailey, R. (2011). "Fear itself". *Reason Magazine*. April 12. URL: <http://reason.com/archives/2011/04/12/fear-itself>.
- Barlow, D. (1993). "The evolution of risk management". *Risk Management*. 40(4): 30–36.
- Bartrip, P. W. J. (2003). "History of asbestos related disease". URL: www.postgradmedj.com.
- Berry, C., S. Burton, and E. Howlett (2017). "The impact of e-cigarette addiction warnings and health-related claims on consumers' risk beliefs and use intentions". *Journal of Public Policy & Marketing*. 36(1): 54–69.
- Blair, M. H. (2000). "An empirical investigation of advertising wearin and wearout". *Journal of Advertising Research*. 40(6): 95–100.
- Block, L. G. and P. A. Keller (1995). "When to accentuate the negative: The effects of perceived efficacy and message framing on intentions to perform a health-related behavior". *Journal of Marketing Research*. 32(2): 192–203.
- Bolton, L. E., A. Bhattacharjee, and A. Reed II (2015). "The perils of marketing weight-management remedies and the role of health literacy". *Journal of Public Policy and Marketing*. 34(1): 50–62.
- Bolton, L. E., J. B. Cohen, and P. N. Bloom (2006). "Does marketing products as remedies create 'Get Out of Jail Free Cards'?" *Journal of Consumer Research*. 33(June): 71–81.
- Bolton, L. E., A. Reed II, K. G. Volpp, and K. Armstrong (2008). "How does drug and supplement marketing affect a healthy lifestyle?" *Journal of Consumer Research*. 34(February): 713–726.
- Bostrom, A. (1997). "Risk perception: 'Experts' vs. 'lay people'". *Duke Environmental Law & Policy Forum*. 8(Fall): 101–113.
- Brewer, N. T., M. G. Hall, S. M. Noar, H. Parada, A. Stein-Seroussi, L. E. Bach, S. Hanley, and K. M. Ribisi (2016). "Effect of pictorial cigarette pack warnings on changes in smoking behavior: A randomized clinical trial". *Journal of the American Medical Association International Medicine*: 905–916.

- Brewer, N., S. Harvey, and C. Semmler (2004). "Improving comprehension of jury instructions with audio-visual presentation". *Applied Cognitive Psychology*. 18(6): 765–776.
- Breznitz, S. (1984). *Cry wolf: The psychology of false alarms*. Hillsdale, NJ: Erlbaum.
- Brill, J. (2016). "Safe – and, or, versus – sorry: How the FTC approaches consumer protection". Commissioner Julie Brill, January 26, 2016, Keynote address at the TACS 16th Annual Forum.
- Brody, J. E. (2018). "Are G.M.O. foods safe?" *New York Times*. April 23. URL: <https://www.nytimes.com/2018/04/23/well/eat/are-gmo-foods-safe.html>.
- Burke, W., A. H. Olsen, L. E. Pinsky, S. E. Reynolds, and N. A. Press (2001). "Misleading presentation of breast cancer in popular magazines". *Effective Clinical Practice*. March/April. URL: <http://ecp.acponline.org/marapr01/burke.htm>.
- Burton, S. and J. Kees (2012). "Flies in the ointment? Addressing potential impediments to population-based health benefits of restaurant menu labeling initiatives". *Journal of Public Policy & Marketing*. 31(2): 232–239.
- Bustamante, E. A., C. K. Fallon, and J. P. Bliss (2006). "A More Parsimonious Approach to Testing Signal Detection Theory Measures". In: *Proceedings of the Human Factors and Ergonomic Society*. 50th Annual Meeting. 1711–1715.
- Byrnes, J. P., D. C. Miller, and W. D. Schafer (1999). "Gender differences in risk taking: A meta-analysis". *Psychological Bulletin*. 125(3): 367–383.
- Camenga, D., G. Kong, D. A. Cavallo, and S. Krishnan-Sarin (2017). "Current and former smokers' use of electronic cigarettes for quitting smoking: An exploratory study of adolescents and young adults". *Nicotine Tobacco Research*. 19(12): 1531–1535.
- Catlin, J. R., C. Pechmann, and E. P. Bass (2015). "Dangerous double dosing: How naive beliefs can contribute to unintentional overdose with over-the-counter drugs". *Journal of Public Policy & Marketing*. 34(2): 194–209.
- Center for Disease Control (2016). Deaths: Final Data for 2016, table 11. URL: <https://www.cdc.gov/nchs/fastats/injury.htm>.

