

**Choosing How to Choose:
Can People Choose the Best Choice Architecture?**

Kirstin C. Appelt, Columbia University, USA

Jie Gao, Columbia University, USA

Eric J. Johnson, Columbia University, USA

Ted von Glahn, Pacific Business Group on Health, USA

EXTENDED ABSTRACT

Choice architecture tools have a large impact on the decisions people make and can produce better outcomes for both decision-makers and society (e.g., Choi et al. 2012; Johnson and Goldstein 2004; Johnson et al. 2012; Johnson et al. 2013; Langer and Fox 2005; Lichtenstein and Slovic 1971; Martin and Norton 2009; Thaler and Benartzi 2004; Thaler and Sunstein 2008). Because of their potency, there are concerns about whether choice architecture tools are excessively influential or paternalistic (Hausman and Welch 2010; Mitchell 2005; Schlag 2010), especially in public policy. This debate raises the question: Is it possible to use choice architecture tools without compromising people's freedom of choice?

To explore this question, we conduct three studies offering people the choice between a typical choice environment and a simplified choice environment that incorporates choice architecture tools, such as defaults. We ask: (1) Will people choose the choice environment that will help them make the best decision?; and (2) Will people correctly estimate how much they were helped by this choice? We explore these questions in the context of online choice of health insurance plans (a la the Health Insurance Exchanges created by the Affordable Care Act), an important decision where people struggle to choose the best option and where choice architecture tools help people make better choices (Johnson et al. 2013; Quincy 2012).

Study 1 tests whether a simplified choice environment helps participants make better decisions and whether people appreciate the impact of this environment. Participants (N = 306) used an online decision aid to select a hypothetical health insurance plan. Participants were randomly assigned to a typical choice environment that mimicked existing health insurance decision aids and was described as a way to see more information to help choose a plan, or to a simplified choice environment that featured a series of choice architecture tools and was described as a simpler way to choose a plan. After answering questions about their insurance needs, participants compared plans and selected their preferred plan from a set of six plans. In the typical environment, more information was displayed and plans were organized alphabetically. In the simplified environment, only key information was displayed and plans were organized from best to worst based on a combination of key features (e.g., price and quality). Finally, all participants completed a post-choice questionnaire.

In Study 1, all participants were equally engaged (i.e., spent equal time choosing a plan), but participants using the simplified environment made significantly better choices. Specifically, they chose plans that met significantly more of their self-identified insurance priorities. Although the choice architecture tools in the simplified environment helped participants make better decisions, participants' post-choice ratings did not reflect this and, if anything, participants in the typical environment had more positive ratings.

Study 2 gave participants a choice between environments to ask whether participants would choose the simplified environment and, if so, would they recognize the impact of this environment on their plan choice? Participants (N = 284) followed the same procedure as in Study 1 except that they chose their preferred choice environment upfront. The majority of participants (69%) chose the simplified environment over the typical environment. The simplified environment showed the same advantages as in Study 1: Participants choosing the simplified environment spent equal time choosing a plan, but demonstrated significantly higher choice efficacy by choosing plans that met significantly more of their insurance priorities. However, participants did not rate the simplified environment as more helpful or easier nor did they express greater confidence.

In Study 3, we made it easier for participants to switch between environments at any point during their choice. We also simplified the choice by providing a usage scenario and making plans differ on cost dimensions alone so that there was a single best (most cost-effective) plan. Participants (N = 112) were randomly assigned to a typical or simplified environment. The typical environment did not calculate total yearly cost and ordered plans randomly, whereas the simplified environment calculated total yearly cost, ordered plans by total yearly cost, and made the cheapest plan the default option. When switching environments was encouraged, less than a quarter of participants

(21%) stayed with their assigned environment and the majority (59%) chose the simplified environment in the end. Participants choosing the simplified environment were equally engaged in the task (i.e., spent equal time choosing a plan), but were significantly more likely to choose the most cost-effective plan. However, this benefit was once again not reflected in participants' post-choice ratings, even though most participants explored both environments.

Across three studies, people were given the opportunity to choose how to choose. We consistently found that people can select the environments that help them perform better, but they underestimate the impact of this choice. These results underline the importance of evaluating choice architecture tools based on their impact on choice efficacy rather than subjective indicators, such as decision confidence. They also suggest a powerful alternative to concerns that choice architecture robs people of choice (Smith, Goldstein, and Johnson 2013). Giving people a choice of how to choose preserves their autonomy *and* helps them make better choices. The theoretical mystery remaining is how people choose how to choose correctly implicitly, without conscious awareness.

