

Beneath the Surface

# Minors, Moral Psychology, and the Harm Reduction Debate: The Case of Tobacco and Nicotine

Lynn T. Kozlowski

University at Buffalo, The State University of New York

**Abstract** Harm reduction debates are important in health policy. Although it has been established that morality affects policy, this article proposes that perspectives from moral psychology help to explain the challenges of developing evidence-based policy on prohibition-only versus tobacco/nicotine harm reduction for minors. Protecting youth from tobacco is critical, especially since tobacco/nicotine products are legal for adults, who usually begin using when young. Although cigarettes and other combustibles are the deadliest tobacco products, other products such as smokeless tobacco and electronic cigarettes, though unsafe, are upward of 90 percent less harmful than cigarettes. *Disgust* at contaminating the “purity” of youth, especially “good,” low-risk youth, with any tobacco/nicotine products opposes harm reduction, as does *contempt* for violating so-called community values and disrespecting authority. Support for harm reduction arises from *anger* at failing to provide reduced harm to “bad,” high-risk individuals and denying them the “liberty” to decide. Fast-thinking, moral-emotional intuitions are supported by rationalizations arising from slow-thinking processes. The recognition of such moral psychological influences and the efforts to minimize their impact may help lead to amelioration and compromise. This example from tobacco control, with divided concerns for low-risk and high-risk youth, can be applied to other harm reduction versus prohibition-only policies directed at minors.

**Keywords** harm reduction, moral psychology, tobacco, population health, electronic cigarettes

Harm reduction policies are controversial, and tobacco/nicotine provides an important example. The debate about harm reduction versus zero tolerance, especially, involves policies affecting youth because most users of tobacco products start as minors. As they become adults, addiction to

*Journal of Health Politics, Policy and Law*, Vol. 42, No. 6, December 2017  
DOI 10.1215/03616878-4193642 © 2017 by Duke University Press

nicotine makes it much more difficult for them to stop. Recent developments, especially the spread of electronic cigarettes, have led to deep disagreements within the tobacco control community. Some authorities have zero tolerance for promoting less harmful alternatives to cigarettes, and other authorities argue that much less harmful products should be encouraged as alternatives to deadly cigarettes.

In this article I will discuss one way to understand those disagreements: through the lens of *moral psychology* (Haidt 2007; Kozlowski 2013). Studies of moral psychology identify *moral emotions* that help shape attitudes and choices. These emotions are particularly charged when involving the welfare of the young. Beliefs about morality are well known to have major, often determining effects on public policy (MacCoun 2013; Morone 2003). Moral psychology (Haidt 2007; Iyer et al. 2012) provides a more specific framework to understand the disagreements about harm reduction for young potential smokers. *Fast-thinking* moral-emotional intuitions are followed by rationalizations arising from *slow-thinking* processes. Attention to the moral dimension will make explicit an especially important choice: whether to prioritize assistance to high-risk youth, at possible harm to low-risk youth, or the reverse.

### **The Harm Reduction Debate**

It is sometimes forgotten that the prevailing response after the release of the 1964 Surgeon General's report (US Department of Health, Education and Welfare 1964) was to embrace harm reduction (Kozlowski and Abrams 2016; Rabin and Sugarman 1993). The American Medical Association and the Consumer's Union advised smokers to switch to pipes or cigars to reduce risk. The National Cancer Institute partnered with the industry to develop safer cigarettes, and the Federal Trade Commission adopted tar testing to encourage smokers to choose "lower-tar" cigarettes. Later, in an innovative countermarketing move, Kenneth Warner coined the accurate trope that "cigarettes are lethal when used as intended and kill more people than heroin, cocaine, alcohol, AIDS, fires, homicide, suicide, and automobile accidents combined," which the American Cancer Society (1987: 20) popularized as a lobbying theme. By the time lower-tar cigarettes were finally recognized as not being lower risk because smokers maintained exposures to toxins (Tobacco Control Research Branch 2001), many in tobacco control had rejected harm reduction and were arguing that the battle to end tobacco use would be won without such policies (Kessler 2001; Pertschuk 2001).