- Center for Treatment of Anxiety and Mood Disorders (2017). Carcinophobia or fear of getting cancer. URL: <http://centerforanxietydisorders.com/carcinophobia-or-fear-of-getting-cancer/>.
- Centers for Disease Control and Prevention (2018). *Morbidity and mortality weekly report*. URL: <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5904a5.htm>.
- Chambers, R. A., M. N. Potenza, and J. R. Taylor (2003). “Developmental neurocircuitry of motivation in adolescence: A critical period of addiction and vulnerability”. *American Journal of Psychiatry*. 160: 1041–1052.
- Chesley, N. (2005). “Blurring boundaries? Linking technology use, spillover, individual distress and family satisfaction”. *Journal of Marriage and Family*. 67: 1237–1248.
- Cho, H. and T. Reimer (2014). *The Sage handbook of risk communication*. Thousand Oaks, CA: Sage.
- Cohen, H. H., J. Cohen, C. C. Mendat, and M. S. Wogalter (2006). “Warning channel: Modality and media”. In: *Handbook of warnings*. Ed. by M. Wogalter. Mahwah, NJ: Erlbaum. 123–136.
- Collins, D. (2004). “Hunt on for ephedra substitutes”. CBS News. URL: <https://www.cbsnews.com/news/hunt-on-for-ephedra-substitutes/>.
- Covello, V. T. (2008). *Risk communication: Principles, tools, and techniques*. Global Health Technical Briefs, Baltimore, Maryland, Johns Hopkins Bloomberg School of Public Health, Center for Communication Programs, Information and Knowledge for Optimal Health [INFO], 2008 Feb 27. [2] p. (Global Health Technical Briefs; USAID Grant No. GPH-A-00-02-00003-00). URL: https://www.k4heath.org/sites/default/files/risk%20comm_eng.pdf.
- Covello, V. T., D. von Winterfeldt, and P. Slovic (1986). “Risk communication: A review of the literature”. *Risk Abstracts*. 3: 171–182.
- Cox, A. D. and D. Cox (2015). “Risk perception and risk communication”. In: *Handbook of persuasion and social marketing*. Ed. by D. W. Stewart. New York: Praeger. 155–190.
- Cox, E. P. and M. S. Wogalter (2006). *Warning source*. Ed. by M. Wogalter. Mahwah, NJ: Erlbaum. 111–122.

- Cox E. P., III., M. S. Wogalter, S. L. Stokes, and E. J. T. Murff (1997). "Do product warnings increase safe behavior? A meta-analysis". *Journal of Public Policy & Marketing*. 16(2): 195–204.
- Craig, S. S., B. Sternthal, and C. Leavitt (1976). "Advertising wearout: An experimental analysis". *Journal of Marketing Research*. 13(4): 365–372.
- Craik, F. I. M. and T. A. Salthouse (2000). "Age-related changes in human memory". In: *Cognitive aging: A primer*. Ed. by D. C. Park and N. Schwarz. Philadelphia: Taylor & Francis. 75–92.
- Crowards, T. M. (1997). "Safe minimum standards: Costs and opportunities". *Ecological Economics*. 25: 303–314.
- Davis, B. and J. L. Ozanne (2018). "Risky research? How relational engagement in research can mitigate harm and enhance benefits". *Journal of the Association for Consumer Research*. 3(1): 7–15.
- de Moivre, A. (1711). "De mensura sortis (On the measurement of chance)". *Philosophical Transactions of the Royal Society of London*: 329.
- de Sadeleer, N. (2012). *Implementing the precautionary principle: Approaches from the Nordic countries, EU and the USA*. New York: Taylor & Francis. 3–4.
- Deppa, S. W. (2006). "U.S. and international standards for safety signals". In: *Handbook of warnings*. Ed. by M. Wogalter. Mahwah, NJ: Erlbaum. 477–486.
- Dickersin, K. and Y. I. Min (1993). "NIH clinical trials and publication bias". *Online Journal of Current Clinical Trials*. April (Doc. No. 50).
- Dorris, A. L. and J. L. Purswell (1978). "Human factors in the design of effective product warnings". In: *Proceedings of the Human Factors Society Twenty-Second Annual Meeting*. Santa Monica, CA: The Human Factors Society. 343–346.
- Douglas, M. and A. Wildavsky (1982). *Risk and culture*. Berkeley: University of California Press.
- Drenten, J. and L. T. Zayer (2018). "The role of digital virtual consumption in navigating risk-laden life events". *Journal of the Association for Consumer Research*. 3(1): 46–62.

- East, R. (2003). "Wearout, carryover effects, and decay of advertising". In: *The Effects of Advertising and Display*. Boston: Springer. 23–47.
- Eddy, D. M. (1996). *Clinical decision making: From theory to practice: A collection of essays from the Journal of the American Medical Association*. Sudbury, MA: Jones & Bartlett.
- European Environmental Agency (2001). "Late lessons from early warnings: The precautionary principle 1896–2000". *Environmental Issue Report No. 22*.
- Faber, R., G. A. Christensen, M. de Zwaan, and J. Mitchell (1995). "Two forms of compulsive consumption: Comorbidity of compulsive buying and binge eating". *Journal of Consumer Research*. 22(3): 296–304.
- Fischer, P. M., J. W. Richards, E. J. Berman, and D. M. Krugman (1989). "Recall and eye tracking study of adolescents viewing tobacco advertisements". *Journal of the American Medical Association*. 261: 84–89.
- Fischhoff, B. (1995). "Risk perception and communication unplugged: Twenty years of process". *Risk Analysis*. 15(2): 137–145.
- Fischhoff, B. N. T. B. and J. S. Downs (2011). *Communicating risks and benefits: An evidenced-based user's guide*. Silver Springs, MC: US Department of Health, Human Services, Food, and Drug Administration. URL: <https://www.fda.gov/downloads/AboutFDA/ReportsManualsForms/Reports/UCM268069.pdf>.
- Fischhoff, B. N., D. Roley, D. C. Kovacs, and M. Small (1998). "What information belongs in a warning?" *Psychology and Marketing*. 15(7): 663–686.
- Fischhoff, B., S. R. Watson, and C. Hope (1984). "Defining risk". *Policy Sciences*. 17: 123–129.
- Fivush, R. and J. P. Buckner (2003). "Creating gender and identity through autobiographical narratives". In: *Autobiographical memory and the construction of a narrative self: Developmental and cultural perspectives*. Ed. by R. Fivush and C. A. Haden. Mahwah, NJ: Erlbaum. 149–167.