REFERENCES

- Choi, James J., Haisley, Emily, Kurkoski, Jennifer, and Cade Massey (2012), "Small Cues Change Savings Choices," NBER Working Paper No. 17843, National Bureau of Economic Research, Cambridge, MA 02138.
- Hausman, Daniel M. and Brynn Welch (2010), "Debate: To Nudge or Not to Nudge," *The Journal of Political Philosophy*, 18 (March), 123–136.
- Johnson, Eric J. and Daniel G. Goldstein (2003), "Do Defaults Save Lives?" *Science*, 302 (November), 1338-1339.
- Johnson, Eric J., Suzanne B. Shu, Benedict G. C. Dellaert, Craig Fox, Daniel G. Goldstein, Gerald Häubl, Richard P. Larrick, Ellen Peters, John W. Payne, David Schkade, Brian Wansink, and Elke U. Weber (2012), "Beyond Nudges: Tools of a Choice Architecture," *Marketing Letters*, 23 (June), 487-504.
- Johnson, Eric J., Ran Hassin, Tom Baker, Allison T. Bajger, and Galen Treuer (2013), "Can Consumers Make Affordable Care Affordable? The Value of Choice Architecture," *PLoS ONE*, 8 (December), e81521.
- Langer, Thomas and Craig R. Fox (2005), "Biases in Allocation Under Risk and Uncertainty: Partition Dependence, Unit Dependence, and Procedure dependence," Working Paper, University of Münster, Münster, Germany and University of California at Los Angeles, Los Angeles, CA 90095.
- Lichtenstein, Sarah and Paul Slovic (1971), "Reversals of Preference Between Bids and Choices in Gambling Decisions," *Journal of Experimental Psychology*, 89 (July), 46-55.
- Martin, Jolie M. and Michael I. Norton (2009) "Shaping Online Consumer Choice by Partitioning the Web," *Psychology and Marketing*, 26 (October), 908-926.
- Mitchell, Gregory (2005), "Libertarian Paternalism is an Oxymoron," *Northwestern University Law Review*, 99, 1245-1277.
- Quincy, Lynn (2012), "What's Behind the Door: Consumers' Difficulties in Selecting Health Plans," Issue Brief, Consumers Union, Yonkers, NY 10703.
- Schlag, Pierre (2010), "Nudge, Choice Architecture, and Libertarian Paternalism," *Michigan Law Review*, 108, 913-924.
- Smith, N. Craig, Daniel G. Goldstein, and Eric J. Johnson (2013), "Choice Without Awareness: Ethical and Policy Implications of Defaults," *Journal of Public Policy and Marketing*, 32 (Fall), 159-172.
- Thaler, Richard H. and Shlomo Benartzi (2004), "Save More Tomorrow™: Using Behavioral Economics to Increase Employee Saving," *Journal of Political Economy*, 112 (February), S164-S187.
- Thaler, Richard H. and Cass R. Sunstein (2008), *Nudge: Improving Decisions About Health, Wealth and Happiness*, New Haven, CT: Yale University Press.

Table 1. Summary of Results

		Simplified environment		Typical environment	Significance of difference	
		Simplified	Simplified plus cost sort			
Study 1	Chosen environment (N)	Final chosen environment	95	98	113	
	Response time (sec)	Time spent choosing a plan	63.50	62.51	61.50	ns
	Choice efficacy	Percent of top three preferences met by chosen plan	62%	67%	51%	$p < .05^a$ $p < .01^b$
	Post-choice measures (1-7 scales)	Decision difficulty	2.94	2.52	2.67	ns
Decision aid helpfulness		5.02	5.18	5.63	$p < .01^a$ $p < .05^b$	
Decision confidence		4.31	4.24	4.73	ns ^a $p < .05^b$	
Study 2	Chosen environment (N)	Final chosen environment	204		80	
	Response time (sec)	Time spent choosing a plan	78.54		91.13	ns
	Choice efficacy	Percent of top three preferences met by chosen plan	68%		51%	$p < .001$
	Post-choice measures (1-7 scales)	Decision difficulty	2.56		3.00	ns
Decision aid helpfulness		4.89		5.01	ns	
Decision confidence		4.06		4.04	ns	
Study 3	Chosen environment (N)	Final chosen environment	66		46	
	Response time (min)	Time spent on study	20.11		19.75	ns
	Choice Efficacy	Percent choosing most cost-effective plan	74%		45%	$p < .01$
		Average financial loss from choice	\$129		\$457	$p < .001$
Post-choice	Decision difficulty	3.62		3.80	ns	

measures (1-7 scales except decision confidence, which was 1- 9)	Decision confidence	7.25	6.86	ns
	Perceived control	4.72	4.80	ns
	Process satisfaction	4.81	4.58	ns
	Decision satisfaction	4.31	4.34	ns

^a Difference between simplified and typical environments. ^b Difference between simplified-with-cost-sort and typical environments.