More recently, the surgeon general has acknowledged that by far the greatest burden of disease and disability arises from combustible tobacco products, especially cigarettes, and that moving consumers away from this type of tobacco/nicotine product is desirable (Office of the Surgeon General 2014). Other tobacco products such as smokeless tobacco (particularly, low-nitrosamine Swedish snus) and nicotine products such as vape or electronic cigarettes are not safe but are upward of 90 percent less harmful than cigarettes (Nutt et al. 2014; RCP 2016). The case for *lower* risk for individual users is well established. For example, smokeless tobacco does not lead to lung cancer or other respiratory diseases, which account for most cigarette-caused deaths (e.g., Scientific Committee on Emerging and Newly Identified Health Risks 2008).

Harm reduction nevertheless is still opposed by arguments that it will legitimate some products and lead to an increased number of people using those less harmful, but still harmful, products. Advocates for harm reduction respond that the net effect on public health is highly likely to be positive (Kozlowski et al. 2001; Levy et al. 2016). In these ongoing debates (Sweanor, Alcabes, and Drucker 2007), many of the arguments involve projecting highly uncertain trends. Those projections are influenced by moral psychology.

### **Morality, Health, and Youth**

Kenneth Warner has observed “a distinctly puritanical streak within the public health community that would rebel against any notion that there should be any alternatives to ‘Just say no’ when it comes to nicotine—and especially any alternative that might involve the tobacco industry as participant in the solution, as opposed to just being the problem” (quoted in Pertschuk 2001: 259). Similar moral arguments can be seen in examples from alcohol prohibition in the United States (Levine and Reinerman 1991). Morone describes moral panics as drivers of prohibitions and identifies the threat to youth as fundamental: “It’s a moral classic: Dangerous people threaten our innocents. Prohibitions generally rise up the political agenda with gothic stories of the first sip, puff, or snort. The bad companion lures foolish youngsters to their terrible fate” (Morone 2003: 477).

The 2009 tobacco law giving the Food and Drug Administration (FDA) jurisdiction over cigarettes sought explicitly to prevent any use by minors (Family Smoking Prevention and Tobacco Control Act. Stat 1776. United States Code [2009]). Policies to protect youth respond to the fact that most

smokers start as minors (Office of the Surgeon General 1994). But the argument that protecting kids would be popular convinced President Clinton to pursue the FDA regulation of tobacco (Kessler 2001). Adults are seen as responsible for their decision to smoke, but children who start smoking and become addicted are not viewed as responsible and must be protected.

### Moral Psychology

Moral psychology (Haidt 2007) has roots in the anthropology of morality across cultures. In addition to the generally recognized values (or moral intuitions) of (1) minimizing *harm* and showing *care* for others and (2) *fairness* and *justice*, three additional themes are important: (3) concern for *in-group loyalty*, (4) respect for *authority*, and (5) concern for *sacredness* or *purity* (Haidt 2007). Research has shown that individuals differ in the importance they place on the five themes and that, for example, liberals care relatively more than do conservatives about the first two and relatively less about the last three (Haidt 2007). More recent research finds that libertarians are distinct from liberals or conservatives. Libertarians stress a sixth value of endorsing *liberty* as the dominant guiding principle (Iyer et al. 2012). A further, essential part of moral psychology leads human beings to respond quickly with moral intuitions, producing moral emotions, such that when rights (fairness/justice) are violated we get angry, when community standards are violated we are contemptuous, and when our sense of the sacred becomes contaminated, we are disgusted.

Such fast-thinking emotional responses might subsequently be rationalized through slow-thinking processes (Kahneman 2013). Yet even if time and sufficient evidence exist to conduct a complete assessment, people, even scientists, are not really good at it (Kahneman 2013; Reyna and Lloyd 2006). Such problems usually engage hypotheticals and the unpredictable, with worrying slippery slopes to imagine ahead. Complete cost-benefit analyses are very difficult. Measurement choices—such as how to weight years of life lost or which measures of morbidity to use—are burdensome and contentious. Other research supports moral psychology's view of rapid, emotionally dominated mental processing (Kahneman 2013; Sunstein 2005). *Fuzzy-trace theory* holds that gists of information (intuitions), more than detailed knowledge, shape decisions (Reyna and Lloyd 2006). Such simplifying gists have been identified in both youths' and adults' processing of information about health risks (Brainerd and Reyna 2015). Even

health professionals with advanced training and experience employ such gists rather than more detailed understandings (Reyna and Lloyd 2006).

For our purposes it is unnecessary and unwise to label people's moral philosophies. Yet we should recognize that each of the six attitudes identified by the sources is held strongly, more or less, by both ordinary citizens and experts. One reason for pursuing tighter restrictions on children is because violating their liberty to choose is more acceptable. Children are believed to have diminished responsibility and independence. The prevailing views on prohibiting tobacco use by minors can make it seem ill-advised, even disgusting, to propose supporting their use of much less harmful products. Moral psychology helps us understand such initial reactions.

