(When) Does Choice Overload Occur? - a Meta-Analysis

Benjamin Scheibehenne, Indiana University, USA
Rainer Greifeneder, University of Mannheim, Germany
Peter M. Todd, Indiana University, USA

The choice overload or too-much-choice effect states that having too many options to choose from may decrease the motivation to choose or the satisfaction with the finally chosen option. While past studies report strong instances of this effect, others found no effect or the opposite effect. In a meta-analysis across 50 published and unpublished experiments we find that the effect is less robust than previously thought, with a mean effect size across all studies of zero even when controlling for several previously proposed moderators. The findings do not rule out the possibility that future research may find reliable moderators.

[to cite]:

[url]:
http://www.acrwebsite.org/volumes/15306/volumes/v37/NA-37

[copyright notice]:
This work is copyrighted by The Association for Consumer Research. For permission to copy or use this work in whole or in part, please contact the Copyright Clearance Center at http://www.copyright.com.
EXTENDED ABSTRACT

In today’s market democracies, people face an ever-increasing number of options to choose from. While individuals may often be attracted by this variety, some scholars argue that an overabundance of choice might eventually lead to a decrease in the motivation to choose and/or in a decrease of satisfaction with the finally chosen option. The possibility of a negative effect of large assortment sizes has important practical and theoretical implications. From a theoretical perspective, it challenges most choice models in marketing, psychology, and economics according to which expanding a choice set cannot make decision makers worse off, and it violates the regularity axiom, a cornerstone of classical choice theory (Savage 1954; Benartzi and Thaler 2001; Rieskamp, Busemeyer, and Mellers 2006). From an applied perspective, marketers and public policy makers would need to re-think their practice of providing ever-increasing assortments to choose from, since they could possibly boost their success by offering less variety.

Given these implications, it is important to learn how robust choice overload is, and to what extent it occurs in different situations. Therefore, in this paper we aim to thoroughly re-examine the too-much-choice effect by means of a meta-analysis across all experiments that we are aware of that investigated the influence of number of options on choice and satisfaction.

Data for the meta-analysis was collected via an extensive literature search, personal communication with scholars in the field, and a call for relevant studies (published or unpublished) that went out to several internet newsgroups covering the areas of consumer behavior, marketing, decision making, and social psychology. The meta-analytical integration of different studies requires that designs and research questions are comparable. Therefore, we only included data from randomized experiments in which participants were given a real or a hypothetical choice from an assortment of options, with the number of options being subject to experimental manipulation in a between- or a within-subject design. The dependent variable was either a continuous measure of self-reported satisfaction based on a Likert scale (usually requiring a forced-choice paradigm), or a measure of propensity to make an active choice. To enable meta-analytical integration across the dataset, we transformed the difference in the dependent variable between the small and the large assortment of each experiment into a Cohen’s $d$ effect size measure that expresses the difference between the experimental conditions in terms of the pooled standard deviations (Cohen 1977).

The total dataset consisted of 50 experiments, 26 of which stem from 12 published or in-press journal articles, 11 from 3 Master’s or PhD theses, and 13 from 8 conference contributions or unpublished working papers which were made available by their respective authors. The dataset embraces a total of 5,036 participants. We integrated the results of all experiments by calculating a random effects model in which the effect sizes for each study are assumed to be randomly distributed around a grand mean effect size $D$.

The mean effect size of choice overload across all 50 experiments was $D = 0.14$ (CI$_{95}$ -0.13 to 0.13). The between-study variance equaled $\tau^2 = 0.14$ (CI$_{95}$ 0.089 to 0.317). The I$^2$ statistic that quantifies the proportion of variance due to non-random heterogeneity equaled 71% which indicates high heterogeneity. When the dataset was trimmed by 20% by excluding the 5 studies with the highest effect sizes and the 5 studies with the lowest, the mean effect size was unaffected ($D_{\text{trimmed}} = 0.02$) but the unexplained variance fell to I$^2 = 28\%$. This indicates that most of the heterogeneity in the dataset is due to a few studies reporting large effect sizes.

To further explore how much of the variance can be explained by potential moderator variables, we extended the random effects model by a meta-regression in which the mean effect size $D$ is predicted by a linear combination of a set of predictor variables. This analysis showed that a “more choice is better” effect is to be expected for studies that use consumption quantity as a dependent measure. Also, published articles are somewhat more likely to report an effect of choice overload as compared to unpublished manuscripts, which indicates a slight publication bias in favor of “positive” results. The degree of choice overload apparently does not depend on whether the dependent variable is satisfaction or choice. The data further indicates no difference in choice overload whether the choice task in the experiment is hypothetical or real. Likewise, there seems to be no difference between experiments conducted in Europe and the US, which questions cultural differences as an explanation for the effect, at least on this broad level. Within the tested range, the effect also does not depend on the difference in size between the small set and the large set. Likewise, we found no curvilinear relationship between assortment size and choice overload. With all moderators included, the unexplained variance drops to I$^2 = 60\%$, indicating that the identified moderators still leave some variance unexplained.

Together, our results indicate that the negative effect of choice overload is not as robust or widespread as previously thought. Still, our findings do not rule out the possibility that the too-much-choice effect can be reliably elicited with the presence of particular moderator variables, and a growing number of studies aim to identify such moderators. Towards this goal, it is essential to develop a more theory-driven understanding of the too-much-choice effect based on the interaction between the structure of assortments—beyond the mere number of options available—and the decision processes that people adopt.

REFERENCES