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DIVERSE CONCEPTIONS OF EMOTIONS  
IN RISK REGULATION

PETER H. HUANG<sup>†</sup>

In response to Dan M. Kahan, *Two Conceptions of Emotion in Risk Regulation*, 156 U. PA. L. REV. 741 (2008).

In the movie *Legally Blonde*, a civil procedure professor tells her first-year students on their first day of class at Harvard Law School that Aristotle stated, “The law is reason free from passion.”<sup>1</sup> Since Aristotle, there has been much written about whether passion and reason are complements or substitutes.<sup>2</sup> In *Two Conceptions of Emotion in Risk Regulation*,<sup>3</sup> Professor Dan M. Kahan analyzes two important and related questions: First, what roles do emotions play in risk perceptions? Second, what is the regulatory significance of these roles?

Professor Kahan describes three models of how individuals can perceive risk—namely, as rational weighers, irrational weighers, or cultural evaluators.<sup>4</sup> For rational weighers, emotions play no role in risk cognition but can show up as consequential by-products of information processing. This is a normative as opposed to descriptive model,<sup>5</sup> based upon the consequentialist expected utility theory of neoclassical economics.<sup>6</sup> For irrational weighers, emotions play a heuristic role in risk cognition due to bounds on computational abilities, information, and time. Emotions are distortions that underlie cogni-

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<sup>†</sup> Harold E. Kohn Chair Professor of Law, James E. Beasley School of Law, Temple University. Thanks to David Hoffman for helpful discussions.

<sup>1</sup> LEGALLY BLONDE (Metro-Goldwyn-Mayer 2001).

<sup>2</sup> See, e.g., RICHARD S. LAZARUS & BERNICE N. LAZARUS, PASSION AND REASON: MAKING SENSE OF OUR EMOTIONS 198-215 (1994) (arguing that there is a basic logic to human emotional responses).

<sup>3</sup> 156 U. PA. L. REV. 741 (2008).

<sup>4</sup> *Id.* at 744-52.

<sup>5</sup> See, e.g., Kenneth J. Arrow, *Risk Perception in Psychology and Economics*, 20 ECON. INQUIRY 1, 8 (1982) (making “a case for the proposition that an important class of intertemporal markets shows systematic deviations from individual rational behavior and that these deviations are consonant with evidence from very different sources collected by psychologists”).

<sup>6</sup> See, e.g., KENNETH J. ARROW, *Utility and Expectation in Economic Behavior*, in 6 PSYCHOLOGY: A STUDY OF SCIENCE 724-52 (Sigmund Koch ed., 1963), reprinted in 3 COLLECTED PAPERS OF KENNETH J. ARROW: INDIVIDUAL CHOICE UNDER CERTAINTY AND UNCERTAINTY 117-18 (1984) (analyzing the basics of utility theory).

tive biases. This is a descriptive model, based upon empirical and experimental data from cognitive and social psychology and behavioral economics.<sup>7</sup> Lastly, for cultural evaluators, emotions play an expressive role in risk cognition. Emotions enable people to identify social meanings of risk that cohere with their values. This model is also descriptive, with roots in Aristotelian philosophy, and based upon recent experimental and empirical research in affective, cognitive, and social neuroscience and psychology.<sup>8</sup>

Professor Kahan persuasively explains how a vast body of empirical and experimental data refutes the idea that people are rational weighers.<sup>9</sup> That research is, however, consistent with people being either irrational weighers or cultural evaluators. He demonstrates that conceiving of emotions as biases, as opposed to expressive perceptions, has vastly different normative and prescriptive implications for risk regulation.<sup>10</sup>

Viewing emotions as biases implies that in order to protect risk regulation from an irrational public, regulatory authority should reside with scientifically trained professionals who have technical risk expertise staffing independent, politically insulated agencies. Professor Kahan notes that attempts to educate the public are not only doomed to fail, but also are worse than futile due to laypeople's lack of time and capacity to understand complex scientific risk data.<sup>11</sup> Instead of arousing public fears by discussing low probability risks, authorities can and should redirect public attention toward other issues.

Viewing emotions as expressive perceptions implies that in order to protect risk regulation from becoming culturally and morally impoverished, regulatory authority should not be delegated solely to experts. According to Professor Kahan, policies can frame contested risk issues to affirm cultural identities and express a plurality of social meanings to assist diverse groups in converging upon consensus. Deliberative risk communication strategies can educate inappropriate

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<sup>7</sup> See, e.g., Olof Johansson-Stenman, *Mad Cows, Terrorism and Junk Food: Should Public Policy Reflect Perceived or Objective Risks?*, 27 J. HEALTH ECON. (forthcoming 2008).