### **Moral Psychology and Protecting Different Groups of Minors**

Federal law states that “the use of tobacco products by the Nation’s children is a pediatric disease of considerable portions” and adds that “virtually all new users” are under the minimum legal age to purchase” (Family Smoking Prevention and Tobacco Control Act. 123 Stat 1777. United States Code [2009]). Nevertheless, only a minority of young people become tobacco users, and they tend to differ from nonsmokers in other ways as well.

Rebellion and risk-taking are so-called common-liability characteristics (discussed below) that promote youths’ adoption of many activities that adults would prefer to discourage. Many minors do engage in bad (“sinful”) behavior involving alcohol, tobacco, other drugs, and sexual activity (Morone 2003). For example, in 2015, 34.7 percent of tenth graders reported ever having used an illicit drug, 28.6 percent reported ever having been drunk, and 19.9 percent reported ever having smoked a cigarette (Miech, Johnston et al. 2016). High-school dropouts are much likelier to smoke (Tice 2013). Young individuals with mental illness are much more likely to be smokers than are those without mental illness, and these young smokers may be self-medicating with nicotine (DeHay et al. 2012). Among young people with *conduct disorder*, 72 percent were monthly smokers, compared to only 21 percent of monthly smokers who had no mental disorder (Lawrence et al. 2010).

Zero tolerance policies therefore have been better at protecting “good” children who are on track to attending college; avoiding alcohol, marijuana, or tobacco; abstaining from having sex; and generally exhibiting

good behavior. In contrast, harm-reduction policies would be more relevant to “bad” youth who leave school, get drunk weekly, smoke marijuana and tobacco every day, are sexually active, and are generally misbehaving. A policy that tries to keep the innocent pure can be in outright opposition to the mitigation of the risks for the misbehaving. Withholding nicotine vaping may be irrelevant to many of the well-behaved youth who have no interest in or a low risk of using; however, nicotine-vaping products may be the best one can do to reduce the health risks for misbehaving youth. Support of or opposition to these policies does not necessarily rest on the careful assessment of extensive, high-quality evidence but can arise from emotional responses and fears linked to the different potential effects (Alderman, Dollar, and Kozlowski 2010; Kozlowski 2013).

The argument that tobacco/nicotine products are not safe (Kozlowski and Edwards 2005), absent any indication of how dangerous they are, is essentially a claim about contamination. All tobacco/nicotine products would pollute the purity of the “good” children. The violation of this fifth moral psychological value leads to disgust at the prospect of a good child using such a product, and for some, the possible reduction in harm to the bad child using a less harmful product cannot override the feeling of disgust. Ideas about contamination also lurk near the surface of concerns about *causal drug gateways*. The concept of gateways has powerfully mobilized the disapproval of less harmful products (Bell and Keane 2014; Kleinig 2015). “Stories of the first sip, puff, or snort” are powerful and through the lens of moral psychology represent the first instance of contamination.

Associations between the use of different products may be caused not by a gateway sequence but by a common-liability effect: that the context of the individual or tendencies to engage in riskier activities drives the association. In other words, it is not the product so much as the person or the environment that *causes* patterns of use (Vanyukov et al. 2012). But individuals whose moral psychologies emphasize purity will be influenced by research that demonstrates even minimal “contamination.” For example, recent research on possible gateways from vaping to cigarettes in youth has turned on evidence such as “at least one puff on a cigarette” rather than any evidence of established regular smoking (Leventhal et al. 2015; Primack et al. 2015). The evidence supporting causal gateway effects that would be large enough to significantly influence population health, however, is slim and unconvincing (Kozlowski 2007; Kozlowski and Abrams 2016; Kozlowski and Sweanor 2016; Kozlowski and Warner 2017; Saddleson et al. 2015). Small prospective studies finding that a

minority of the very few young never-smokers who try vaping go on to experiment with cigarettes (Barrington-Trimis et al. 2016; Huh and Leventhal 2016; Leventhal et al. 2015) are not persuasive. This is true especially in the face of secular trends that show historic decreases in cigarette smoking associated with increased vaping (Warner 2015; Warner 2016), two-thirds of which uses flavors only and does not include nicotine at all (Miech, Patrick et al. 2016). The use of smokeless tobacco in Sweden has been well studied and judged not to be a cigarette gateway (Scientific Committee on Emerging and Newly Identified Health Risks 2008).

