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On the advantages and disadvantages of choice

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Abstract

Nowadays the freedom to make choices is considered of vital importance for decision-makers. Researchers investigating the psychological effects of choice provided empirical evidence about the many advantages of choice (i.e., increased intrinsic motivation, greater perception of self-determination, better performance, and greater life satisfaction). However, more recent studies demonstrated the downsides of choice. When the decision task difficulty exceeds the natural cognitive resources of human mind, the possibility to choose becomes more a source of unhappiness and dissatisfaction than an opportunity for a greater well-being. We here discuss in a detailed fashion the main findings of research in psychology and consumer behavior showing the bright sides and the downsides of choice.

The Advantages of Choice

Decades of research in psychology and consumer behavior demonstrated that people tend to prefer larger assortments over smaller assortments (e.g., Hotelling, 1929). For example, having the possibility to choose between a coffee shop offering a variety of 30 different types of coffee or another coffee shop offering only four different types of coffee, people prefer the first one over the second one. This is in line with the economic principle that "more is more" (Deci, 1975; Deci & Ryan, 1985; Langer & Rodin, 1976; Rotter, 1966). Specifically, economic research has demonstrated that larger assortments provide a higher chance to find an option that perfectly matches the individual preferences (Baumol & Ide, 1956). In other words, with larger assortments it is easier to find what a decision-maker wants. In line with this assumption, research in psychology has demonstrated the many advantages of choice. Having the possibility to choose, compared to no choice, increases the perception of self-determination, the individuals' intrinsic motivation, the task performance and in general, yields to greater well-being and life satisfaction (e.g., Cordova & Lepper, 1996). For example, in the field of education has been demonstrated that elementary school

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children learn and perform better on tasks if they are given the possibility to choose (Cordova & Lepper, 1996. In particular, in the study by Cordova and Lepper (1996) elementary school children had to play a computer game designed to teach some arithmetical and problem-solving skills. One group of these children could make decisions about some incidental aspects of the learning context (e.g., in a fantasy game about a mission to save the Earth from an energy crisis, this group of children could choose the spaceship that they wanted to use for their mission and the name to assign to their space ship), whereas another group could not make any choice (all the choices about the features game's features were externally imposed by the experimenters). The results demonstrated that the first group was more motivated to play the game, more engaged in the task, learned better the arithmetical concepts involved in the game, and preferred to solve more difficult tasks compared to the second group. These same results have been found in research with adults. For example, Zuckerman et al. (1978) asked college students to solve some puzzles. Half of the participants could choose the puzzle to solve from a list of six different puzzles. For the other half of participants, instead, the puzzle to solve was imposed by the researchers. It was found that the group free to choose the puzzle to solve was more motivated, more engaged and exhibited a better performance than the group that could not choose the puzzle to solve.

In a similar research, college students were asked to read some books (Schraw et al., 1998). Participants were assigned to either a choice condition or a non-choice condition. In the first one, they were free to choose the book to read, whereas in the second one the books to read were externally imposed, according to a yoked procedure. Results demonstrated that the group that was free to make decisions was more motivated to read, was more engaged and more satisfied compared to the group that was not allowed to choose the book to read.

In line with the above results, in the context of nursing homes, it was observed that giving patients the possibility to make decisions about apparently irrelevant aspects of their life (e.g., at what time to watch a movie; how to dispose the furniture in their bedrooms and so on), increased psychological and physiological well-being. The lack of choice resulted, instead, in a state of

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learned helplessness, as well as deterioration of physiological and psychological functions (Langer & Rodin, 1976).

The above studies bring to the conclusion that choice has important advantages over no choice. It seems, indeed, that choice is better (more motivating, more satisfying, and yields to greater well-being) than no choice at all. In line with this conclusion, the current orientation in marketing is to offer a huge variety of product that differ only under small details. Today, indeed, a common western grocery store contains 285 types of cookies, 120 different past sauces, 175 salad-dressing, and 275 types of cereal (Botti & Iyengar, 2006). However, research in psychology and consumer behavior demonstrated that when the number of alternatives to choose from becomes excessive (or superior to the decision-makers' cognitive resources), choice is mostly a disadvantage. The main disadvantages of having too much choice are discussed in the next section of this paper.

The disadvantages of choice

A famous field study conducted by Sheena Iyengar and Mark Lepper (2000) in a Californian supermarket demonstrated that too much choice decreases customers' motivation to buy and their post-choice satisfaction. In this study, the researchers placed two tasting booths in two different areas of the supermarket. One of these tasting booths displayed 6 different jars of jam whereas the other one displayed an assortment of 24 different jars of jam. In each tasting booth, customers were free to taste any of the different flavors of jam. Researchers were interested in measuring the level of attractiveness of the two assortments, the customers' motivation to buy at least one jar of jam, and their level of satisfaction with the chosen option. Results showed that the larger assortment attracted more passers-by compared to the smaller assortment. Indeed, 60% of passers-by stopped at the table displaying 24 different options, whereas only 40% of the passers-by stopped at the table displaying the small variety of 6 jams. The interesting aspect was that out of the 60% of passers-by who stopped at the table with more choice, only 3% of them decided to buy jam. Differently, most passers-by who stopped at the table with only 6 jars of jam decided to purchase at least a jar of jam.

