

Attractiveness of Options Moderates the Effect of Choice Overload

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Abstract

Two experiments indicate that the attractiveness of options moderates the effect of choice overload. More attractive choices reduce consumers' satisfaction with the chosen option, but more unattractive ones increase it. This is because more choice highlights the weaknesses of attractive options but highlights the strengths of unattractive ones.

Contrary to the lay intuition that more choice is “always good”, there is extensive research indicating that more choice can actually be “bad” by making it more difficult to choose, making it hard to justify choosing one option, and inducing regret, all of which reduces consumers’ satisfaction with their chosen option (Gourville & Soman, 2005; Iyengar & Lepper, 2000; Schwartz, 2004). Yet, the conclusion that more choice is harmful is contentious. More choice can increase autonomy, cater to diverse preferences, and provide insurance against uncertain future preferences, all of which increases consumers’ satisfaction (Hoch, Bradlow, & Wansink, 1999; Kuksov & Villas-Boas, 2009). In a meta-analytic review across 50 studies, Scheibehenne, Greifeneder, and Todd (2010) found a “zero effect” of more choice on satisfaction. While more choice can be harmful, it can also be beneficial. The question thus is not whether more choice is harmful or beneficial, but under what circumstances and how is it harmful or beneficial?

Results from two experiments indicate that the attractiveness of options moderates the effect of choice overload. With attractive options, more choice reduces consumers’ satisfaction with the chosen option, but with unattractive ones, more choice increases it. Why might this be? Presenting an attractive option jointly with another alternative reduces its perceived desirability by highlighting both options’ weaknesses since joint evaluation induces a comparison across the options (Hsee & Leclerc, 1998). In contrast, presenting an unattractive option jointly increases its perceived desirability by highlighting both options’ strengths. These predictions should extend to a situation where there are more than two options, which would still be joint evaluation. The presence of multiple options should highlight the weaknesses of attractive choices, decreasing consumers’ satisfaction, but it should highlight the strengths of unattractive choices, increasing satisfaction.

Experiment 1

Procedure

Under the guise of a market research for PBS (the public broadcaster), American participants recruited from Mechanical Turk ($N = 144$; $M_{\text{age}} = 31.67$ years old; 65 men, 79 women) received a list of either 4 or 14 different documentaries and were told to choose one that they would watch. Half of the participants saw a list of attractive documentaries, the other half saw unattractive ones. The list consisted of both the title and a short synopsis of each documentaries, which were largely unknown documentaries that an unrelated experiment verified were either attractive or unattractive to participants. To check for the attractiveness of the documentaries currently presented and whether the number of options moderated the perceived desirability of the options, participants indicated how satisfied they were with their chosen documentary (1 = Not at All; 9 = Very Satisfied) and whether they thought the documentaries overall would be enjoyable and fun to watch, on separate scales (1 = Not at All Enjoyable/Fun; 9 = Very Enjoyable/Fun). The experiment thus employed a 2 (valence: attractive, unattractive) \times 2 (number of options: 4, 14 documentaries) between-participants design.

Results

A 2×2 ANOVA revealed a main effect of valence on participants' satisfaction with their chosen documentary, with satisfaction being higher with attractive than unattractive documentaries ($M_{\text{attractive}} = 7.66$, $S.D. = 1.38$ vs. $M_{\text{unattractive}} = 6.39$, $S.D. = 2.30$), $F(1, 140) = 15.80$, $p < .001$. This was qualified by an interaction with the number of options, $F(1, 140) = 8.17$, $p < .01$ (Figure 1). With attractive documentaries, more choice reduced satisfaction ($M_4 = 8.03$, $S.D. = 1.20$ vs. $M_{14} = 7.28$, $S.D. = 1.46$), $t(62) = 2.24$, $p < .03$. However, with unattractive documentaries, more choice increased it ($M_4 = 5.85$, $S.D. = 2.62$ vs. $M_{14} = 6.93$, $S.D. = 1.82$),

$t(78) = 2.13, p < .04$. These findings support the hypotheses regarding attractive and unattractive options moderating the effect of choice overload.