Moral beliefs that emphasize in-group loyalty and respect for authority also tend to support prohibition for minors: protecting Us from Them. The protection of one's community (Us) from invasion from the outside (Them) is a moral tradition (Morone 2003). Within moral psychology, one would show contempt for failing to protect Us from Them. In that most of the current public health leaders likely either no longer are or never were tobacco/nicotine users and are inclined to vilify the tobacco industry, a prevailing sense of authority would likely align with zero tolerance. Any users of tobacco/nicotine are an external threat to a community aspiring to end such use (Warner 2013).

At the extreme, deviant youth may be viewed as Them and beyond the help that is protecting the good youth. As Morone writes, "The bad companion lures foolish youngsters to their terrible fate" (p. 477) and so is part of the problem. Deviant youth can also be seen to "deserve" what they get from the natural negative consequences of their behavior (Portes, Dunham, and Williams 1986). Harm-reduction measures can be feared as a spur to bad behavior *because* they reduce negative consequences. All in all, many moral emotions support a prohibition approach that purposefully or not favors "good" children over "bad" children, and this represents an influential bias that needs to be assessed for whether it promotes net public health or reduces it.

Experts who place relatively greater value on reducing harm to others (the first moral psychological value), and who at the same time value purity relatively less, can view moving high-risk youth to less harmful products as virtuous. Those who stress liberty would also be inclined to provide choices to high-risk youth who are misbehaving. Anger can be the emotional response to those who oppose harm reduction. Although I do lean toward harm reduction, even for youth, this article should not be viewed as trying to hide behind moral psychology to offer a kind of rebuke of the opposition. On all sides of the harm-reduction debate, we are tangled within our own matrices of values (Kozlowski 2016a).

## Doing Better in Policy Decision Making: Considering Differing Moral Foundations

It is hard to know how much *harm-reduction* for one high-risk child would be equal to *harm-prevention* for one low-risk child, especially when anxious estimates may influence calculations more than reliable measures. Of course, slow thinking and deep analysis can be applied to policy choices and help improve them (Greene 2013). Techniques are available to reduce reliance on gists and promote more objective decisions (Reyna, Weldon, and McCormick 2015). But the research has shown that there are multiple compelling gists that “distract competent reasoners from correcting their processing errors” (Reyna and Lloyd 2006: 192). More thoughtful analysis as well as more scientific evidence can be used to try to oppose biased cognitive processing. Digging deeper into issues and the degrees of costs and benefits related to positions creates the potential for compromise between polarized positions (Fernbach et al. 2013).

Appreciating that quite different patterns of moral foundation can be at play, each deserving of respect, may be a first step toward more deliberative analyses of issues. Moral psychological profiles are a matter of relative emphasis. Few individuals have complete blind spots with respect to any of the six values, but our priorities do differ. If we avoid the trap of using less conscious, fast-thinking moral judgments to implicitly choose between helping the “good” and “bad” youth, we may find policies to help both. But we have to be willing to do so.

In spite of the willingness of deviant youth to disregard restrictions, accurate information on major differential risks might nevertheless influence their patterns of use (Kozlowski and Sweanor 2016; Kozlowski and Sweanor 2017), as would differential taxation according to risk (Chaloupka, Sweanor, and Warner 2015), or using product risks to set the legal age of purchase (Kozlowski 2016b). Thus, one should still support a policy of prohibiting any tobacco/nicotine product use (and “good” youth will comply) while also supporting policies that give clear signals about or incentives for lesser product risks (and “bad” youth could be helped). Research has shown that tobacco control policies that have a positive effect on adults also affect youth cigarette use (Tauras, Huang, and Chaloupka 2013). Adolescents do react in ways similar to adults when presented with risk information (Steinberg 2008). Mistaken beliefs about reduced risks from “light” cigarettes likely have contributed to such cigarette brands becoming the best-sellers among youth as well as adults (O’Connor 2005).

Policy makers should attempt to go beyond powerful moral intuitions for protecting children to consider the net costs and benefits for all youth—from lowest risk to highest risk. From a public health perspective, the emphasis should be more on disease prevention and health promotion than on morally biased perspectives. This applies to a broad range of harm-reduction issues, not just tobacco. In the often equally controversial area of sex education in schools, evidence is growing that comprehensive programs can be developed to increase *both* the number of students who abstain (helping the “good”) and who practice safer sex (helping the “bad”) (Weed 2012). More complex policies that target the particular needs of different youth may be crucial. In the end, consciousness about moral psychology may help us resist having our moral intuitions creating a kind of “evidence” that we rely on too much when developing policies to promote population health.

