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by

Dan M. Kahan and Paul Slovic

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Cultural Evaluations of Risk: “Values” or “Blunders”?

Dan M. Kahan* and Paul Slovic**

What are the respective contributions of culture and rationality to risk perception? Do disagreements between lay persons and experts (and among members of both groups) originate in conflicting values, differing abilities to comprehend technical information, or both? If conflicting values do play a role, should the law be responsive to popular perceptions of risk even when expert regulators believe that popular beliefs are *wrong*?

These are the central questions in the debate between us and Sunstein. We take the position that cultural worldviews pervade popular (not to mention expert) risk assessments, and that a genuine commitment to democracy forbids simply dismissing such perceptions as products of “bounded rationality.”¹ Sunstein disagrees.²

The critical import of Sunstein’s arguments notwithstanding, we are both gratified and edified by his thoughtful reply to our review essay. In the spirit of scholarly reciprocity, we now respond to two of Sunstein’s criticisms, one methodological and the other substantive.

I. Measuring Risk Perceptions

In our study,³ we used a four-point scale to measure subjects’ ratings of how “dangerous” an activity was or how “serious” a risk it

* Elizabeth K. Dollard Professor and Deputy Dean, Yale Law School.
<http://research.yale.edu/culturalcognition/kahan>

** Professor of Psychology, University of Oregon; President, Decision Research.
<http://www.decisionresearch.org/About/People/slovic.html>

¹ Cass R. Sunstein, *Misfearing: A Reply*, 119 Harv. L. Rev. 1110 (2006).

² Dan M. Kahan, Paul Slovic, Donald Braman & John Gastil, *Fear of Democracy: A Cultural Evaluation of Sunstein on Risk*, 119 Harv. L. Rev. 1071 (2006).

³ See The Cultural Cognition Project at Yale Law School, <http://research.yale.edu/culturalcognition>.

posed. Sunstein suggests that persons asked to appraise risks in this way are “not likely to respond with a quantitative analysis of the projected harm,” and that the resulting data therefore “do not reveal much about risk perception as that term is explored in *Laws of Fear*.”⁴

This is a curious criticism for Sunstein to make. One of the great strengths of *Laws of Fear* is its masterful synthesis of the extensive social psychology literature on popular risk perceptions. A great deal of the work in this field relies on categorical ratings of risk akin to the ones in our study. In *Laws of Fear*, Sunstein himself draws on such studies to support his own arguments.⁵

No measure of risk perceptions is perfect. But one that uses categorical appraisals like the those in our study offers several advantages over one that asks subjects to attempt to quantify the risks (say, by guessing the “expected annual deaths”⁶) associated with putatively dangerous activities.

One is that quantitative measures have been shown to lack reliability and validity. The results they generate (when administered to lay persons or experts) turn out to be highly sensitive to item wording and other framing problems that do not, as a matter of theory or empirical data, admit of any clear solution.⁷ Categorical

⁴ *Id.* at 1114.

⁵ For example, Sunstein relies on Paul Slovic, Melissa Finucane, Ellen Peters, & Donald G. MacGregor *The Affect Heuristic*, in *Heuristics and Biases: the Psychology of Intuitive Judgment* (Thomas Gilovich, Dale W. Griffin & Daniel Kahneman eds., 2002).

⁶ Sunstein, *supra* 1, at 1114.

⁷ See Baruch Fischhoff & Donald MacGregor, *Judged Lethality: How Much People Seem to Know Depends Upon How They Are Asked*, 3 *Risk Analysis* 229-36 (1983); Amos Tversky & Derek J. Koehler, *Support Theory: A Nonextensional Representation of Subjective-Probability*, 101 *Psychol. Rev.* 547 (1994); Paul Slovic, *Rejoinder: The Perils of Viscusi’s Analyses of Smoking Risk Perceptions*, 13 *J. Behav. Dec. Making* 273, 274-75 (2000); see also Paul Slovic & John Monahan, *Probability, Danger, and Coercion: A Study of Risk Perception and Decision-Making in Mental-Health Law*, 19 *Law & Human Behav.* 49 (1995) (demonstrating unreliability of probability estimates and reliability of categorical “dangerousness” measures using both lay and expert subjects). In addition, individuals’ facilities

scales *do* reliably reflect variation in attitudes, between different persons and across risks, without the misleading implication that those attitudes reflect stable and genuine actuarial appraisals.⁸