The predicted enjoyment and fun of watching the documentaries correlated highly ($r = .88, p < .01$), and so were averaged to form a single measure. A 2×2 ANOVA revealed a main effect of valence, with more attractive documentaries perceived to be more desirable to watch than unattractive ones ($M_{\text{attractive}} = 7.29, S.D. = 1.44$ vs. $M_{\text{unattractive}} = 5.17, S.D. = 2.56$), $F(1, 140) = 35.52, p < .001$. This was qualified by an interaction with the number of options, $F(1, 140) = 4.17, p < .05$ (Figure 2). With attractive documentaries, more choice reduced the documentaries' perceived desirability ($M_4 = 7.61, S.D. = 1.10$ vs. $M_{14} = 6.97, S.D. = 1.68$), $t(62) = 1.81, p < .08$. However, with unattractive documentaries, more choice increased it ($M_4 = 4.76, S.D. = 2.70$ vs. $M_{14} = 5.58, S.D. = 2.38$), $t(78) = 1.43, p = .16$. While this last contrast is not significant, the pattern of results is in-line with the hypothesis regarding the options' attractiveness and how the number of options moderates it.

Finally, Model 8 of the bootstrapping protocol developed by Preacher and Hayes (2008) confirmed that the impact of the number of choice on satisfaction through perceived desirability is moderated by valence. Specifically, with attractive documentaries, the indirect effect was estimated to lie between $-.07$ and $-.001$ (95% C.I.; 5,000 samples). With unattractive documentaries, it was estimated to lie between $.01$ and $.10$. These estimated intervals indicate that mediation was significant, confirming that the impact of more choice on satisfaction is mediated by the perceived desirability of options in the choice set.

Experiment 2

The purpose of this experiment was to verify that presenting attractive options jointly decreases satisfaction, but presenting unattractive ones jointly increases it. The procedure was

largely identical, except that half of the participants saw the documentaries separately, and there were no measures to assess the documentaries' perceived desirability. The overall effects for satisfaction should hold under joint but not separate evaluation. This would suggest that a comparison of the options, which joint evaluation facilitates, highlights the weaknesses of attractive options but strengths of unattractive ones.

Procedure

American participants were recruited from Mechanical Turk ($N = 274$; $M_{\text{age}} = 30.91$ years old; 149 men, 125 women) for this experiment. Half of the participants saw the documentaries on separate pages on which there was a button that they needed to click in order to turn to the next page. The order of the documentaries was randomized across participants. The experiment thus employed a 2 (evaluation mode: separate, joint) $\times 2$ (valence) $\times 2$ (number of options) between-participants design.

Results

A 2×2 ANOVA revealed a main effect of valence on satisfaction, with satisfaction being higher with attractive than unattractive documentaries ($M_{\text{attractive}} = 7.84$, $S.D. = 1.29$ vs. $M_{\text{unattractive}} = 6.54$, $S.D. = 2.13$), $F(1, 266) = 32.96$, $p < .001$. This was qualified by an interaction with the number of options, $F(1, 266) = 8.63$, $p < .01$. With attractive documentaries, more choice reduced satisfaction ($M_4 = 8.08$, $S.D. = 1.14$ vs. $M_{14} = 7.56$, $S.D. = 1.39$), $t(130) = 2.38$, $p < .02$. However, with unattractive documentaries, more choice increased it ($M_4 = 6.23$, $S.D. = 2.38$ vs. $M_{14} = 6.90$, $S.D. = 1.75$), $t(140) = 1.88$, $p = .06$. These findings replicate those from Experiment 1.

Crucially, there was a three-way interaction with evaluation mode, $F(1, 266) = 4.37$, $p < .04$ (Figure 3). Under joint evaluation, there was a main effect of valence, with satisfaction being

higher with attractive than unattractive documentaries ($M_{\text{attractive}} = 7.64, S.D. = 1.37$ vs. $M_{\text{unattractive}} = 6.23, S.D. = 2.32$), $F(1, 147) = 18.99, p < .001$. There was also an interaction with the number of options, $F(1, 147) = 11.78, p < .01$. With attractive documentaries, more choice reduced satisfaction ($M_4 = 8.13, S.D. = 1.13$ vs. $M_{14} = 7.00, S.D. = 1.41$), $t(68) = 3.69, p < .001$. However, with unattractive documentaries, more choice increased it ($M_4 = 5.72, S.D. = 2.54$ vs. $M_{14} = 6.71, S.D. = 2.01$), $t(79) = 1.96, p = .05$.