■ ■ ■

**Lynn T. Kozlowski** is a professor of community health and health behavior at the University at Buffalo—SUNY School of Public Health and Health Professions. He served as dean of the school from 2008 to 2014. He trained in psychology at Columbia University. His work focuses on tobacco use and addictions, ranging from empirical studies to projects on ethics, history, and policy. He has published in *Science*, *Nature*, *Journal of the American Medical Association*, *Addiction*, and the *American Journal of Public Health* and has contributed to *National Cancer Institute Monographs* and *Reports of the Surgeon General*. He is a senior editor of *Addiction* and associate editor of *Tobacco Control*.  
lk22@buffalo.edu.

## References

- Alderman, Jessica, Katherine M. Dollar, and Lynn T. Kozlowski. 2010. “Commentary: Understanding the Origins of Anger, Contempt, and Disgust in Public Health Policy Disputes: Applying Moral Psychology to Harm Reduction Debates.” *Journal of Public Health Policy* 31, no. 1: 1–16. doi: 10.1057/jphp.2009.52.
- American Cancer Society. 1987. *Smoke Signals: The Smoking Control Media Handbook*. New York: American Cancer Society.
- Barrington-Trimis, Jessica L., Robert Urman, Kiros Berhane, Jennifer B. Unger, Tess Boley Cruz, Mary Ann Pentz, Jonathan M. Samet, Adam M. Leventhal, and Rob

- McConnell. 2016. "E-Cigarettes and Future Cigarette Use." *Pediatrics* 138, no. 1 (July). doi: 10.1542/peds.2016-0379.
- Bayer, Ronald. 2002. "Tobacco, Commercial Speech, and Libertarian Values: The End of the Line for Restrictions on Advertising?" *American Journal of Public Health* 92, no. 3: 356–59.
- Bell, Kirsten, and Helen Keane. 2014. "All Gates Lead to Smoking: The 'Gateway Theory,' E-Cigarettes and the Remaking of Nicotine." *Social Science and Medicine* 119: 45–52. doi: <http://dx.doi.org/10.1016/j.socscimed.2014.08.016>.
- Brainerd, Charles J., and Valerie F. Reyna. 2015. "Fuzzy-Trace Theory and Lifespan Cognitive Development." *Developmental Review* 38: 89–121. doi: 10.1016/j.dr.2015.07.006.
- CDC (US Centers for Disease Control and Prevention). 2016. "Smoking and Youth." [www.cdc.gov/tobacco/data\\_statistics/sgr/50thanniversary/pdfs/fs\\_smoking\\_youth\\_508.pdf](http://www.cdc.gov/tobacco/data_statistics/sgr/50thanniversary/pdfs/fs_smoking_youth_508.pdf) (accessed September 13, 2016).
- Chaloupka, Frank J., David Swenor, and Kenneth E. Warner. 2015. "Differential Taxes for Differential Risks—Toward Reduced Harm from Nicotine-Yielding Products." *New England Journal of Medicine* 373, no. 7: 594–97. doi: 10.1056/NEJMp1505710.
- DeHay, Tamara, Chad Morris, Mandy Graves May, Karen Devine, and Jeanette Waxmonsky. 2012. "Tobacco Use in Youth with Mental Illnesses." *Journal of Behavioral Medicine* 35, no. 2: 139–48. doi: 10.1007/s10865-011-9336-6.
- Fernbach, Philip M., Todd Rogers, Craig R. Fox, and Steven A. Sloman. 2013. "Political Extremism Is Supported by an Illusion of Understanding." *Psychological Science* 24, no. 6: 939–46. doi: 10.1177/0956797612464058.
- Greene, Joshua D. 2013. *Moral Tribes: Emotion, Reason, and the Gap between Us and Them*. New York: Penguin.
- Haidt, Jonathan. 2007. "The New Synthesis in Moral Psychology." *Science* 316, no. 5827: 998–1002. doi: 10.1126/science.1137651.
- Huh, Jimi, and Adam M. Leventhal. 2016. "Progression of Poly-Tobacco Product Use Patterns in Adolescents." *American Journal of Preventive Medicine* 51, no. 4: 513–17. doi: 10.1016/j.amepre.2016.04.004.
- Iyer, Ravi, Spassena Koleva, Jesse Graham, Peter Ditto, and Jonathan Haidt. 2012. "Understanding Libertarian Morality: The Psychological Dispositions of Self-Identified Libertarians." *PLOS One* 7, no. 8: e42366. doi: 10.1371/journal.pone.0042366.
- Kahneman, Daniel. 2013. *Thinking, Fast and Slow*. New York: Farrar, Straus and Giroux.
- Kessler, David A. 2001. *A Question of Intent: A Great American Battle with a Deadly Industry*. New York: Public Affairs.
- Kleinig, John. 2015. "Ready for Retirement: The Gateway Drug Hypothesis." *Substance Use and Misuse* 50, no. 8–9: 971–75. doi: 10.3109/10826084.2015.1007679.
- Kozlowski, Lynn T. 2007. "Effect of Smokeless Tobacco Product Marketing and Use on Population Harm from Tobacco Use: Policy Perspective for Tobacco-Risk Reduction." *American Journal of Preventive Medicine* 33, no. 6: S379–S386.

