**How Law Can Improve Decision-Making by Fostering Mindfulness, Thinking Architecture/Strategies/Tools, and Thinking Apps/Serious Games**

**Abstract:** This project analyzes how law can improve decision-making by fostering (1) mindfulness to create real options that facilitate autonomy, (2) development and adoption of thinking architecture/strategies/tools in addition to (3) thinking apps/serious games.

**Background:** Americans often face decisions that are complex, stressful, and require careful thinking. Examples are retirement planning and choices about health, healthcare, and wellness. Behavioral economics finds that decision-making contexts unconsciously influence decisions. These findings underlie choice architecture, which designs decision-making contexts to influence people’s decisions. Behavioral economics also finds that people often make decision errors due to unconscious cognitive biases. This research underlies nudges, which acknowledge or even use cognitive biases to design decision-making contexts to influence decisions in ways to mitigate decision errors. Decision errors are costly and will become costlier for individual Americans and the U.S. economy and society.

This project advocates adopting growth mindsets to create a learning society and a learning economy, both inherently linked to democracy. Improving decision-making by Americans addresses many current and future challenges to U.S. democracy by improving U.S. competitiveness, education, health, healthcare, innovation, jobs, living standards, productivity, profits, and wellness. This project also addresses the impact of technology on the future of our society and its institutions by analyzing how law can facilitate the development and adoption of thinking apps, which are apps that help improve thinking. This project also pioneers a cognitive approach to law and economics that acknowledges the reality of finite cognition.

Lengthened retirement and changing U.S. demographics due to aging heighten the importance of improving decision-making because older Americans are particularly vulnerable to financial decision errors. Defaulting people into 401(k) retirement plans exemplifies mitigating decision errors by soft paternalism, including libertarian paternalism, preserving freedom of choice, while influencing choices to make people better off, asymmetric

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7. Id. at 47-87.
8. Id. at 466-67.
paternalism, producing large benefits for those prone to decision-making errors, while imposing small costs on those not so prone;\textsuperscript{14} cautious paternalism, requiring policymakers to determine precise conditions under which benefits outweigh costs;\textsuperscript{15} and light paternalism, enhancing individual choice without restricting it.\textsuperscript{16}

All the above types of soft paternalism share the common feature of changing decision-making contexts people face to improve outcomes.\textsuperscript{17} Each of these versions of soft paternalism is open to Jeremy Waldron’s criticism: “Choice architects nudge almost everything I choose and do, and this is complemented by the independent activity of marketers and salesmen, who nudge furiously for their own benefit. I’m not sure I want to live in a nudge-world, though – as a notoriously poor chooser - I appreciate the good-hearted and intelligent efforts of choice architects such as Sunstein to make my autonomous life a little better. I wish, though, that I could be made a better chooser rather than having someone on high take advantage (even for my own benefit) of my current thoughtlessness and my shabby intuitions.”\textsuperscript{18}

A new type of soft paternalism, autonomy-enhancing paternalism (AEP), aims to “support individuals’ ability to make autonomous decisions,”\textsuperscript{19} defining autonomy\textsuperscript{20} as “the capacity of a person to reflect upon, and then attempt to accept or change his or her preferences, desires, values, and ideals.”\textsuperscript{21} AEP “acknowledges that behavioral interventions can – and typically will – change the strength of decision-making anomalies over time, and favors those interventions that improve, rather than reduce, individuals’ ability to make critically reflected, unbiased, autonomous decisions.”\textsuperscript{22} AEP advocates “using behavioral insights to modify the choice architecture in a way that promotes critical reflection”\textsuperscript{23} and focuses on “helping individuals to become better decision-makers; it aims to improve well-being through improving the processes of decision-making. This is in contrast with other forms of soft paternalism that aim to improve the outcomes of decision-making processes without concerning themselves with how the decisions come about.”\textsuperscript{24} AEP entails “interventions that change the choice architecture to help individuals to become good decision-makers, who are able to … make critically reflected decisions.”\textsuperscript{25} AEP realizes that “interventions can influence individuals’ abilities to learn about both their cognitive biases and their preferences”\textsuperscript{26} and “prefers cognitive learning over non-cognitive learning because the latter often happens without the individual being aware of it and is

\begin{footnotes}
\item[21] Binder & Lades, supra note 19, at 5.
\item[22] Id. at 4.
\item[23] Id. at 6.
\item[24] Id. at 6.
\item[25] Id. at 6.
\item[26] Id. at 6.
\end{footnotes}
thus more open to manipulation and the influence of others." AEP “encourages those behavioral interventions that help individuals to become better decision-makers and thus make better informed, less biased, and more autonomous choices over time that may better reflect their true preferences.” AEP transforms choice contexts to improve decision-making processes. Another set of ways to improve decision-making processes are to help decision-makers transform themselves through mindfulness practice and utilization of thinking techniques and technologies.

Overview: This project advances positive parentonomics, extending positive parentalism, an original regulatory proposal advocating that policymakers develop institutions to help enable people, communities, and societies to flourish and thrive. Soft paternalism focuses on cognitive biases to modify choice contexts to mitigate decision-making errors by accounting for or even using cognitive biases. Positive parentalism focuses on helping people to learn, develop, and utilize their character strengths and virtues. Instead of negative and gendered connotations that come with paternalism and “father knows best,” positive parentalism invokes positive and gender-neutral notions of parenting associated with care, assistance, facilitation, and enabling people to make better financial, health, and safety decisions for themselves.