<sup>8</sup> See, e.g., Dan M. Kahan & Paul Slovic, *Cultural Evaluations of Risk: "Values" or "Blunders"?*, 119 HARV. L. REV. F. 166 (2006), [http://www.harvardlawreview.org/forum/issues/119/feb06/kahan\\_slovic.pdf](http://www.harvardlawreview.org/forum/issues/119/feb06/kahan_slovic.pdf).

<sup>9</sup> See Kahan, *supra* note 3, at 752-53 (arguing that studies demonstrating that "individuals conform their assessments of [an activity's] risks to their emotional appraisals . . . weigh[] decisively against the rational weigher theory").

<sup>10</sup> *Id.* at 760.

<sup>11</sup> *Id.* at 764.

emotional evaluations.<sup>12</sup> An infamous example of an inappropriate emotional reaction was Michael Dukakis's passionless reply in a presidential debate when asked, "Governor, if Kitty Dukakis were raped and murdered, would you favor an irrevocable death penalty for the killer?"<sup>13</sup>

Professor Kahan succeeds in challenging Professor Cass Sunstein's view that emotions are biases, and refuting the policy implication that politically insulated experts free of emotional biases should conduct risk regulation.<sup>14</sup> Professor Kahan emphasizes viewing emotions as expressive perceptions and espouses the attendant policy implication that reconciling technically sound risk regulations and democratic, genuinely participatory policymaking is possible.

This Response makes five points. First, emotions can be conceived of as more than just biases or expressive perceptions. Second, different conceptions of emotions are descriptively accurate for different emotions of different people in different situations at different times. Third, risk perception and regulation involve not only negative emotions, such as anger, anxiety, and fear, but also positive emotions, such as contentment, hope, and serenity. Fourth, a conception of emotions as expressive perceptions has applications in other areas of law and public policy besides risk regulation. Fifth, people of different cultural identities tend to have different emotional reactions toward different governmental nonregulatory responses to risks depending on the perceived social meanings of those responses.

## I. OTHER CONCEPTIONS OF EMOTIONS

Conceptions about what roles emotions play in decision making vary across disciplines, such as artificial intelligence,<sup>15</sup> decision sciences,<sup>16</sup> economics,<sup>17</sup> and evolutionary science.<sup>18</sup> Views about how law

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<sup>12</sup> *Id.* at 765.

<sup>13</sup> George H. W. Bush & Michael Dukakis, Commission on Presidential Debates: The Second Bush-Dukakis Presidential Debate (Oct. 13, 1988) (debate transcript), available at <http://www.debates.org/pages/trans88b.html> (last visited Mar. 1, 2008).

<sup>14</sup> See Kahan, *supra* note 3, at 743 (discussing CASS R. SUNSTEIN, *LAWS OF FEAR: BEYOND THE PRECAUTIONARY PRINCIPLE* 126 (2005)).

<sup>15</sup> See generally ROSALIND W. PICARD, *AFFECTIVE COMPUTING* (1997); Herbert A. Simon, *Motivational and Emotional Controls of Cognition*, 74 *PSYCHOL. REV.* 29 (1967).

<sup>16</sup> See generally DO EMOTIONS HELP OR HURT DECISION MAKING?: A HEDGEFOXIAN PERSPECTIVE (Kathleen D. Vohs et al. eds., 2007).

<sup>17</sup> See, e.g., Benjamin E. Hermalin & Alice M. Isen, *A Model of the Effect of Affect on Economic Decision Making*, 6 *QUANTITATIVE MARKETING & ECON.* 17, 35 (2008).

<sup>18</sup> See generally EMOTION, EVOLUTION, AND RATIONALITY (Dylan Evans & Pierre Cruse eds., 2004).

and emotions, generally,<sup>19</sup> are related also vary across fields of law, such as constitutional law,<sup>20</sup> criminal law,<sup>21</sup> international environmental law,<sup>22</sup> litigation,<sup>23</sup> property law,<sup>24</sup> securities regulation,<sup>25</sup> and tax law compliance.<sup>26</sup>

It is therefore unsurprising that legal scholars have diverse views about how regulation should respond to emotions. Jeremy Blumenthal considers paternalism in response to emotions,<sup>27</sup> and emotional misforecasting.<sup>28</sup> Howard Chang advocates that regulatory policy should respect some public fears.<sup>29</sup> Rachel Moran contends that regulation should take into account public fear and other emotions.<sup>30</sup> Cass Sunstein wants regulatory policy to disrespect irrational

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<sup>19</sup> See generally THE PASSIONS OF LAW (Susan A. Bandes ed., 1999); Terry A. Maroney, *Law and Emotion: A Proposed Taxonomy of an Emerging Field*, 30 LAW & HUM. BEHAV. 119 (2006); Law and the Emotions: New Directions in Scholarship, Conference held at the Boalt Hall School of Law, Berkeley, Cal. (Feb. 8–9, 2007), available at [https://www.law.berkeley.edu/institutes/csls/lawemotion\\_conference/](https://www.law.berkeley.edu/institutes/csls/lawemotion_conference/) (last visited Mar. 1, 2008).