- Forbes (2017). “Comparing Gun Carnage with Auto Deaths is a Flawed Argument”. Accessed on February 25, 2019. URL: <https://www.forbes.com/sites/joshmax/2017/10/10/comparing-gun-carnage-with-a-uto-deaths-is-a-flawed-argument/#442749483e26>.
- Ford, J. A. (2008). “Social learning theory and nonmedical prescription drug use among adolescents”. *Sociological Spectrum*. 28(3): 299–316.
- Frascara, J. (2006). “Typography and the visual design of warnings”. In: *Handbook of warnings*. Ed. by M. Wogalter. Mahwah, NJ: Erlbaum. 385–406.
- Friedmann, K. (1988). “The effect of adding symbols to written warning labels on user behavior and recall”. *Human Factors*. 30(4): 507–515.
- Friends of the Earth (2007). “Nanosunscreens threaten your health, (August)”. Accessed August 30, 2018. URL: <https://foe.org/resources/nanotechnology-sunscreens-a-consumer-guide-for-avoiding-nanosunscreens/nanosunscreens>.
- FTC (1981). *Federal Trade Commission Staff Report on the cigarette advertising investigation, (May)*. Washington, DC: FTC.
- Gainforth, H. L. and A. E. Latimer (2011). “Risky business: Risk information and the moderating effect of message frame and past behaviour on women’s perceptions of the Human Papillomavirus vaccine”. *Journal of Health Psychology*. 17(6): 896–906.
- Grimshaw versus Ford Motor Company (1978). Accessed on 16 October 2018. URL: https://en.wikipedia.org/wiki/Grimshaw_v._Ford_Motor_Co.
- Hajek, P., J. F. Etter, N. Benowitz, T. Eissenberg, and H. Robbie (2014). “Electronic cigarettes: Review of use, content, safety, effects on smokers and potential for harm and benefit”. *Addiction*. 109(1): 1801–1810.
- Hansen, J., S. Winzeler, and S. Topolinski (2010). “When the death makes you smoke: A terror management perspective on the effectiveness of cigarette-on-pack warnings”. *Journal of Experimental Social Psychology*. 46: 226–228.
- Hansson, S. O. (1989). “Dimensions of risk”. *Risk Analysis*. 9(1): 107–112.

- Haspel, T. (2015). "In defense of corn, the world's most important food crop". *The Washington Post*. July 12. URL: https://www.washingtonpost.com/lifestyle/food/in-defense-of-corn-the-worlds-most-important-food-crop/2015/07/12/78d86530-25a8-11e5-b77f-eb13a215f593_story.html?noredirect=on&utm_term=.5c22da2e06db.
- Haws, K. L., W. O. Bearden, and G. Y. Nenkov (2012). "Consumer spending self-control effectiveness and outcome elaboration prompts". *Journal of the Academy of Marketing Science*. 40(5): 695–710.
- Heath, R. L. and H. D. O'Hair (2015). *Handbook of risk and crisis communication*. New York: Routledge.
- Hellier, E. and J. Edworthy (2006a). "Complex nonverbal auditory signals and speech warnings". In: *Handbook of warnings*. Ed. by M. Wogalter. Mahwah, NJ: Erlbaum. 199–220.
- Hellier, E. and J. Edworthy (2006b). "Signal words". In: *Handbook of warnings*. Ed. by M. Wogalter. Mahwah, NJ: Erlbaum. 407–430.
- Hersch, J. (1996). "Smoking, seat belts, and other risky consumer decisions: Differences by gender and race". *Managerial and Decision Economics*. 17(September/October): 471–481.
- Hersey, J. C., K. C. Wohlgenant, J. E. Arsenault, K. M. Kosa, and M. K. Muth (2013). "Effects of front-of-package and shelf nutrition labeling systems on consumers". *Nutrition Reviews*. 71(1): 1–14.
- Hirschman, E. C. (1992). "The consciousness of addiction: Toward a general theory of compulsive consumption". *Journal of Consumer Research*. 19: 155–179.
- Hoy, M. G. and J. C. Andrews (2004). "Adherence of prime-time televised advertising disclosures to the 'clear and conspicuous' standard: 1990 versus 2002". *Journal of Public Policy & Marketing*. 23(Fall): 170–182.
- Hsu, T. (2018). "Should coffee come with cancer warnings? California says no". *New York Times*. August 15. URL: <https://www.nytimes.com/2018/08/15/business/coffee-cancer-warning-california.html>.
- Hwang, Y., H. Cho, L. Sands, and S. H. Jeong (2011). "Effects of gain-and loss-framed messages on the sun safety behavior of adolescents: The moderating role of risk perceptions". *Journal of Health Psychology*. 17(6): 929–940.