Under separate evaluation, there was a main effect of valence as well ($M_{\text{attractive}} = 8.06, S.D. = 1.15$ vs. $M_{\text{unattractive}} = 6.95, S.D. = 1.77$), $F(1, 119) = 15.54, p < .001$. However, the two-way interaction did not appear, $p = .51$. With attractive documentaries, more choice did not impact satisfaction ($M_4 = 8.03, S.D. = 1.17$ vs. $M_{14} = 8.10, S.D. = 1.16$), $p = .83$. With unattractive documentaries, more choice also did not impact it ($M_4 = 6.78, S.D. = 2.08$ vs. $M_{14} = 7.20, S.D. = 1.19$), $p = .37$.

Discussion

This research proposes that more choice highlights the weaknesses of attractive options but highlights the strengths of unattractive ones. Thus, with attractive options, more choice reduces satisfaction, but with unattractive options, more choice increases it. In Experiment 1, the results for both satisfaction and perceived desirability supported the predictions. In Experiment 2, the effects for satisfaction held under joint evaluation that encourages comparison of the options, especially with more choice, thus highlighting the weaknesses of attractive options, but the effects attenuated under separate evaluation. Both experiments indicate that the attractiveness of options moderates the effect of choice overload.

The results for attractive choices in particular are consistent with regret. Increasing the number of attractive options decreases satisfaction by increasing regret from not having chosen

another, perhaps better, alternative (Baron & Ritov, 1994; Gilovich & Medvec, 1995). With unattractive choices, there should be no regret. Increasing the number of unattractive options could even bring relief by highlighting the options' strengths. These findings thus suggest that regret may be a factor that reduces satisfaction with more choices, at least with attractive choices.

This research highlights a situation where the negative effect of choice overload does not occur, consistent with other research since Scheibehenne et al.'s (2009) meta-analysis. Table 1 presents a short selection of this research. The question thus is not whether or not choice overload occurs, but when and how it does or does not.

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Table 1*Select Summary of Current and Previous Results*

Authors	Choice overload occurs...	But not...
Iyengar & Lepper (2000)	No moderators specified.	
Diehl & Poynor (2010)	When consumers have expectations about finding their preferred option.	When consumers do not.
Polman (2012)	When making choices for the self.	When making choices for others.
Gu, Botti, & Faro (2013)	When there is no psychological closure (based on embodied processes).	When there is psychological closure.
Townsend & Kahn (2014)	With visual depiction of assortments.	With verbal depiction of assortments.
Current Research	With attractive options.	With unattractive options