<sup>20</sup> See, e.g., Christina E. Wells, *Fear and Loathing in Constitutional Decision-Making*, 2005 WIS. L. REV. 115.

<sup>21</sup> See, e.g., Katharine K. Baker, *Gender and Emotion in Criminal Law*, 28 HARV. J.L. & GENDER 447 (2005).

<sup>22</sup> See, e.g., Peter H. Huang, *International Environmental Law and Emotional Rational Choice*, 31 J. LEGAL STUD. S237 (2002).

<sup>23</sup> See, e.g., Peter H. Huang & Ho-Mou Wu, *Emotional Responses in Litigation*, 12 INT'L REV. L. & ECON. 31 (1992).

<sup>24</sup> See, e.g., Peter H. Huang, *Reasons Within Passions: Emotions & Intentions in Property Rights Bargaining*, 79 OR. L. REV. 435 (2000).

<sup>25</sup> See Peter H. Huang, *How Do Securities Laws Influence Affect, Happiness, and Trust?*, 3 J. BUS. & TECH. L. (forthcoming 2008); Peter H. Huang, *Moody Investing and the Supreme Court: Rethinking the Materiality of Information and the Reasonableness of Investors*, 13 SUP. CT. ECON. REV. 99 (2005); Peter H. Huang, *Regulating Irrational Exuberance and Anxiety in Securities Markets*, in THE LAW AND ECONOMICS OF IRRATIONAL BEHAVIOR 501 (Francesco Paresi & Vernon L. Smith eds., 2005); Peter H. Huang, *Trust, Guilt, and Securities Regulation*, 151 U. PA. L. REV. 1059 (2003).

<sup>26</sup> See, e.g., Peter H. Huang & Ho-Mou Wu, *More Order Without More Law: A Theory of Social Norms and Organizational Cultures*, 10 J.L. ECON. & ORG. 390 (1994).

<sup>27</sup> See, e.g., Jeremy A. Blumenthal, *Emotional Paternalism*, 35 FLA. ST. U. L. REV. 1 (2007).

<sup>28</sup> See, e.g., Jeremy A. Blumenthal, *Law and the Emotions: The Problems of Affective Forecasting*, 80 IND. L.J. 155 (2005).

<sup>29</sup> See, e.g., Howard F. Chang, *Risk Regulation, Endogenous Public Concerns, and the Hormones Dispute: Nothing To Fear but Fear Itself?*, 77 S. CAL. L. REV. 743 (2004).

<sup>30</sup> Rachel F. Moran, *Fear Unbound: A Reply to Professor Sunstein*, 42 WASHBURN L.J. 1 (2002).

public fears.<sup>31</sup> Professor Kahan challenges Professor Sunstein's conception of emotions as mere heuristics.<sup>32</sup>

But, there are other conceptions of emotions besides those of irrational biases or expressive perceptions. In particular, another conception of emotions in risk perception is as behavioral processes, which are often unconscious.<sup>33</sup> This conception is related to a novel contextual, situational model of human behavior<sup>34</sup> that differs from both neoclassical rational actor models and recent behavioral economics models. That model is also consistent with recent neuroscience research finding evidence of distinct "wanting" and "liking" systems in brains.<sup>35</sup> A conception of emotions as behavioral processes implies that a well-functioning republicanism is better suited to conduct risk regulation than either experts insulated from public emotion or greater direct participatory democracy. Finally, such a conception of emotions also suggests a more coherent view of welfare or well-being as processes than as objects.

## II. DIVERSITY OF EMOTIONS

A desirable and important feature of viewing emotions as culturally expressive perceptions is that it explicitly acknowledges the reality that people of different ages, ethnicities, genders, races, and other identities perceive risk differently. There is a large body of evidence that risk perceptions generally vary across gender and race.<sup>36</sup> There is also recent evidence finding different information-processing responses to emotional advertisements due to motivational and cogni-

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<sup>31</sup> See generally CASS R. SUNSTEIN, *WORST-CASE SCENARIOS* (2007).