- Ip, G. (2015). *FoolProof: Why safety can be dangerous and how danger makes us safe*. New York: Little, Brown and Company.
- Jackson-Smith, T. L. (2006). "Receiver characteristics". In: *Handbook of warnings*. Ed. by M. Wogalter. Mahwah, NJ: Erlbaum. 335–354.
- Jacoby, J. and L. B. Kaplan (1972). "The components of perceived risk". In: *Proceedings of the third annual conference of the Association for Consumer Research*. Ed. by M. Venkatesan. Chicago: Association for Consumer Research. 382–393.
- Jemal, A., R. Siegal, E. Ward, T. Murray, J. Xu, C. Smigal, and M. R. Thun (2009). "Cancer statistics, 2006". *CA: A Cancer Journal for Clinicians*. 52(2): 106–130.
- Jessop, D. C. and J. Wade (2008). "Fear appeals and binge drinking: A terror management theory perspective". *British Journal of Health Psychology*. 13: 773–788.
- Jianakoplos, N. A. and A. Bernasek (1998). "Are women more risk averse?" *Economic Inquiry*. 36(October): 620–390.
- Jung, M. (2016). "Implications of graphic cigarette warning labels on smoking behavior: An international perspective". *Journal of Cancer Prevention*. 21(1): 21–25.
- Kaplan, S. and J. Hoffman (2018). "FDA cracks down on Juul and e-cigarette retailers". URL: <https://www.nytimes.com/2018/09/12/health/juul-fda-vaping-ecigarettes.html>.
- Kasperson, J. X. and R. E. Kasperson (2005). *The social contours of risk: Publics, risk communication and social amplification*. Vol. 1. London: Earthscan.
- Kees, J., S. Burton, and J. C. Andrews (2015). "Government efforts to aid consumer well-being: Understanding federal health warnings and disclosures". In: *Cambridge handbook of consumer psychology*. Ed. by M. I. Norton, D. D. Rucker, and C. Lamberton. New York: Cambridge University Press. 530–563.
- Kees, J., S. Burton, J. C. Andrews, and J. Kozup (2006). "Tests of graphic visuals and cigarette package warning combinations: Implications for the framework convention on tobacco control". *Journal of Public Policy & Marketing*. 25(2): 212–223.

- Kees, J., S. Burton, J. C. Andrews, and J. Kozup (2010). "Understanding how graphic pictorial warnings work on cigarette packaging". *Journal of Public Policy & Marketing*. 29(2): 265–276.
- Keller, C., M. Siegrist, and H. Gustcher (2006). "The role of the affect and availability heuristics in risk communication". *Risk Analysis*. 26(3): 631–639.
- Keller, P. A. (1999). "Converting the unconverted: The effect of inclination and opportunity to discount health-related fear appeals". *Journal of Applied Psychology*. 84(3): 403–415.
- Keller, P. A. and L. Block (1996). "Increasing the persuasiveness of fear appeals: The effect of arousal and elaboration". *Journal of Consumer Research*. 22(4): 448–456.
- Keller, P. A. and D. Lehmann (2008). "Designing effective health communications: A meta-analysis". *Journal of Public Policy & Marketing*. 27(2): 117–130.
- Keller, P. A. and A. L. Olson (2018). "Gender and risk: The emotional fluctuation effect". *Journal of the Association of Consumer Research*. 3(1): 109–122.
- Kellerman, A. L., F. P. Rivara, G. Somes, D. T. Reay, J. Francisco, J. G. Banton, J. Prodzinski, C. Fligner, and B. B. Hackman (1992). "Suicide in the home in relation to gun ownership". *The New England Journal of Medicine*. 327: 467–472.
- Khan, R. and R. Dhar (2006). "Licensing effect in consumer choice". *Journal of Marketing*. 43(2): 259–266.
- Kimmerling, G. F. (1985). "Warning: Workers at risk, train effectively". *Training and Development Journal*. 39(4): 50–55.
- Knight, F. (1921). *Risk, uncertainty and profit*. Boston: Houghton Mifflin.
- Koppe, J. G. and J. Keys (2001). *PCBs and the precautionary principle*. 64–75. URL: http://edz.bib.uni-mannheim.de/daten/edz-bn/eua/02/1_en.pdf#page=64.
- Kozup, J., C. R. Taylor, M. L. Capella, and J. Kees (2012). "Sound disclosures: Assessing when a disclosure is worthwhile". *Journal of Public Policy and Marketing*. 31(2): 313–322.

- Lacko, J. M. and J. K. Pappalardo (2010). "The failure and promise of mandated consumer mortgage disclosures: Evidence from qualitative interviews and a controlled experiment with mortgage brokers". *American Economic Review*. 100(2): 516–521.
- Lamberton, C. and R. P. Hill (2016). "Beyond the risky gamble: A framework for consumer research in real-world risk". *Journal of the Association of Consumer Research*. 3(1): 1–6.
- Lamberton, C. and A. T. Stephen (2016). "A thematic exploration of digital, social media, and mobile marketing: Research evolution from 2000 to 2015 and an agenda for future inquiry". *Journal of Marketing*. 80(6): 46–72.
- Langlois, R. N. and M. M. Cosgel (1993). "Frank Knight on risk, uncertainty, and the firm: A new interpretation". *Economic Inquiry*. 31(July): 456–465.
- Laughery, K. R. and M. S. Wogalter (2006). "Designing effective warnings". *Reviews of Human Factors and Ergonomics*. 2(1): 241–271.
- LaVoie, N. R., B. L. Quick, J. M. Riles, and N. J. Lambert (2015). "Are graphic cigarette warnings labels an effective message strategy? A test of psychological reactance theory and sources of appraisal". *Communication Research*: 1–21.
- Lehto, M. R. (2006). "Human factors models". In: *Handbook of warnings*. Ed. by M. Wogalter. Mahwah, NJ: Erlbaum. 63–87.
- Lenzer, J. (2005). "FDA advisers warn: COX 2 inhibitors increase risk of heart attack and stroke". Accessed on October 16, 2018. URL: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC549650/>.
- Lepkowska-White, E. and A. L. Parsons (2001). "Comprehension of warnings and resulting attitudes". *Journal of Consumer Affairs*. 35(2): 278–294.
- Lindqvist, P. G., E. Epstein, M. Landin-Olsson, C. Ingvar, K. Nielsen, and M. Stenbeck (2014). "Avoidance of sun exposure is a risk factor for all-cause mortality: Results from the melanoma in southern Sweden cohort". *Journal of Internal Medicine*. 276(1): 77–86.
- Lowenstein, G. F., E. U. Weber, C. K. Hsee, and N. Welch (2001). "Risk as feelings". *Psychological Bulletin*. 127(2): 267–286.