Another advantage of categorical scales comes from the centrality of *affect* in risk perceptions. Individuals tend to conform their appraisals of all the dimensions of risk evaluation – including expected benefit and expected harm – to the negative or positive feelings that risk activities provoke.⁹ Sunstein surmises, reasonably, that subjects asked to report their risk perceptions using a categorical “seriousness” scale will likely rely on a “rapid, intuitive judgment . . . that reflects . . . affect.”¹⁰ But because affect most powerfully explains public estimations of the various components of acceptable risk, this is a virtue, not a vice, of such a scale.

A final important reason to elicit subjects’ more general appraisals of risk “seriousness,” rather than their “quantitative” guesses about risk incidence, has to do with the purpose of studying popular risk perceptions. What we are all trying to figure out – Sunstein included – is how popular risk perceptions influence political responses to risk, and what normative significance the law should give to such perceptions. Such an inquiry, then, should take

with numbers vary tremendously. A risk measure that demands “quantitative analysis” alone can thus result in a distorted picture of the attitudes (which can still be quite coherent) of persons with low numerical facility. See Ellen Peters, Daniel Västfjäll, Paul Slovic, C. K. Mertz, Ketti Mazzocco & Stephan Dickert, *Numeracy and Decision Making*, Psychol. Science (forthcoming 2006).

⁸ See Paul Slovic, John Monahan & Donald G. MacGregor, *Violence Risk Assessment and Risk Communication: The Effects of Using Actual Cases, Providing Instruction, and Employing Probability Versus Frequency Formats*, 24 *Law & Human Behav* 271, 294 (2000) (cited by Cass R. Sunstein, *Laws of Fear* 40 n.13, 81 n.42 (2005)); see also Paul Slovic, *Rejoinder: The Perils of Viscusi’s Analyses of Smoking Risk Perceptions*, 13 *J. Behav. Dec. Making* 273, 274-75 (2000).

⁹ See Paul Slovic, Melissa L. Finucane, Ellen Peters & Donald G. MacGregor, *Risk as Analysis and Risk as Feelings: Some Thoughts About Affect, Reason, Risk, and Rationality*, 24 *Risk Analysis* 311 (2004). <http://research.yale.edu/culturalcognition/index.php?option=content&task=view&id=99>.

¹⁰ Sunstein, *supra* note 1, at 1114.

as its focus the types of judgment that in fact animate popular and political debates about risk.

When ordinary citizens take a position – by voting, by expressing their opinion in the media, by making contributions to political candidates and causes – they are unlikely to be motivated by some abstract “quantitative analysis” of the danger of guns, of global warming, of various public health risks, and so forth. Rather, they are acting on their feelings, which are likely to reflect a complex of interacting instrumental and expressive judgments.¹¹

As Sunstein suggests, a response measure that asks respondents to state how “serious” a risk is will pick up not just “anticipated harm[s] [and] the cost[s]” but also “related moral and political” concerns,¹² Precisely because these are all part of the package of judgments that motivate public reactions to risk, a risk-perception measure that captures all of them is ideal for scholars who are trying to figure out where such attitudes come from and what impact they have on lawmaking.

Of course, to say scholars of risk perception should use a measure that includes *all* its elements – instrumental, affective, expressive – isn’t necessarily to say that popular perceptions should be normative for law. Indeed, exactly because we – including Sunstein – are also trying to determine what effect such perceptions should be given in a democratic society, it is essential to use a measure that makes it possible to assess how such perceptions are formed and what they consist in. We believe that the kind of categorical scale we used is better suited for that than any measure that asks lay persons to engage in bare “quantitative analysis” of risks.