<sup>32</sup> See Kahan, *supra* note 3, at 743. See generally Paul Slovic et al., *The Affect Heuristic*, in *HEURISTICS AND BIASES: THE PSYCHOLOGY OF INTUITIVE JUDGMENT* 397 (Thomas Gilovich et al. eds., 2002).

<sup>33</sup> See David J. Arkush, *Situating Emotion: A Critical Realist View of Emotion and Nonconscious Cognitive Processes for the Law* 22 (Aug. 20, 2007) (unpublished manuscript), available at <http://ssrn.com/abstract=1003562> ("Mounting evidence shows that emotions can operate independently of . . . conscious or reasoned thought and that nonconscious processing is vital to behavior.").

<sup>34</sup> See Jon Hanson & David Yosifon, *The Situational Character: A Critical Realist Perspective on the Human Animal*, 93 *GEO. L.J.* 1, 120 (2004) (discussing the "situational character model," which assumes that human behavior is often "a manifestation of . . . interior and exterior situational influences to which we are largely blind").

<sup>35</sup> See, e.g., Colin F. Camerer, *Wanting, Liking, and Learning: Neuroscience and Paternalism*, 73 *U. CHI. L. REV.* 87, 97-98 (2006) (profiling, for example, the obsessive-compulsive disorder sufferer who "wants to clean but does not like it").

<sup>36</sup> See, e.g., Dan M. Kahan et al., *Culture and Identity-Protective Cognition: Explaining the White-Male Effect in Risk Perception*, 4 *J. EMPIRICAL LEGAL STUD.* 465 (2007) (examining why white men are generally less risk averse than women or minorities).

tive changes associated with aging.<sup>37</sup> Similarly, there are numerous empirical findings providing evidence that: female mutual fund managers follow less extreme investment styles, take less risk, and trade less than male fund managers;<sup>38</sup> retirement investment behavior differs by gender and marital status;<sup>39</sup> individual stock trading involves higher turnover for and lower performance by men than women;<sup>40</sup> women invest less than men in most studies of simple investment choices, and thus appear to be financially more risk averse than men;<sup>41</sup> and the Survey of Consumer Finances' financial risk tolerance measure differs significantly over ethnicities and racial categories.<sup>42</sup>

Variation in risk attitudes, behaviors, beliefs, perceptions, and tolerances across various discrete classifications to which the U.S. Constitution guarantees equal protection<sup>43</sup> raises difficult issues of equality, equity, and justice. Some researchers propose that regulatory "agencies and financial educators should target investor education on investments and financial risk to racial and ethnic groups in order to promote better choices for investing for financial goals."<sup>44</sup> Others, such as political scientist Scott Page, utilize game theory, experimental studies, and simulations to make compelling arguments that diversity creates benefits.<sup>45</sup> Business law professor Joan Heminway suggests that diversity and independence among a board of directors might be desirable because women and men may have different bases for trust

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<sup>37</sup> Patti Williams & Aimee Drolet, *Age-Related Differences in Responses to Emotional Advertisements*, 32 J. CONSUMER RES. 343 (2005).

<sup>38</sup> Alexandra Niessen & Stefan Ruenzi, *Sex Matters: Gender Differences in a Professional Setting* (Univ. of Cologne Ctr. for Fin. Res., Working Paper No. 06-01, 2007), available at <http://ssrn.com/abstract=966243>.

<sup>39</sup> Annika E. Sundén & Brian J. Surette, *Gender Differences in the Allocation of Assets in Retirement Savings Plans*, 88 AM. ECON. REV. 207, 209-10 (1998).

<sup>40</sup> Brad M. Barber & Terrance Odean, *Boys Will Be Boys: Gender, Overconfidence, and Common Stock Investment*, 116 Q.J. ECON. 261 (2001).

<sup>41</sup> See, e.g., Peggy D. Dwyer et al., *Gender Differences in Revealed Risk Taking: Evidence from Mutual Fund Investors*, 76 ECON. LETTERS 151 (2002); Nancy Ammon Jianakoplos & Alexandra Bernasek, *Are Women More Risk Averse?*, 36 ECON. INQUIRY 620 (1998). But see Renate Schubert et al., *Financial Decision-Making: Are Women Really More Risk-Averse?*, 89 AM. ECON. REV. 381 (1999).

<sup>42</sup> Rui Yao et al., *The Financial Risk Tolerance of Blacks, Hispanics and Whites*, 16 FIN. COUNSELING & PLAN. 51, 56-59 (2005).