- Lundgren, R. E. and A. H. McMakin (2013). *Risk communication: A handbook for communicating environmental, safety, and health risks*. New York: Wiley.
- Magat, W., W. K. Viscusi, and J. Huber (1988). “Consumer processing of hazard warning information”. *Journal of Risk and Uncertainty*. 1(2): 201–232.
- Marantz, P. R., E. Bird, and M. H. Alderman (2008). “Government dietary guidelines, unintended consequences and public policy”. *American Journal of Preventive Medicine*. 34(3): 234–240.
- Marascuilo, L. A. and J. R. Levin (1970). “Appropriate post hoc comparisons for interaction and nested hypotheses in analysis of variance designs: The elimination of type IV errors”. *American Educational Research Journal*. 7(3): 397–421.
- Marti, J., J. Buckell, C. MacLean, and J. Sindelar (2018). “To ‘Vape’ or smoke? Experimental evidence on adult smokers”. *Economic Inquiry*. doi:10.1111/ecin.12693.
- Martin, I. M., H. Bender, and C. Raish (2007). “What motivates individuals to protect themselves from risks: The case of wildland fires”. *Risk Analysis*. 27(4): 887–900.
- Martin, I. M. and M. A. Kamins (2010). “An application of terror management theory in the design of social and health-related anti-smoking appeals”. *Journal of Consumer Behaviour*. 9: 172–190.
- Martin, I. M. and M. A. Kamins (2019). “Effectively using death in health messages: Social loss versus physical mortality salience”. *Journal of Consumer Behaviour*. DOI: doi.org/10.1002/cb.1758.
- Martin, I. M., M. A. Kamins, D. Pirouz, S. W. Davis, K. L. Haws, A. M. Mirabito, S. Mukherjee, J. Rapp, and A. Grover (2013). “On the road to addiction: The facilitative and preventive roles of marketing cues”. *Journal of Business Research*. 66: 1219–1226.
- Mayer, R. N., K. R. Smith, and D. L. Scammon (1991). “Evaluating the impact of alcohol warning labels”. In: *Advances in consumer research*. Ed. by R. H. Holman and M. R. Solomon. Vol. 18. Provo, UT: Association for Consumer Research. 706–714.
- Mayhorn, C. B. and K. I. Podany (2006). “Warnings and aging: Describing the receiver characteristics of older adults”. In: *Handbook of warnings*. Ed. by M. S. Wogalter. Mahwah, NJ: Erlbaum. 355–362.

- Mazur, A. (2004). *True warnings and false alarms: Evaluating fears about health risks of technology, 1948–1971*. Washington, DC: Resources for the Future.
- McComas, K. A. (2006). “Defining moments in risk communication research: 1996–2005”. *Journal of Health Communication*. 11: 75–91.
- McGuire, W. J. (1976). “Some internal psychological factors influencing consumer choice”. *Journal of Consumer Research*. 2(March): 302–319.
- Monarrez-Espino, J., B. Liu, F. Greiner, S. Bremberg, and R. Galanti (2014). “Systematic review of the effect of pictorial warnings on cigarette packages in smoking behavior”. *American Journal of Public Health*. 104(10): e11–e30.
- Morris, L. A., M. B. Mazis, and I. Barofsky (1980). *Product labeling and health risks*. New York: Cold Spring Harbor Laboratory.
- Morris, L. A., M. B. Mazis, and E. Gordon (1977). “A survey of the effects of oral contraceptive patient information”. *Journal of the American Medical Association*. 238: 2504–2508.
- National Center for Statistics and Analysis (2014). *2014 Crash Data Key Findings (Traffic Safety Facts Crash Stats, Report No. DOT HS 812 219)*. Available at: <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812219>. Washington, DC: National Highway Traffic Safety Administration, 2015.
- National Institute of Health (2018). *Cell Phones and Cancer Risk*. URL: <https://www.cancer.gov/about-cancer/causes-prevention/risk/radiation/cell-phones-fact-sheet>.
- Navarro-Martinez, D., L. C. Salisbury, K. Lemon, N. Stewart, W. J. Matthews, and A. J. L. Harris (2011). “Minimum required payment and supplemental information disclosure effects on consumer debt repayment decisions”. *Journal of Marketing*. 48(Special Issue): S60–S77.
- Netemeyer, R., S. Burton, B. Delaney, and G. Hijjawi (2015). “The legal high: Factors affecting young consumers’ risk perceptions and abuse of prescription drugs”. *Journal of Public Policy & Marketing*. 34(1): 103–118.