Positive parentonomics integrates positive psychology with parentonomics, which is the application of incentives, negotiations, outsourcing, and other ideas from neoclassical economics, behavioral economics, and game theory to solve the important economic management problem known as parenting. Positive parentonomics advances a theory of law and optimal government based on an optimistic view of humanity. Positive parentonomics and positive psychology itself, share features with an ancient perspective, known as virtue theory, variously applied in practice as virtue ethics, virtue politics, or virtue jurisprudence. Virtue theory is a normative philosophy that encourages the cultivation of virtue as a life goal. Instead of emphasizing consequences, as utilitarian doctrines do, or rights, duties, and rules, as deontological doctrines do, virtue theory focuses on individuals’ character and human excellence. People engage in right action not because it will yield positive consequences or increased welfare, and not because there is some principle mandating or permitting them to do so, but because it is the sort of action that a virtuous person would characteristically or habitually perform. From the perspectives of positive psychology and virtue theory, the aim of law and policy is to encourage citizens to become virtuous, act virtuously, or, at the very least, to

27 Id. at 6.
28 Id. at 6.
35 See, e.g., Solum, supra note 34, at 181.
establish institutions that allow citizens to acquire virtue on their own. A primary goal of law is to foster or encourage positive behavior, rather than limit negative behavior.

Positive parentonomics also draws on research about how the East Asian (primarily, though not exclusively Chinese) virtue model of learning envisions that people desire to perfect themselves morally and socially, while the Western mind model of learning strives to have individuals cultivate their minds to understand the world.36 These two fundamentally different beliefs about learning manifest themselves in the psychology of the learning process and influence views about education and parenting. Positive parentonomics is also related to tiger parenting and responses to it.37 Positive parentonomics builds on the idea that mainstream American legal education and tiger parenting are similar and both can be improved by fostering life-long learning about character strengths, emotions, and ethics.38 Positive parentonomics advocates that law enable people to flourish and thrive by facilitating people learning to improve their decision-making by fostering mindfulness, thinking architecture/strategies/tools, and thinking apps/serious games.

**Research Plan:** Recent research finds that mindfulness increases rational decision-making39 and reduces the impact bias,40 implicit age/race bias,41 and sunk-cost bias.42 Part 1 of this project analyzes how mindfulness provides real options in any situation to consciously, deliberatively, and thoughtfully respond instead of unconsciously, automatically, and reflexively react. Exercising these real options allows people to exercise autonomy. Part 1 of this project derives qualitative comparative statics of the autonomy real options that mindfulness provides. For example, as the longevity risk that retirees face increases, the value of mindfulness in retirement planning increases. Part 1 of this project extends my recent application of real-options theory43 to analyze mindfulness in fostering legal ethics and professionalism.44 That analysis is the first application of real-options theory from modern financial economics to analyze the value of mindfulness.

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40 Amber S. Emanuel et al., The Role of Mindfulness Facets in Affective Forecasting, 49 PERSONALITY & INDIVIDUAL DIFFERENCES 815, 816-18 (2010).
41 Adam Lueke & Bryan Gibson, Mindfulness Meditation Reduces Implicit Age and Race Bias: The Role of Reduced Automaticity of Responding, 6 SOC. PSYCHOL. & PERSONALITY SCI. 284 (2015).
42 Andrew C. Hafenbrack et al., Debiasing the Mind Through Meditation: Mindfulness and the Sunk Cost Bias, 25 PSYCHOL. SCI. 369, 369 (2014).
Part 2 of this project analyzes how law can foster thinking architecture, which is “a structured process that allows us to break down a complex problem, such as what to do in retirement, into a series of manageable thinking steps, so as to improve outcomes.” Part 2 of this project builds on the Goal Planning System (GPS) thinking tool, consisting of these cognitive strategies: (1) identify goals, (2) discover blind spots, (3) prioritize goals, (4) think beyond one future, (5) recognize the limits of forecasting, (6) consider others’ perspectives, and (7) reprioritize goals. Part 2 of this project analyzes how law can facilitate people applying the GPS process to not only retirement planning, but also decisions about cellphones and calling plans; consumption and credit card debt; health, healthcare, and wellness; higher education and student loans; home ownership and mortgages; payday and title loans; and savings and investing for non-retirement purposes. Part 2 of this project revises part I.A. of my related working paper and also extends my recent article about experiences versus memories.

Part 3 of this project builds on behavioral research about how people think and behave on digital screens. Experimental studies find that people’s online behavior conformed to their digital self-representations independent of how others perceive them. People assigned to more attractive avatars in immersive virtual environments engaged in more self-disclosure than subjects assigned to less attractive avatars. People assigned taller avatars behaved more confidently in negotiating than others assigned shorter avatars. A new tool involving age morphing digital technology applied to people’s faces helped people’s current selves identify and empathize with their future selves. Experimental studies found people who interacted with realistic age-morphed virtual computer renderings of their future selves held out for larger, later monetary rewards instead of accepting smaller, immediate ones. Playing video games can improve children’s problem solving abilities; can help children learn to think in novel ways; may help improve people’s financial confidence, decision-making, knowledge, self-efficacy, and...
initiation of financial actions;\textsuperscript{56} and can train adults to identify and mitigate cognitive biases.\textsuperscript{57} Part 3 of this project analyzes how law can foster the development and adoption of thinking apps/serious games. Part 3 of this project revises part III.B. of my related working paper.\textsuperscript{58}


\textsuperscript{58} Huang, supra note 48.