Chapter 9
Optimizing the Psychological Benefits of Choice: Information Transparency and Heuristic Use in Game Environments

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ABSTRACT
This paper suggests that the paradox of choice can be resolved in game environments by promoting heuristics-based decision-making, thereby maintaining player freedom while also avoiding the potential negative consequences of excessive deliberation. To do this, the informational cues relevant to such decisions must be made transparent, allowing players to employ fast and frugal tools from the brain’s adaptive toolbox to make the same optimal choices that they might otherwise make after extended deliberation. Developers can design for such transparency not only by creating choice experiences in which options can be assessed and compared through clear metrics and attributes, but also by designing social systems in which the choices and successes of others can be easily identified and used for informing one’s own future decisions.

INTRODUCTION: THE PARADOX OF CHOICE
People are generally thought to prefer having a number of options available when making a choice. When presented with options, we are permitted to choose for ourselves, in light of our own personal tastes and needs. This conventional wisdom that choice is preferable is corroborated by the sheer amount of options characteristic in modern consumerism – everyday actions ranging from selecting peanut butter to customizing one’s new laptop computer are often filled with a menagerie of choice options. Self-determination theory suggests that this preference for choice is tied to an adaptive desire for control over one’s...
own conditions (Deci, 1981; Deci & Ryan, 1985; Ryan & Deci, 2000; Ryan, Rigby, & Przybylski, 2006). In being able to choose between multiple alternatives, we are permitted to exercise and validate a sense of individual freedom and autonomy over our environment. Further, such perceived autonomy is found to be intrinsically motivating, thereby leading individuals to prefer conditions in which they are able to determine their own outcomes (Deci, 1975; Deci & Ryan, 1985). That is, we enjoy having a say in what happens to us, and therefore we enjoy having options.

However, while research in both the laboratory and the real world has found that individuals enjoy the decision-making process more when they are presented with a greater number of choices, it has also revealed that having too many choices can lead to certain negative consequences (Deci & Ryan, 1985; Iyengar & Lepper, 2000; Schwartz, 2005; Zuckerman, Porac, Lathin, & Deci, 1978). First, there appears to be a threshold at which a wide range of choices can become paralyzing to the decision maker. At a certain point the number of options becomes large enough that a decision-maker simply has difficulty differentiating the preferred option. Second, an abundance of choice can lead to regret and frustration due to future uncertainty of whether the individual has made the correct choice. In other words, though there is a preference for having the freedom of choice, taken too far this freedom can result in paralysis or dissatisfaction.

This predicament – a desire for freedom, autonomy, and self-determination that in excess can lead to negative outcomes – has been termed the “paradox of choice” (Schwartz, 2005). Researchers have identified numerous instances of the paradox of choice, with perhaps the best known examples occurring in a study by Iyengar and Lepper (2000). In their study the researchers examined the influence that number of choices had on three different decision-making situations: deciding on a topic for an extra credit paper (30 choices versus 6 choices), purchasing jam in a grocery store (24 versus 6), and choosing chocolate versus money as a reward for participation in an experiment (30 versus 6). What they found was that the participants seemed to be more attracted to the high choice conditions. However, participants in the limited choice condition were significantly more likely to actually follow through with a purchasing jam (+27%), completing the extra credit (+14%), and choosing chocolate instead of money (+36%) compared to their peers in the extended choice condition. These results, and others in marketing research and psychology, provide a startling testimony to how too many choices can be a problem for both producers and consumers (Iyengar, Wells, & Schwartz, 2006; Schwartz, 2005; Shah & Wolford, 2007).

Yet, somewhat surprisingly, individuals still seem to demand more choices in their day to day lives: a quick glance around the modern grocery store, athletics store, or retail chain shows an abundance of choices for the potential consumer. Both lab research and commercial trends suggest that individuals, particularly those in Western societies, can’t help but succumb to the apparent tyranny of freedom (Schwartz, 2000).

**THE ADAPTIVE TOOLBOX:**
**HOW HEURISTICS SHAPE THE DECISION-MAKING PROCESS**

With the increasing number of choices available in modern decision-making environments, and consumers only continuing to demand more options, how can we hope to avoid the paradox of choice? One solution for overcoming the tyranny of too much choice lies in how the mind of the decision-maker processes information about the options at hand.

Beyond choosing at random, individuals generally have two options for dealing with the paradox of choice. The first is to choose based on a process of rational deliberation, that is, by devising what