<sup>43</sup> See U.S. CONST. amend. XIV, § 1 (Equal Protection Clause).

<sup>44</sup> Yao et al., *supra* note 42, at 51.

<sup>45</sup> SCOTT E. PAGE, *THE DIFFERENCE: HOW THE POWER OF DIVERSITY CREATES BETTER GROUPS, FIRMS, SCHOOLS, AND SOCIETIES* (2007).

and trustworthiness.<sup>46</sup> Sociologist Brooke Harrington documents a “diversity premium” for stock investment clubs, finding that stock portfolios of mixed-gender investment clubs outperform those of single-gender clubs.<sup>47</sup> Variation of risk perceptions across identities also raises questions about how most of us who have multiple personal and professional identities alternate between possibly conflicting identities and their associated emotions as culturally expressive perceptions. In one study, college students whose “academic” identities had been primed were more likely to choose more academic periodicals compared to students whose “socialite” identities had been triggered; in another study, Chinese Americans whose American identities were made more salient exhibited more stereotypically American preferences for competition and individuality as opposed to cooperation and collectivism when their Chinese identities were evoked.<sup>48</sup>

A fundamental but implicit premise in Professor Kahan’s analysis is a winner-take-all competition based upon empirical and experimental studies between three alternative models of emotions in risk perception.<sup>49</sup> But, in reality, no single model of emotions in risk perception can accurately describe all roles that all emotions play for all people, in all situations, during all times, facing all risks. In fact, all models are wrong by definition in the sense of being simplifications of reality. All models are incomplete because they have to leave out some aspects of reality, just like all maps are incorrect, unless they have a one-to-one scale.

Another question about maps and models is whether they are more or less helpful for different purposes. Different maps are more or less useful for assisting navigation in a building, neighborhood, city, county, state, country, planet, solar system, or galaxy. A rational weigher of risks was never intended to be a descriptive model of actual behavior, but instead a normative ideal toward which some people and organizations might choose to strive. For certain people in certain situations at certain times, certain emotions are more accurately conceived of as biases and other emotions are more accurately con-

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<sup>46</sup> Joan MacLeod Heminway, *Sex, Trust, and Corporate Boards*, 18 HASTINGS WOMEN’S L.J. 173 (2007).

<sup>47</sup> BROOKE HARRINGTON, POP FINANCE: INVESTMENT CLUBS AND THE NEW INVESTOR POPULISM (forthcoming 2008).

<sup>48</sup> Robyn A. LeBoeuf & Eldar B. Shafir, *Decision Making*, in THE CAMBRIDGE HANDBOOK OF THINKING AND REASONING 243, 257-58 (Keith J. Holyoak & Robert G. Morrison eds., 2005) (describing both studies).

<sup>49</sup> See Kahan, *supra* note 3, at 744-52 (highlighting the rational weigher, irrational weigher, and cultural evaluator theories).

ceived of as expressive perceptions. Emotions are fluid in their status across people, situations, and time. In other words, the roles emotions play in risk perception are not fixed and stable characteristics of an individual; rather, they change from situation to situation and time to time. Like preferences, risk perceptions are not so much revealed as they are constructed, formed, or learned.<sup>50</sup> In particular, emotions and risk perceptions are sensitive to context and framing.

### III. POSITIVE EMOTIONS

George Loewenstein, a behavioral economist, eloquently observed recently that “part of the purpose of being alive is to be *alive*, which means having a range of emotions.”<sup>51</sup> An implicit aspect of Professor Kahan’s analysis is his exclusive focus on negative emotions. This is understandable because the irrational weigher model also focuses exclusively on negative emotions. Moreover, in terms of a general principle across a broad range of psychological phenomena, including emotions, “bad is stronger than good.”<sup>52</sup> However, there has been a recent surge of interest across disciplinary boundaries about positive emotions,<sup>53</sup> in particular happiness.<sup>54</sup>

Professor Kahan concludes his Article by advocating for “an open mind in our continued investigation of what emotion contributes to

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<sup>50</sup> See generally THE CONSTRUCTION OF PREFERENCE (Sarah Lichtenstein & Paul Slovic eds., 2006).

<sup>51</sup> Niklas Karlsson, George Loewenstein & Jane McCafferty, *The Economics of Meaning*, in EXOTIC PREFERENCES: BEHAVIORAL ECONOMICS AND HUMAN MOTIVATION 33, 34 (George Loewenstein ed., 2007).

<sup>52</sup> Roy F. Baumeister et al., *Bad Is Stronger than Good*, 5 REV. GEN. PSYCHOL. 323 (2001).