II. Does Bounded Rationality “Lie Behind” Cultural Cognition?

Sunstein also presents a provocative substantive criticism of our “cultural evaluator model” of risk perception. We challenged

¹¹ See Paul Slovic, *Trust, Emotion, Sex, Politics and Science: Surveying the Risk-Assessment Battlefield*, in *The Perception of Risk* 390 (2000).

¹² Sunstein, *supra* note 1, at 1114 (emphasis added).

his position – which we called the “irrational weigher model” – on the ground that many of the public (mis)perceptions of risk that Sunstein attributes to bounded rationality in fact express coherent cultural worldviews, and as such must be taken seriously in any policymaking scheme that purports to be democratic. Sunstein turns the table on us. Properly understood, he argues, “ ‘cultural cognition’ is largely a result of bounded rationality, not an alternative to it.”¹³ According to Sunstein, the distribution of risk perceptions that we attribute to cultural worldviews in fact reflects two mechanisms – social influences and “normative bias” – that inevitably fill the void associated with defects in human reasoning power.¹⁴ Because these artifacts of “bounded rationality lie behind cultural cognition,”¹⁵ a regime in which policymaking is shielded from cultural evaluations of risk remains faithful to the principle that democracies “should respond to people’s values, rather than to their blunders.”¹⁶

In our view, Sunstein’s assertion that “bounded rationality lie[s] behind cultural cognition” merges two claims, one of which is clearly wrong and the other of which might be right. The clearly wrong claim is that one would expect persons who are boundedly rational to behave like cultural evaluators just because they are boundedly rational. It is indeed well established that people conform their factual beliefs both to the apparent view of others (through mechanisms such as “group polarization,”¹⁷ “reactive devaluation,”¹⁸ and “naïve realism”¹⁹) and to their own values

¹³ *Id.* at 1111.

¹⁴ *See id.* at 1118-19.

¹⁵ *Id.* at 1118.

¹⁶ *Id.* at 1125.

¹⁷ *See* Cass R. Sunstein, *Deliberative Trouble: Why Groups Go to Extremes*, 110 *Yale L.J.* 71 (2001).

¹⁸ Lee Ross, *Reactive Devaluation in Negotiation and Conflict Resolution*, in *Barriers to conflict resolution* (K. Arrow ed., 1st ed. 1995).

¹⁹ *See* Robert J. Robinson, Dachter Keltner, Andrew Ward & Lee Ross, *Actual Versus Assumed Differences in Construal: "Naïve Realism" in Intergroup Perception and Conflict*, 68 *J. Personality & Soc. Psych.* 404-17 (1995).

(through mechanisms such as “biased assimilation”²⁰ and “defensive motivation”²¹). But these dynamics don’t tell us *which* group commitments (professional or geographic, political or socioeconomic) or *which* values (ideological, religious, aesthetic, etc.) will exert this impact on belief formation. They thus furnish no explanation for any particular distribution of beliefs across persons or issues, and no explanation, in particular, for why beliefs are in fact distributed in ways that express persons’ commitments to hierarchic and egalitarian, individualistic and communitarian world-views.

The most plausible way to make sense of these patterns of belief is to view culture as *prior* to the cognitive processes through which people perceive facts. Perhaps because of upbringing, perhaps because of genetic disposition, or perhaps because of some combination of the two, people form hierarchic, egalitarian, individualistic or communitarian cultural commitments. These commitments, in turn, supply the values to which individuals are motivated to conform their beliefs, and define the relevant groups within which social influences on belief operate. Bounded rationality, then, does not explain why people behave like cultural evaluators; on the contrary, the disposition of people to behave like cultural evaluators explains why established mechanisms of belief formation – social influences, biased assimilation, the availability heuristic, probability neglect, affect, etc. – generate the distinctive array of beliefs that boundedly rational people actually hold.

The second version of Sunstein’s claim – the one that might be right – is that the beliefs people form as a result of cultural cognition are not entitled to normative weight in democratic deci-

²⁰ See Charles G. Lord, Lee Ross & Mark R. Leper, *Biased Assimilation and Attitude Polarization: The Effects of Prior Theories on Subsequently Considered Evidence*, 11 J. Personality & Soc. Psych. 2098-2109 (1979).