- Newman, C. L., S. Burton, J. C. Andrews, R. G. Netemeyer, and J. Kees (2018). “Marketers’ use of alternative front-of-package nutrition symbols: An examination of effects on product evaluations”. *Journal of the Academy of Marketing Science*. 46(3): 453–476.
- Noar, S., D. B. Francis, C. Bridges, J. M. Sontag, K. M. Ribisl, and N. T. Brewer (2016). “The impact of strengthening cigarette pack warnings: Systematic review of longitudinal observational studies”. *Social Science and Medicine*. 164: 118–129.
- Norris, P. and R. Inglehard (2004). *Sacred and secular: Religion and politics worldwide*. New York: Cambridge University Press.
- NPR (2018). *The Authority to Research Gun Violence, What’s Next?* URL: <https://www.npr.org/2018/03/25/596805354/cdc-now-has-authority-to-research-gun-violence-whats-next>.
- Nussbaum, B. (2013). “How to design non-addictive UX (it’s really not hard)”. Accessed September 3, 2018. URL: <https://www.fastcompany.com/90157366/how-to-design-nonaddictive-ux-its-really-not-hard>.
- Oulasvirta, A., T. Rattenbury, L. Ma, and E. Raita (2012). “Habits make smartphone usage more pervasive”. *Personal Ubiquitous Computing*. 16(1): 105–114.
- Pappalardo, J. K. (2012). “Product literacy and the economics of consumer protection policy”. *Journal of Consumer Affairs*. 46(2): 319–332.
- Pechmann, C. and C. F. Shih (1999). “Smoking scenes in movies and anti-smoking advertisements before movies: Effects on youth”. *Journal of Marketing*. 63(3): 1–13.
- Pechmann, C. and D. W. Stewart (1988). “Advertising repetition: A critical review of advertising wearin and wearout”. *Journal of Current Issues and Research in Advertising*. 11(1): 285–329.
- Pechmann, C., G. Zhao, M. E. Goldberg, and E. T. Reibling (2003). “What to convey in antismoking advertisements for adolescents: The use of protection motivation theory to identify effective message themes”. *Journal of Marketing*. 67(2): 1–18.

- Peters, E., K. D. McCaul, M. Stefanek, and W. Nelson (2006). "A heuristics approach to understanding cancer risk perception: Contributions from judgment and decision-making research". *Annals of Behavioral Medicine*. 31(1): 45–52.
- Peters, R. G., V. T. Covello, and D. B. McCallum (1997). "The determinants of trust and credibility in environmental risk communication: An empirical study". *Risk Analysis*. 17(1): 43–54.
- Pettigrew, S., L. Anderson, W. Boland, V. de La Vitte, I. Fifita, M. H. Fosse-Gomez, M. Kindt, L. Luukkanen, I. M. Martin, L. K. Ozanne, D. M. Pirouz, A. Prothero, and T. Stovall (2014). "The experience of risk in families: Conceptualizations and implications for transformative consumer research". *Journal of Marketing Management*. 30: 1772–1799.
- Petts, J. and S. Niemeyer (2004). "Health risk communication and amplification: Learning from the MMR vaccination controversy". *Health Risk and Society*. 6(1): 7–23.
- Pollack-Nelson, C. (1995). "Analysis of methylene chloride product labeling". *Ergonomics*. 38(11): 2176–2187.
- Popper, E. T. and K. B. Murray (1989). "Format effects on and in-ad disclosure". In: *Advances in consumer research*. Ed. by T. K. Srull. Vol. 16. Provo, UT: Association for Consumer Research. 221–230.
- Purmehdi, M., R. Legoux, F. Carrillat, and S. Senecal (2017). "The effectiveness of warning labels for consumers: A meta-analytic investigation into their underlying process and contingencies". *Journal of Public Policy & Marketing*. 36(1): 36–53.
- Randall, A. (2011). *Risk and precaution*. New York: Cambridge University Press.
- Rey, G. D. (2014). "Seductive details and attention distraction: An eye tracker experiment". *Computers in Human Behavior*. 32: 133–144.
- Ringold, D. J. (2002). "Boomerang effects in response to public health interventions: Some unintended consequences in the alcoholic beverage market". *Journal of Consumer Policy*. 25: 27–63.
- Ringold, D. J. (2016). "Assumptions about consumers, producers, and regulators: What they tell us about ourselves". *Journal of the Association of Consumer Research*. 1(3): 34–54.

- Romer, D., A. L. Duckworth, S. Sznitman, and S. Park (2010). "Can adolescents learn self-control? delay of gratification in the development of control over risk taking". *Prevention Science*. 11: 319–330.
- Romer, D. and P. Jamieson (2001). "The role of perceived risk in starting and stopping smoking". In: *Smoking: Risk, perception, & policy*. Ed. by P. Slovic. Thousand Oaks, CA: Sage. 64–80.
- Rowe, G. and G. Wright (2001). "Differences in expert and lay judgments of risk: Myth or reality". *Risk Analysis*. 21(2): 341–356.
- Salehan, M. and A. Negahban (2013). "Social networking on smartphones: When mobile phones become addictive". *Computers in Human Behavior*. 29: 2632–2639.
- Salisbury, L. C. (2014). "Minimum payment warnings and information disclosure effects on consumer debt repayment decisions". *Journal of Public Policy & Marketing*. 33(1): 49–64.
- Samaha, M. and N. Hawi (2016). "Relationships among smartphone addiction, stress, academic, performance and satisfaction with life". *Computers in Human Behavior*. 57: 321–325.
- Sandman, P. M. (1989). "Hazard vs. outrage in the public perception of risk". In: *Effective risk communication: The role and responsibility of Government and non-government organizations*. Ed. by D. B. M. V. T. Covello and M. T. Pavlova. New York: Plenum Press. 45–49.
- Sanger-Katz, M. (2015). "The decline of 'big soda': The drop in soda consumption represents the single largest change in the American diet in the last decade". *The New York Times*. URL: <https://www.nytimes.com/2015/10/04/upshot/soda-industry-struggles-as-consumer-tastes-change.html>.
- Schucker, R. E., R. C. Stokes, M. L. Stewart, and D. P. Henderson (1983). "The impact of the saccharin warning label on sales of diet soft drinks in supermarkets". *Journal of Public Policy & Marketing*. 2: 26–56.
- Shapiro, I. (2013). "Why I Still Support the Right to Bear Arms". Accessed September 22, 2018. URL: <https://www.cato.org/publications/commentary/why-i-still-support-right-bear-arms>.