<sup>53</sup> See, e.g., Peter H. Huang & Christopher J. Anderson, *A Psychology of Emotional Legal Decision Making: Revulsion and Saving Face in Legal Theory and Practice*, 90 MINN. L. REV. 1045, 1066-70 (2006) (reviewing MARTHA C. NUSSBAUM, HIDING FROM HUMANITY: DISGUST, SHAME, AND THE LAW (2004)) (pointing out benefits positive emotions can have on decision making in the context of litigation, public policymaking, etc.).

<sup>54</sup> See, e.g., Peter H. Huang, *Authentic Happiness, Self-Knowledge, and Legal Policy*, 9 MINN. J.L. SCI. & TECH. (forthcoming 2008), available at <http://ssrn.com/abstract=1084043>; Peter H. Huang & Jeremy A. Blumenthal, *Positive Institutions, Law, and Policy*, in HANDBOOK OF POSITIVE PSYCHOLOGY (Shane J. Lopez ed., 2d ed., forthcoming 2008), available at <http://www.law.temple.edu/faculty/workshops/HuangBlumenthalHandbkPosPsychol.pdf>; Peter H. Huang & Jeremy A. Blumenthal, *Positive Law and Policy*, in ENCYCLOPEDIA OF POSITIVE PSYCHOLOGY (Shane J. Lopez ed., forthcoming 2008), available at <http://ssrn.com/abstract=1082594>; Peter H. Huang & Rick Swedloff, *Authentic Happiness and Meaning at Law Firms*, 58 SYRACUSE L. REV. 335 (2008).

risk perception and what its significance is for risk regulation.”<sup>55</sup> However, he continues, “[W]e ought to be motivated as well by a morally discerning fear of all we stand to lose if we reach the wrong conclusion.”<sup>56</sup> We certainly should keep an open mind in continuing to analyze roles that emotions play in risk perception and regulation. But in addition to being motivated by a negative emotion—e.g., fear of what we could lose—we could and should also be motivated by two positive emotions: optimism about and hope for all that we stand to gain by reaching a constructive conclusion. Much is at stake in contested risk issues, not only in objective terms and substantive consequences, but also in subjective terms and procedural concerns.

People are motivated not only to avoid negative emotions, but also to seek out positive emotions. The Positive Affectivity and Negative Affectivity Scale (PANAS) consists of ten positive affects and ten negative affects.<sup>57</sup> Emotions, like other forms of affect such as feelings and moods, can be categorized according to a widely accepted “circumplex” model of affect that organizes affective concepts in a circle in a two-dimensional plane with a horizontal axis depicting valence ranging from “displeasure” to “pleasure” and a vertical axis indicating degree of arousal.<sup>58</sup> Happiness, for example, can entail a state of high arousal as with excitement and exuberance, but can also involve states of low arousal, as with contentment and serenity.

It is crucial to emphasize that positive affect is not merely the absence of negative affect. For example, people might enjoy a sense of relief upon avoiding negative affect, but such feelings differ from those of attaining positive affect. People often experience changes in their emotions in terms of gains and losses relative to some benchmark reference point, just as prospect theory assumes that individuals experience and evaluate changes in their wealth relative to a status quo.<sup>59</sup> Focusing only upon negative emotions ignores roles positive emotions play in risk perception and regulation. In fact, regulators, as

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<sup>55</sup> Kahan, *supra* note 3, at 766.

<sup>56</sup> *Id.*

<sup>57</sup> MARTIN E.P. SELIGMAN, AUTHENTIC HAPPINESS: USING THE NEW POSITIVE PSYCHOLOGY TO REALIZE YOUR POTENTIAL FOR LASTING FULFILLMENT 33 (2002).

<sup>58</sup> James A. Russell, *A Circumplex Model of Affect*, 39 J. PERSONALITY & SOC. PSYCHOL. 1161, 1167 (1980).

<sup>59</sup> See, e.g., Daniel Kahneman & Amos Tversky, *Prospect Theory: An Analysis of Decision Under Risk*, 47 ECONOMETRICA 263, 277 (1979) (“[V]alue should be treated as a function in two arguments: the asset position that serves as reference point, and the magnitude of the change . . . from that reference point.”).