²¹ See David K. Sherman & Geoffrey L. Cohen, *Accepting Threatening information: Self-affirmation and the Reduction of Defensive Biases*, 11 Current Directions in Psychological Science 119 (2002); Roger Giner-Sorolla & Shelly Chaiken, *Selective Use of Heuristic and Systematic Processing Under Defense Motivation*, 23 Personality and Social Psychology Bulletin 84 (1997).

sionmaking. The cultural cognition thesis says that individuals, because they can't easily access or make sense of complicated empirical data on disputed policy issues (does the death penalty deter? is global warming a serious threat? does private possession of guns increase or decrease crime?), must rely on cognitive processes grounded in their cultural commitments. But this is arguably nothing more than an account of where beliefs come from, and indeed an account that explains why individuals might persistently form incorrect beliefs in the face of compelling empirical evidence. Democracy, as Sunstein says, should be responsive to “values,” not “blunders,” and if cultural cognition gives us just another account of how people blunder, it gives us just another reason to try to design decisionmaking procedures that are immune from popular belief.

The reason that we're unsure this is right is the one we emphasized in our review. The origin of even incorrect factual beliefs in cultural values that are *prior* to cognition calls the “blunder”-“value” criterion into serious doubt. As cultural evaluators, individuals adopt the factual beliefs about risk that express their commitments to one or another vision of the good society. In this circumstance, expressive valuations (“capitalism denigrates social solidarity”; “owning a gun enables self-reliance”) will be essentially interchangeable with corresponding factual beliefs (“nuclear power is an unsafe technology”; “owning a gun makes society safer”). Accordingly, if we give politically insulated experts the power to reject popular factual beliefs about risks as “blunders,” we are necessarily delegating to them the power to override public “values” as well.²²

Nevertheless, if we came off sounding as if we think democracy entails respecting all culturally grounded risk perceptions, no matter how empirically misguided they might be, we overstated our position. We admit to a fair measure of ambivalence about when beliefs formed as a result of cultural cognition merit normative respect within a democratic society.

²² See Kahan et al., *supra* note 2, at 1104-06.

For one thing, to say that a belief is founded on culture obviously isn't to say that its fixed in stone. As we emphasized in our review essay,²³ once the dynamics of cultural cognition are understood, it should be possible to devise various risk-communication strategies that make it possible for citizens to accept new information, and ultimately change their minds, *without* experiencing a threat to their cultural identities. We believe citizens of a deliberative democracy would agree that law should be used to help persons of diverse cultural worldviews converge on empirically sound beliefs about risk. Accordingly, we see it as perfectly consistent with democratic principles for regulators to promote belief-shaping policies of this sort rather than accept uncritically whatever culturally grounded beliefs a majority of citizens happen to have.

Moreover, even when beliefs founded on cultural cognition resist change, they might still supply illegitimate groundings for democratic lawmaking. Where citizens are motivated by cultural cognition, they are effectively demanding that risk regulation (on guns, on the environment, on public health issues, etc.) take the position that best expresses their preferred vision of a good society. It might be unreasonable, even in a democratic society, to indulge that demand if doing so exposes others (including those who hold competing visions) to significant physical harm or restrictions on liberty. Or it might sometimes be appropriate to resist it if the vision of society being expressed is morally repugnant (perhaps because inconsistent with democratic values, like equality and liberty). Or maybe the demand for culturally expressive risk regulation should *always* be resisted, either to implement liberal democratic neutrality or to steer democratic politics away from divisive forms of status competition.²⁴

This is obviously only a small first step toward coming to terms with the normative implications of the cultural evaluator model. Sunstein's thoughtful reply has helped us to see just how far we have to go. But by the same token, we hope this response will help

²³ See *id.* at 1096-1104.

²⁴ See *id.* at 1106-08.

him to see that simply dismissing culturally grounded risk perceptions as “blunders” founded in “bounded rationality” is a step in the wrong direction.