- Shehryar, O. and D. M. Hunt (2005). "A terror management perspective on the persuasiveness of fear appeals". *Journal of Consumer Psychology*. 15(4): 275–287.
- Shepherd, S. and A. C. Kay (2018). "Guns as a source of order and chaos: Compensatory control and the psychological (dis)utility of guns for liberals and conservatives". *Journal of the Association of Consumer Research*. 3(1): 16–26.
- Shultz, T. R., J. A. Katz, and M. R. Lepper (2001). "Clinging to beliefs: A constraint-satisfaction model". *Proceedings of the Annual Meeting of the Cognitive Science Society*. 23: 23–28.
- Simon, H. (1955). "A behavioral model of rational choice". *The Quarterly Journal of Economics*. 49(February): 99–114.
- Simon, H. (1972). "Theories of bounded rationality, chapter 8". In: *Decisions and organizations*. Ed. by C. B. McGuire and R. Radner. 161–176.
- Skurnick, I., C. Yoon, D. C. Park, and N. Schwarz (2005). "How warnings about false claims become recommendations". *Journal of Consumer Research*. 31(March): 713–724.
- Slovic, P. (1987). "Perception of risk". *Science*. 236: 280–285.
- Slovic, P., B. Fischhoff, and S. Lichtenstein (1980). "Facts and fears: Understanding perceived risk". In: *Societal risk assessment: How safe is safe enough?* Ed. by R. Schwing and W. A. Albers Jr. New York: Plenum. 181–216.
- Slovic, P., B. Fischhoff, and S. Lichtenstein (1985). "Characterizing perceived risk". In: *Perilous progress: Managing the hazards of technology*. Ed. by R. W. Kates, C. Hohenemser, and J. X. Kasperson. Boulder, CO: Westview. 91–125.
- Slovic, P. and E. Peters (2006). "Risk perception and affect". *Current Directions in Psychological Science*. 15: 322–325.
- Smith, K. H. and M. A. Stutts (2003). "Effects of short-term cosmetic versus long-term fear appeals in anti-smoking advertisements on smoking behavior of adolescents". *Journal of Consumer Behaviour*. 3(2): 157–177.

- Song, F., S. Parekh-Bhurke, L. Hooper, Y. Loke, J. Ryder, A. Sutton, C. Hing, and I. Harvey (2009). "Extent of publication bias in different categories of research cohorts: a meta-analysis of empirical studies". *BMC Medical Research Methodology*. 9(Nov.): 79–92.
- Spear, L. P. (2000). "Neurobehavioral changes in adolescence". *Current Directions in Psychological Science*. 9: 111–114.
- Spencer, W. D. and N. Raz (1995). "Differential effects of aging on memory for content and context: a meta-analysis". *Psychology and Aging*. 10(December): 527–539.
- Starr, C. (1969). "Social benefit vs. technological risk". *Science*. 165(3899): 1232–1238.
- Stern, P. C. and H. V. Fineberg, eds. (1996). *Understanding risk: Informing decisions in a democratic society*. Washington, DC: National Academy Press.
- Stewart, D. W. (1999). "Advertising wearout: What and how you measure matters". *Journal of Advertising Research*. 39(September/October): 39–42.
- Stewart, D. W., V. S. Folkes, and I. M. Martin (2001). "Warnings, disclosures, and usage instructions". In: *Handbook of marketing and society*. Ed. by P. Bloom and G. Gundlach. Newbury Park, CA: Sage. 355–371.
- Stewart, D. W. and I. Martin (1994). "Intended and unintended consequences of warning labels". *Journal of Public Policy & Marketing*. 13(Spring): 1–19.
- Stewart, D. W. and I. Martin (2004). "Advertising disclosures: Clear and conspicuous or understood and used?" *Journal of Public Policy & Marketing*. 23(2): 183–192.
- Stewart, D. W., C. Pechmann, S. Ratneshwar, J. Stroud, and B. Bryant (1985). "Methodological and theoretical foundations of advertising copy testing: A review". *Current Issues and Research in Advertising*. 8(2): 1–74.
- Sudgen, R. (2009). "On nudging: A review of nudge: Improving decisions about health, wealth, and happiness by Richard H. Thaler and Cass R. Sunstein". *International Journal of the Economics of Business*. 16(3): 365–373.

- Sullivan, H. W., V. Boudewyns, A. O'Donoghue, S. Marshall, and P. A. Williams (2017). "Attention to and distraction from risk information in prescription drug advertising: an eye-tracking study". *Journal of Public Policy & Marketing*. 36(2): 236–245.
- Sunstein, C. (2000). "Cognition and cost-benefit analysis". *Journal of Legal Studies*. 29(June): 1059–1103.
- Sunstein, C. and R. Thaler (2003). "Libertarian paternalism is not an oxymoron". *University of Chicago Law Review*. 70(4): 1159–1202.
- Tavernise, S. (2014). "A hot debate over e-cigarettes as a path to tobacco, or from it". *The New York Times*. February 22.
- Taylor, K. L., L. S. Cox, N. Zincke, L. Mehta, C. McGuide, and E. Gellman (2007). "Lung cancer screening as a teachable moment for smoking cessation". *Lung Cancer*. 56(April): 125–134.
- Tucker, C. E. (2014). "Social networks, personalized advertising and privacy controls". *Journal of Marketing Research*. 51(5): 546–625.
- Tversky, A. and D. Kahneman (1973). "Availability: A heuristic for judging frequency and probability". *Cognitive Psychology*. 5(2): 207–232.
- Twenge, J. M. (2017). "Have smartphones destroyed a generation?" *The Atlantic*. September. URL: <https://www.theatlantic.com/magazine/archive/2017/09/has-the-smartphone-destroyed-a-generation/534198>.
- Twerski, A. D., A. S. Weinstein, W. A. Donaher, and H. R. Piehler (1976). "The use and abuse of warnings in products liability: Design defect litigation comes of age". *Cornell Law Review*. 61(4): 495–540.
- Umesh, U. N., R. A. Peterson, M. McCann-Nelson, and R. Vaidyanathan (1995). "Type IV error in marketing research: The investigation of ANOVA interactions". *Journal of the Academy of Marketing Science*. 24(1): 17–26.
- United States Department of Health and Human Services (1987). *Review of research on the effects of health warning labels: A report to the United States Congress*. Rockville, MD: United States Department of Health and Human Services.
- United States Food and Drug Administration (2014). *FDA to teens: Consider the "real cost" of tobacco use*. URL: <https://www.fda.gov/tobacco-products/real-cost-campaign/real-cost-campaign-resources>.