much as the average citizen,<sup>60</sup> can be motivated by emotional perceptions of risks. Administrative agency staff members, elected officials, judges, legislators, politicians, prosecutors, and public defenders all can be motivated by positive affect including courage and pride. For example, some advocate raising marginal income tax rates to make people happier,<sup>61</sup> or reforming corporate governance to increase shareholder happiness.<sup>62</sup> Recently two economists proposed that central banks, such as the U.S. Federal Reserve, utilize survey data on contentment and happiness in a variety of ways to design monetary policy.<sup>63</sup> First, central banks can statistically estimate how inflation and unemployment affect people's average life satisfaction.<sup>64</sup> Second, central banks can analyze how such impacts differ across groups indexed by age, education, gender, income, and political affiliation.<sup>65</sup> Third, central banks can identify channels by which macroeconomic fluctuations affect individual subjective well-being.<sup>66</sup> Fourth, central banks can analyze how much people adapt to high rates of inflation and unemployment.<sup>67</sup>

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<sup>60</sup> See Sharon Begley, *When It's Head Versus Heart, the Heart Wins*, NEWSWEEK, Feb. 11, 2008, at 34.

<sup>61</sup> See, e.g., Mirko Bagaric & James A. McConvill, *Stop Taxing Happiness: A New Perspective on Progressive Taxation*, 2 PITT. TAX REV. 65, 89-90 (2005) (arguing that higher taxes on the wealthy will increase the total level of the community's welfare without diminishing net happiness since "mega-wealth[]" does not lead to greater happiness). But see Michael E. DeBow & Dwight R. Lee, *Happiness and Public Policy: A Partial Dissent (or, Why a Department of Homeland Happiness Would Be a Bad Idea)*, 22 J.L. & POL. 283, 288-95 (2006) (providing reasons for why it is not feasible to calibrate tax policy to achieve maximal societal happiness).

<sup>62</sup> See, e.g., James McConvill, *The Separation of Ownership and Control Under a Happiness-Based Theory of the Corporation*, 26 COMPANY LAW. 35 (2005). But see Harry G. Hutchison & R. Sean Alley, *Against Shareholder Participation: A Treatment for McConvill's Psychonomiosis*, 2 BROOK. J. CORP. FIN. & COM. L. 41 (2007) (providing a critical analysis of McConvill's conclusions).

<sup>63</sup> See generally Rafael Di Tella & Robert MacCulloch, *Happiness, Contentment and Other Emotions for Central Banks* (Nat'l Bureau of Econ. Research, Working Paper No. 13622, 2007), available at <http://www.nber.org/papers/w13622> (providing evidence that life contentment is negatively correlated with inflation and unemployment).

<sup>64</sup> *Id.* at 10.

<sup>65</sup> *Id.* at 22-23.

<sup>66</sup> *Id.* at 23-24.

<sup>67</sup> *Id.* at 25.

IV. EMOTIONS AS EXPRESSIVE PERCEPTIONS IN  
OTHER CONTESTED ISSUES

In addition to examples of contested risk issues that Professor Kahan and his coauthors from the Cultural Cognition Project have already investigated or plan to investigate,<sup>68</sup> emotions arise in many other legal and public policy contexts that do not involve risks. For example, Professor Kahan discusses how some people have negative feelings about evaluating risks based upon cost-benefit analysis and associated welfarist policymaking.<sup>69</sup> But, those same people are likely to feel equally negative about cost-benefit analyses being applied to a riskless environment. Emotions can be expressive perceptions even when there is no risk involved. For example, people disagree about commensurability,<sup>70</sup> and the meaning of such contested commodities as donor eggs or sperm, intellectual property, organ sales, and prostitution, even if there is no risk. More generally, people respond either unemotionally or emotionally and usually negatively to utilizing economics, metaphors about markets, and rhetoric about rationality in nonbusiness areas of law.<sup>71</sup>

Many laws provide social meanings. People have a deep-rooted and fundamental desire for meaning in terms of making sense of their lives.<sup>72</sup> Behavioral economist George Loewenstein has observed that “humans are, in effect, meaning-making machines. Even when we are asleep, our brains are busy constructing a narrative that makes sense of the random firings of our neurons. . . . [P]eople are often willing to sacrifice other goals, such as wealth and time, for meaning.”<sup>73</sup> In the legal academy, there has long been a tension between consequentialist, utilitarian theories of law and procedural, deontological theories of law. This opposition is most readily apparent in the different ways

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<sup>68</sup> See, e.g., Dan M. Kahan, David A. Hoffman & Donald Braman, *Whose Eyes Are You Going To Believe? Scott v. Harris and the Perils of Cognitive Illiberalism*, 122 HARV. L. REV. (forthcoming 2008), available at <http://ssrn.com/abstract=1081227>. See generally The Cultural Cognition Project at Yale Law School, <http://research.yale.edu/culturalcognition/> (last visited Mar. 1, 2008).

<sup>69</sup> See Kahan, *supra* note 3, at 754-55.