- Kozlowski, Lynn T. 2013. "Ending versus Controlling versus Employing Addiction in the Tobacco-Caused Disease Endgame: Moral Psychological Perspectives," supplement, *Tobacco Control* 22, no. 1: i31–i32.
- Kozlowski, Lynn T. 2015. "The Truncation of Moral Reasoning on Harm Reduction by Individuals and Organizations." *Addiction* 110, no. 7: 1070–72. doi: 10.1111/add.12966.
- Kozlowski, Lynn T. 2016a. "Coping with the Conflict-of-Interest Pandemic by Listening to and Doubting Everyone, Including Yourself." *Science and Engineering Ethics* 22, no. 2: 591–96. doi: 10.1007/s11948-015-9658-9.
- Kozlowski, Lynn T. 2016b. "A Policy Experiment Is Worth a Million Lives." *Issues in Science and Technology* 32, no. 2: 20–23.
- Kozlowski, Lynn T., and David B. Abrams. 2016. "Obsolete Tobacco Control Themes Can Be Hazardous to Public Health: The Need for Updating Views on Absolute Product Risks and Harm Reduction." *BMC Public Health* 16: 432. doi: 10.1186/s12889-016-3079-9.
- Kozlowski, Lynn T., and Beth Q. Edwards. 2005. "'Not Safe' Is Not Enough: Smokers Have a Right to Know More than There Is No Safe Tobacco Product," supplement, *Tobacco Control* 14, no. 2: ii3–7.
- Kozlowski, Lynn T., A. Strasser, G. Giovino, P. Erickson, and J. Terza. 2001. "Applying the Risk/Use Equilibrium: Use Medicinal Nicotine Now for Harm Reduction." *Tobacco Control* 10, no. 3: 201.
- Kozlowski, Lynn T., and David Sweanor. 2016. "Withholding Differential Risk Information on Legal Consumer Nicotine/Tobacco Products: The Public Health Ethics of Health Information Quarantines." *International Journal of Drug Policy* 32, no. :17–23. doi: 10.1016/j.drugpo.2016.03.014.
- Kozlowski, Lynn T., and David Sweanor. 2017. "Young or Adult Users of Multiple Tobacco/Nicotine Products Urgently Need to Be Informed of Meaningful Differences in Product Risks." *Addictive Behaviors*. January 25. doi: 10.1016/j.addbeh.2017.01.026.
- Kozlowski, Lynn T., and Kenneth E. Warner. 2017. "Adolescents and E-Cigarettes: Objects of Concern May Appear Larger Than They Are." *Drug and Alcohol Dependence* 1, no. 74: 209–14. doi: <http://dx.doi.org/10.1016/j.drugalcdep.2017.01.001>.
- Lawrence, David, Francis Mitrou, Michael G. Sawyer, and Stephen R. Zubrick. 2010. "Smoking Status, Mental Disorders and Emotional and Behavioural Problems in Young People: Child and Adolescent Component of the National Survey of Mental Health and Wellbeing." *Australian and New Zealand Journal of Psychiatry* 44, no. 9: 805–14. doi: 10.3109/00048674.2010.482921.
- Leventhal, Adam M., David R. Strong, Matthew G. Kirkpatrick, Jennifer B. Unger, Steve Sussman, Nathaniel R. Riggs, Matthew D. Stone, Rubin Khoddam, Jonathan M. Samet, and Janet Audrain-McGovern. 2015. "Association of Electronic Cigarette Use with Initiation of Combustible Tobacco Product Smoking in Early Adolescence." *Journal of the American Medical Association* 314, no. 7: 700–707. doi: 10.1001/jama.2015.8950.