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These customers, also, expressed a higher level of satisfaction with their choices, compared to those who purchased a jar of jam from the larger assortment. In other words, it seems that too much choice is at the beginning more appealing (attracts more customers), but it decreases the motivation to choose and the post-choice satisfaction. This phenomenon has been called *choice overload* and it refers to the battery of negative consequences stemming from having too many choices (e.g., Anderson & Misuraca, 2017; Misuraca, 2013; Misuraca et al., 2009; Misuraca et al., 2016a). Choice overload has been replicated in numerous fields and laboratory settings, with different items (e.g., jellybeans, pens, coffee, chocolates, and so on) and populations (e.g., Chernev, 2003; Fasolo et al., 2009; Iyengar et al., 2004; Misuraca & Teuscher, 2013; Mogilner et al., 2008; Schwartz, 2004; Shah & Wolford, 2007; for a detailed review see Misuraca et al., 2020). For example, in a study by Iyengar and Lepper (2000), college students were asked to write an essay. Participants were randomly assigned to one of the following two experimental conditions: limited-choice condition, in which they could choose from a list of six topics the essay to write, and extensive-choice condition, in which they could choose from a list of 30 different topics the essay to write. Results showed that a higher percentage of college students (74%) turned in the essay in the first condition compared to the second condition (60%). Moreover, the essays written by the students in the limited-choice conditions were evaluated of higher quality compared to the essays written by the students in the extensive choice condition.

In another experiment, Iyengar and Lepper (2000) randomly assigned college students to a choice condition with either 6 or 30 different Godiva chocolates. Participant' task was to choose one of the presented chocolates and express their post choice satisfaction with the chosen option. Again, in line with prior studies (Iyengar & Lepper, 2000), it was observed that participants were more satisfied with their choices when they chose from a smaller assortment of six chocolates than when they chose from a larger assortment of 30 different chocolates. Participants in the limited-choice condition were also more willing to purchase chocolates at the end of the experiment, compared to participants who chose from the larger assortment.

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In the field of financial decision-making, Iyengar et al. (2004) analyzed 800,000 employees' decisions about their participation in 401(k) plans that offered from a minimum of 2 to a maximum of 59 different fund options. The researchers observed that as the fund options increased, the participation rate decreased. Specifically, plans offering less than 10 options had the highest participation rate, whereas plans offering 59 options had the lowest participation rate.

The negative consequences of having too much choice are explained by cognitive reasons. As Herbert Simon (1957) claimed, decision-makers have a bounded rationality. In other words, the human mind cannot process an unlimited amount of information. Individuals' working memory has a span of about 7 (plus, minus two) items (Miller, 1956), which means that of all the options to choose from, individuals can memorize only about 7 alternatives. Because of these cognitive limitations, when the number of choices becomes too high, the comparison of all the available items results cognitively unmanageable and, consequently, decision-makers feel overwhelmed, confused, less motivated to choose and less satisfied (Iyengar & Lepper, 2000). This is particularly true if decision-makers are characterized by a maximizing decision tendency (Schwartz, 2004).

Maximizing is defined in the literature as the tendency to search for the best option. In other words, when maximizers choose, they approach the decision task with the goal to find the absolute best (Carmeci et al., 2009; Misuraca et al., 2021b; Misuraca et al., 2016b; Misuraca & Fasolo, 2018). To do that, they tend to process all the information available and try to compare all the possible options. Contrarily to maximizers, satisficers are decision-makers whose goal is to select an option that is good enough, rather than the best choice. To find such an option, satisficers evaluate only a smaller range of options, and choose as soon as they find one alternative that surpass their threshold of acceptability (Schwartz, 2004). Given the different approach of maximizers and satisficers when choosing, it is easy to see why choice overload represents more a problem for maximizers than for satisficers. If the number of choices exceeds the individuals' cognitive resources, maximizers more than satisficers would feel overwhelmed, frustrated, and dissatisfied, because an evaluation of all the available options to select the best one is cognitively impossible.

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Maximizers attracted considerable attention from researchers because of the paradoxical finding that even though they make objectively better decisions than satisficers, they feel worse. Specifically, Iyengar et al. (2006), analyzed the job search outcomes of college students during their final college year and found out that maximizer students selected jobs with 20% higher salaries compared to satisficers, but they felt less satisfied and happy, and more stressed, frustrated, anxious, and regretful than satisficer students. The reasons for these negative feelings of maximizers lies in their tendency to believe that a better option is among those that they could not evaluate, given their time and cognitive limitations.