<sup>70</sup> Peter H. Huang, *Dangers of Monetary Commensurability: A Psychological Game Model of Contagion*, 146 U. PA. L. REV. 1701, 1707-09 (1998) (analyzing contested and varied notions of commensurability).

<sup>71</sup> Peter H. Huang, *Emotional Reactions to Law and Economics, Market Metaphors, and Rationality Rhetoric*, in THEORETICAL FOUNDATIONS OF LAW AND ECONOMICS (Mark D. White ed., forthcoming 2009).

<sup>72</sup> See, e.g., Niklas Karlsson et al., *The Economics of Meaning*, 30 NORDIC J. POL. ECON. 61, 67-68 (2004).

<sup>73</sup> Karlsson, Loewenstein & McCafferty, *supra* note 51, at 34-35.

that law and economics scholars and law and philosophy scholars approach meanings of contract, criminal, property, and tort law. Sometimes these differences can become quite heated and take on a personal nature.

As George Loewenstein sagely points out, “[A]cademia is a nasty environment, strewn with hidden traps and populated by hostile, territorial tribes protecting their ideas with a ferocity akin to what one would expect a parent to direct at someone trying to steal his baby.”<sup>74</sup> He recounts a story about how a graduate advisor of his wrote a paper entitled “Beliefs as Possessions,” which argues, “[P]eople treat their beliefs as they do possessions—e.g. defending them from attack or theft. Given the heat of the emotion behind the protectiveness, ‘Beliefs as Babies’ strikes me as more on-target.”<sup>75</sup> One reason people hold onto their beliefs so dearly is that they emotionally identify with those beliefs. People’s identities are intimately wrapped up with their beliefs, cultural frames, and worldviews because those are the lenses through which they perceive their world. People behave in ways and make choices that are consistent with and signal their identities to others and possibly themselves.

#### V. NONREGULATORY RESPONSES TO RISKS

Finally, Professor Kahan does not discuss what risk regulation entails, but presumably he has in mind a standard repertoire or toolbox of regulations, including command-and-control type regulations, mandatory information disclosure, market-mimicking regulations, and subsidies or taxes. In fact, whether government should respond to risks by regulation, and if so, how, exemplify contested issues about which people feel different emotions as expressive perceptions.

A fundamental insight of modern financial economics is that people can diversify, hedge, insure, reallocate, and trade risks if there are a sufficient number of competitive asset markets indexed by those risks.<sup>76</sup> Risks include not only such well-known risks as illness, rising oil prices, and volatile currency rate fluctuations, but also such risks as

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<sup>74</sup> George Loewenstein, *Introduction to EXOTIC PREFERENCES: BEHAVIORAL ECONOMICS AND HUMAN MOTIVATION*, *supra* note 51, at xiii.

<sup>75</sup> *Id.* at xiii n.2.

<sup>76</sup> See Kenneth J. Arrow, *The Role of Securities in the Optimal Allocation of Risk-Bearing*, 31 REV. ECON. STUD. 91, 91 (1964).

declining housing prices, increasing rates of inflation or unemployment, falling lifetime incomes, and rising inequalities in income.<sup>77</sup>

In addition to risk regulation, governments can respond to risks by creating, expanding, promoting, or subsidizing competitive securities markets indexed by those risks. One legal scholar has recently proposed that all government decision making be based upon prediction markets, also known as idea futures markets, information markets, or virtual stock markets.<sup>78</sup> But, as with risk regulation, people of different cultural identities will have different emotional reactions to perceived social meanings of such nonregulatory responses to risks.

#### CONCLUSION

I concur with Professor Kahan that emotions can be cultural evaluations and that conceptions of emotions have important and novel regulatory implications. My response to his thesis comes in the form of five suggestions offered in a spirit of friendly amendment. First, conceptions of emotions other than as biases or expressive perceptions are worthy of study. Second, different conceptions accurately describe different emotions that different people have at different times for different situations. Third, positive emotions, as much as negative emotions, figure into risk perception and regulation. Fourth, viewing emotions as expressive perceptions has other applications in law and public policy besides risk regulation. Fifth, there are nonregulatory responses to risk that people with different cultural identities have, due to different emotional reactions to alternative perceived social meanings.

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<sup>77</sup> See generally ROBERT J. SHILLER, *THE NEW FINANCIAL ORDER: RISK IN THE 21ST CENTURY* (2003).

<sup>78</sup> See generally MICHAEL ABRAMOWICZ, *PREDICTOCRACY: MARKET MECHANISMS FOR PUBLIC AND PRIVATE DECISION MAKING* (2007).