- Levine, Harry G., and Craig Reinerman. 1991. "From Prohibition to Regulation: Lessons from Alcohol Policy for Drug Policy." *Milbank Quarterly* 69, no. 3: 461–94.
- Levy, David T., K. Michael Cummings, Andrea C. Villanti, Raymond Niaura, David B. Abrams, Geoffrey T. Fong, and Ron Borland. 2016. "A Framework for Evaluating the Public Health Impact of E-Cigarettes and Other Vaporized Nicotine Products." *Addiction* 112, no. 1. doi: 10.1111/add.13394.
- Lynch, Barbara S., and Richard J. Bonnie. 1994. *Growing Up Tobacco Free: Preventing Nicotine Addiction in Children and Youths*. Washington, DC: National Academy.
- MacCoun, Robert J. 2013. "Moral Outrage and Opposition to Harm Reduction." *Criminal Law and Philosophy* 7, no. 1: 83–98. doi: 10.1007/s11572-012-9154-0.
- Miech, Richard A., Lloyd D. Johnston, Patrick M. O'Malley, Jerald G. Bachman, and John E. Schulenberg. 2016. *Monitoring the Future: National Survey Results on Drug Use, 1975–2015: Volume I, Secondary School Students*. Ann Arbor, MI: Institute for Social Research, University of Michigan. monitoringthefuture.org/pubs.html#monographs.
- Miech, Richard, Megan E. Patrick, Patrick M. O'Malley, and Lloyd D. Johnston. 2016. "What Are Kids Vaping? Results from a National Survey of US Adolescents." *Tobacco Control*, August 25. doi: 10.1136/tobaccocontrol-2016-053014.
- Morone, James A. 2003. *Hellfire Nation: The Politics of Sin in American History*. New Haven, CT: Yale University Press.
- Nutt, David J., Lawrence D. Phillips, David Balfour, H. Valerie Curran, Martin Dockrell, Jonathan Foulds, Karl Fagerstrom et al. 2014. "Estimating the Harms of Nicotine-Containing Products Using the MCDA Approach." *European Addiction Research* 20, no. 5: 218–25. doi: 10.1159/000360220.
- O'Connor, Richard J. 2005. "What Brands Are US Smokers under Twenty-Five Choosing?" *Tobacco Control* 14, no. 3: 213. doi: 10.1136/tc.2004.010736.
- Office of the Surgeon General. 1994. *Preventing Tobacco Use among Young People: A Report of the Surgeon General*. Revised reprint. July. Washington, DC: HHS (US Department of Health and Human Services) Public Health Service.
- Office of the Surgeon General. 2014. *The Health Consequences of Smoking—Fifty Years of Progress: A Report of the Surgeon General*. Rockville, MD: HHS (US Department of Health and Human Services) Public Health Service.
- Pertschuk, Michael. 2001. *Smoke in Their Eyes: Lessons in Movement Leadership from the Tobacco Wars*. Nashville: Vanderbilt University Press.
- Portes, Pedro R., Richard M. Dunham, and Shavon Williams. 1986. "Assessing Child-Rearing Style in Ecological Settings: Its Relation to Culture, Social Class, Early Age Intervention and Scholastic Achievement." *Adolescence* 21, no. 83: 723.
- Primack, Brian A., Samir Soneji, Michael Stoolmiller, Michael J. Fine, and James D. Sargent. 2015. "Progression to Traditional Cigarette Smoking after Electronic Cigarette Use among US Adolescents and Young Adults." *Journal of the American Medical Association Pediatrics* 169, no. 11: 1018–23. doi: 10.1001/jamapediatrics.2015.1742.
- Rabin, Robert L., and Stephen D. Sugarman. 1993. *Smoking Policy: Law, Politics, and Culture*. New York: Oxford University Press.