Figure 1

Satisfaction Depending on Valence and Number of Options

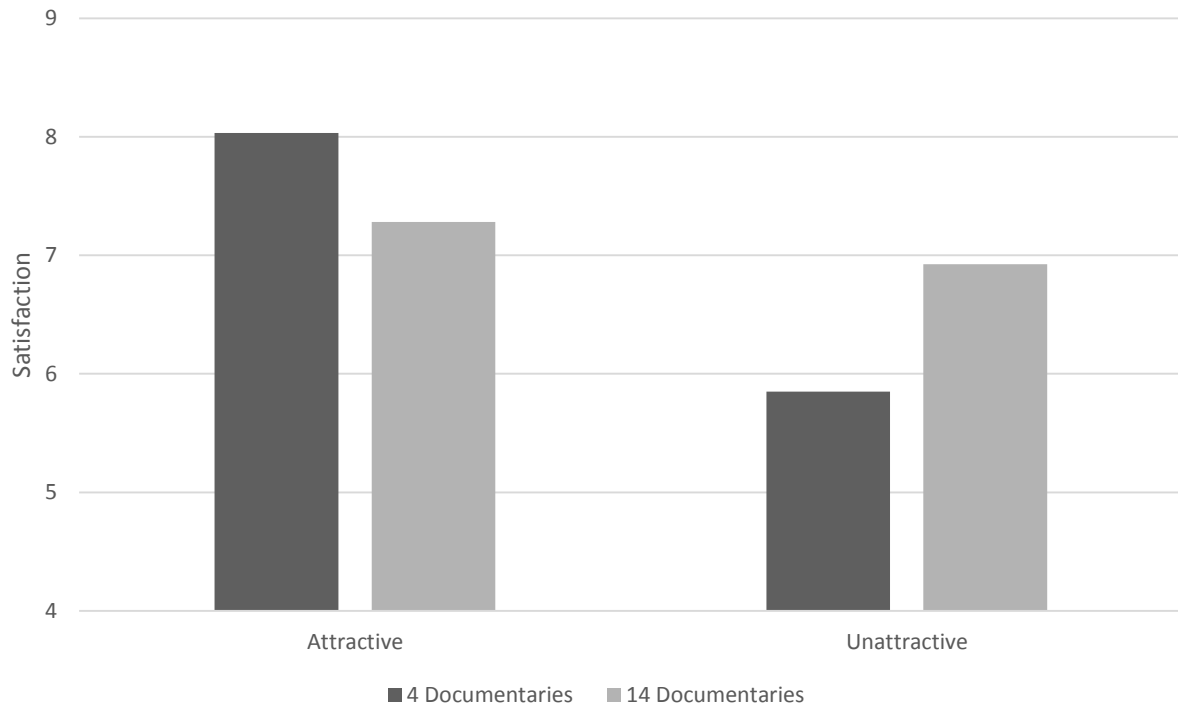


Figure 2

Perceived Desirability Depending on Valence and Number of Options

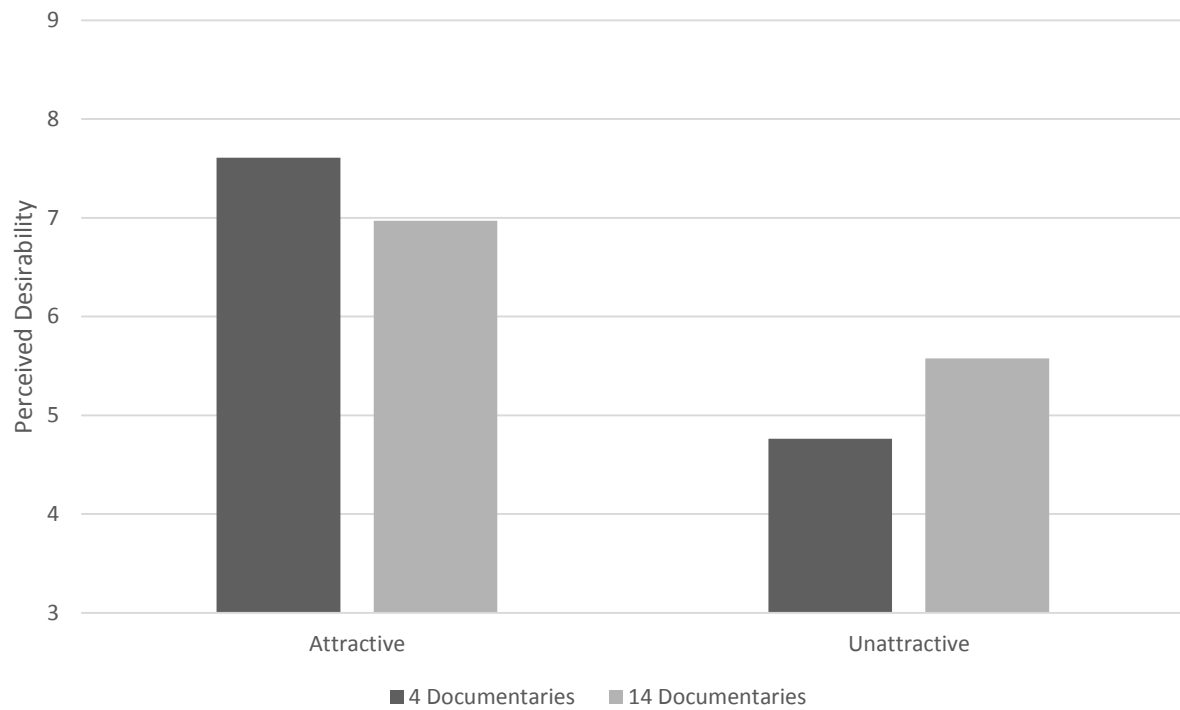


Figure 3

Satisfaction Depending on Evaluation Mode, Valence, and Number of Options