- United States Food and Drug Administration (2018). Labeling and Warning Statement for Tobacco Products. URL: <https://www.fda.gov/tobaccoproducts/labeling/labeling/default.htm>.
- United States Food and Drug Administration (2019). *Youth Tobacco Use: Results from the National Youth Tobacco Survey*. URL: <https://www.fda.gov/TobaccoProducts/PublicHealthEducation/ProtectingKidsfromTobacco/ucm405173.htm>.
- Viscusi, W. K. (1990). "Do smokers underestimate risk?" *Journal of Political Economy*. 98(6): 1253–1269.
- Wakefield, M. A., B. Loken, and R. C. Hornik (2010). "Use of mass media campaigns to change health behavior". *Lancet*. 376(9748): 1261–1271.
- Waldron, I., C. McCloskey, and I. Earler (2005). "Trends in gender differences in accident mortality: Relationships to changing gender roles and other societal trends". *Demographic Research*. 13(November): 415–454.
- Wallace-Wells, B. (2010). "Cass Sunstein Wants to Nudge Us". *New York Times*. Accessed September 8, 2018. URL: <https://www.nytimes.com/2010/05/16/magazine/16Sunstein-t.html?pagewanted=all>.
- WebMD (2004). *Diet dangers: Ephedra substitute risky*. URL: <http://www.webmd.com/diet/news/20040830/diet-dangers-ephedra-substitute-risky>.
- WebMD (2011). *Americans worry about getting Alzheimer's*. Feb. 23. URL: <http://www.webmd.com/alzheimers/news/20110223/americans-worry-about-getting-alzheimers>.
- Wilcox, K. and A. T. Stephen (2013). "Are close friends the enemy? Online social networks, self-esteem, and self-control". *Journal of Consumer Research*. 40(June): 90–103.
- Wilkie, W. L. (1982). "Affirmative disclosure: Perspectives on FTC orders". *Journal of Marketing & Public Policy*. 1: 95–110.
- Wilkie, W. L. (1983). "Affirmative disclosure at the FTC: Theoretical framework and typology of case selection". *Journal of Marketing & Public Policy*. 2: 3–15.
- Wilkie, W. L. (1985). "Affirmative disclosure at the FTC: Objectives for the remedy and outcomes of past orders". *Journal of Public Policy and Marketing*. 4(1): 91–111.

- Witte, K. and M. Allen (2000). "A meta-analysis of fear appeals: Implications for effective public health campaigns". *Health Education and Behavior*. 27(5): 591–615.
- Wogalter, M. (2006a). *Handbook of warnings*. Hillsdale, NJ: Erlbaum.
- Wogalter, M. (2006b). "Communication-human information processing (C-HIP) model". In: *Handbook of warnings*. Ed. by M. Wogalter. Hillsdale, NJ: Erlbaum. 51–61.
- Wogalter, M. S., S. S. Godfrey, G. A. Fontenelle, D. R. Desaulniers, P. R. Rothstein, and K. R. Laughery (1987). "Effectiveness of warnings". *Human Factors*. 29(5): 599–612.
- Wogalter, M. S., N. C. Silver, S. D. Leonard, and H. Zaikiva (2006). "Warning symbols". In: *Handbook of warnings*. Ed. by M. Wogalter. Mahwah, NJ: Erlbaum. 159–176.
- Wogalter, M. S. and W. J. Vigilante Jr (2006). "Attention switch and maintenance". In: *Handbook of warnings*. Ed. by M. Wogalter. Mahwah, NJ: Erlbaum. 245–266.
- Wong, N. C. H., G. S. Nisbett, and L. A. Harvell (2016). "Smoking is so Ew!: College smokers' reactions to health- versus social-focused antismoking threat messages". *Health Communication*. 32(4): 451–460.
- Wolf, S. H. (2008). "Do dietary guidelines explain the obesity epidemic?" *American Journal of Preventive Medicine*. 34(3): 263–265.
- Worland, J. (2015). "Why BPA-free may be meaningless". *Time Magazine*. April 15. Accessed September 2, 2018. URL: <http://time.com/3742871/bpa-free-health/>.
- Wright, P., P. Creighton, and S. M. Threlfall (1982). "Some factors determining when instructions will be read". *Ergonomics*. 25(3): 225–237.
- Zimmerman, J. B. and P. T. Anastas (2015). "Toward substitution with no regrets". *Science*. 347(6227): 1198–1199.
- Zolfagharian, M. and A. Yazdanparast (2017). "The dark-side of consumer life in the age of virtual and mobile technology". *Journal of Marketing Management*. 33(15/16): 1304–1335.