- RCP (Royal College of Physicians). 2016. *Nicotine without Smoke: Tobacco Harm Reduction*. London: RCP.
- Reyna, Valerie F., and Farrell J. Lloyd. 2006. "Physician Decision Making and Cardiac Risk: Effects of Knowledge, Risk Perception, Risk Tolerance, and Fuzzy Processing." *Journal of Experimental Psychology: Applied* 12, no. 3: 179–95. doi: 10.1037/1076-898X.12.3.179.
- Reyna, Valerie F., Rebecca B. Weldon, and Michael McCormick. 2015. "Educating Intuition: Reducing Risky Decisions Using Fuzzy-Trace Theory." *Current Directions in Psychological Science* 24, no. 5: 392–98. doi: 10.1177/0963721415588081.
- Saddleson, Megan L., Lynn T. Kozlowski, Gary A. Giovino, Larry W. Hawk, Jill M. Murphy, Michael G. MacLean, Maciej L. Goniewicz, Gregory G. Homish, Brian H. Wrotniak, and Martin C. Mahoney. 2015. "Risky Behaviors, E-Cigarette Use and Susceptibility of Use among College Students." *Drug and Alcohol Dependence* 149:25–30. doi: 10.1016/j.drugalcdep.2015.01.001.
- Scientific Committee on Emerging and Newly Identified Health Risks. 2008. "Scientific Opinion on the Health Effects of Smokeless Tobacco Products." February 6, 2008. [ec.europa.eu/health/ph\\_risk/committees/04\\_scenihp/docs/scenihp\\_o\\_013.pdf](http://ec.europa.eu/health/ph_risk/committees/04_scenihp/docs/scenihp_o_013.pdf).
- Steinberg, Laurence. 2008. "A Social Neuroscience Perspective on Adolescent Risk-Taking." *Developmental Review* 28, no. 1: 78–106. doi: dx.doi.org/10.1016/j.dr.2007.08.002.
- Sunstein, Cass R. 2005. "Moral Heuristics." *Behavioral and Brain Sciences* 28, no. 4: 531–42. doi: 10.1017/S0140525X05000099.
- Sweanor, David, Philip Alcabes, and Ernest Drucker. 2007. "Tobacco Harm Reduction: How Rational Public Policy Could Transform a Pandemic." *International Journal of Drug Policy* 18, no. 2: 70–74. doi: 10.1016/j.drugpo.2006.11.013.
- Tauras, John A., Jidong Huang, and Frank J. Chaloupka. 2013. "Differential Impact of Tobacco Control Policies on Youth Sub-Populations." *International Journal of Environmental Research and Public Health* 10, no. 9: 4306–22. doi: 10.3390/ijerph10094306.
- Tice, Peter. 2013. "Substance Use among Twelfth Grade Aged Youths by Dropout Status." CBHSQ Report. Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration.
- Tobacco Control Research Branch. 2001. "Risks Associated with Smoking Cigarettes with Low Machine-Measured Yields of Tar and Nicotine." *Smoking and Tobacco Control Monograph 13*. Bethesda, MD: National Cancer Institute.
- US Department of Health, Education, and Welfare. 1964. "Smoking and Health: Report of the Advisory Committee to the Surgeon General of the Public Health Service." Washington, DC: Public Health Service Publication no. 1103.
- Vanyukov, Michael M., Ralph E. Tarter, Galina P. Kirillova, Levent Kirisci, Maureen D. Reynolds, Mary J. Kreek, Kevin P. Conway et al. 2012. "Common Liability to Addiction and 'Gateway Hypothesis': Theoretical, Empirical and Evolutionary Perspective," supplement, *Drug and Alcohol Dependence* 123, no. 1: S3–17. doi: 10.1016/j.drugalcdep.2011.12.018.

- Warner, Kenneth E. 2013. "An Endgame for Tobacco?," supplement, *Tobacco Control* 22, no. 1: i3–5. doi: 10.1136/tobaccocontrol-2013-050989.
- Warner, Kenneth E. 2015. "The Remarkable Decrease in Cigarette Smoking by American Youth: Further Evidence." *Preventive Medicine Reports* 2: 259–61. doi: 10.1016/j.pmedr.2015.04.001.
- Warner, Kenneth E. 2016. "Frequency of E-Cigarette Use and Cigarette Smoking by American Students in 2014." *American Journal of Preventive Medicine* 51, no. 2: 179–84. doi: 10.1016/j.amepre.2015.12.004.
- Weed, Stan E. 2012. "Sex Education Programs for Schools Still in Question: A Commentary on Meta-analysis." *American Journal of Preventive Medicine* 42, no. 3: 313–15. doi: 10.1016/j.amepre.2011.11.004.