So far, results demonstrate that having the possibility to choose, compare to no choice, is better. However, when the choice becomes too much, people feel overwhelmed, less motivated and dissatisfied with their decisions, a phenomenon called choice overload. Choice overload has been replicated in different fields and laboratory settings. However, a more recent meta-analytic work (Chernev et al., 2015: see also Misuraca et al., 2020) has shown that choice overload occurs only under certain conditions. Many moderators that mitigate the phenomenon have already been identified by researchers in psychology and consumer behavior (e.g., Misuraca et al., 2016a; Mogilner et al. (2008). A discussion about the main moderators of choice overload is the topic of the next section.

Moderators of Choice Overload

A meta-analysis conducted by Chernev et al. (2015) on 99 observations reported by prior research identified some variables that mitigate the impact of choice overload. For example, the mere introduction in the choice environment of categories in which the available options are grouped seems to cancel out the negative consequences of having too much choice (Mogilner et al., 2008). Specifically, in an experiment in which consumers had to choose among 50 different types of coffee, it was observed that choice overload did not occur if the coffees were grouped in 10 different categories. When, instead, the same variety of coffees was presented as a list of 50

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alternatives, without being grouped in categories, choice overload occurred in its original strength. Importantly, the categories do not need to be informative of the flavor of the coffees to mitigate choice overload. A list of coffees grouped in categories such as “category A”, “category B”, and “category C” produced, indeed, the same moderating effect of a list of coffees grouped in categories such as “Spicy”, “Smoky”, and “Sweet”. According to the authors, the presence of categories mitigates choice overload because it simplifies the decision environment. Also, decision makers choosing among products grouped in categories perceive more variety, which in turn translates in greater satisfaction with the chosen option.

Another important moderator of choice overload is age. A series of studies conducted by Misuraca and colleagues (Misuraca et al., 2016a; Misuraca & Faraci, 2021; Misuraca et al., 2017) demonstrated that choice overload replicates with adults and adolescents, whereas children and seniors seem to cope well with large assortments. The reasons provided by the authors for their findings concern the fact that children are born in an era characterized by an overabundance of alternatives (many toys, many candy, many sports, many after school activities to choose from) so they are used to deal with large assortments. Furthermore, children develop stronger preferences compared to adolescents and adults (Bhattacharyya & Kohli, 2007). This means that when they choose from an assortment of 24 different toys, for example, they immediately identify the one that they want and, as a consequence, do not need to process the information about all the other 23 available options. Seniors’ ability to cope well with large assortments seems instead to be related to the fact that as we grow, we tend to adopt a more satisficer decision-making approach (Tanius et al., 2009). This tendency to satisfice would explain why seniors reported in the experiment by Misuraca et al. (2016a; see also Misuraca & Faraci, 2021) a greater level of satisfaction with their choices compared to adolescents and adults, regardless from the size of the assortment.

A further important moderator of choice overload is the presence of brand names. As recently demonstrated by researchers in psychology and consumer behavior, choice overload occurs only when options are not associated with brands, whereas it appears when the same choice options are

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presented without any brand names (Misuraca et al. 2019; Misuraca et al., 2021a). In one of these experiments, adult participants had to make a choice among either 6 or 24 different mobile phones, described along six different technical characteristics (e.g., battery duration, camera resolution, etc). In one condition, each phone was associated with a well-known brand (e.g., Apple, Samsung, Nokia, and so on); in another condition instead the same cell phones were displayed without information about their brand. Results demonstrated that participants were experiencing choice overload only in this latter condition, whereas in the condition in which the same phones were associated to brands, participants deal well with large assortments. The same findings have been replicated with a population of adolescents (Misuraca et al., 2021a).

The mitigating role of third variables on choice overload have been found also by Polman (2012), who found that choice overload does not occur when individuals decide for others. Indeed, people choosing from large assortments of wines and ice-cream flavor did not report choice overload if they were asked to choose for other people.

Researchers are still investigating the role of other variables that could mitigate and even cancel out the phenomenon of choice overload. So far, it seems that choice overload is a phenomenon confined only to certain age groups (i.e., adolescents and adults), and choice environment (i.e., without brands and without categories). It seems, also, that it is affected by the specific goal of the decision-maker (e.g., to maximize vs. to satisfice; choosing for oneself vs. others). One important factor to consider is also the role of the specific culture of the decision-maker on choice overload. Indeed, the traditional studies on this phenomenon mentioned above mostly focused on western cultures, which are known for being individualistic cultures. Interesting would be to test whether choice overload replicates in collectivistic cultures, which value in a different way the importance of making personal decisions.

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Conclusions

In this paper we wanted to bring the attention of readers on the advantages and disadvantages of choice. Research in psychology demonstrated that when choice is from a limited number of alternatives has important advantages, compared to no choice at all. Having the possibility to choose, indeed, enhances individuals' feeling of self-determination, motivation, performance, well-being, and satisfaction with life (e.g., Cordova & Lepper, 1996; Zuckerman et al., 1978). In line with these findings, our Century is characterized by a proliferation of choice. Today, not only stores, but also schools, hospitals, financial advisors, sport centers, and many other businesses offer a huge number of options to choose from. The variety offered is so large that for decision-makers becomes overwhelming to compare and evaluate all the potential options. When the number of choice becomes too high, choice overload is the most common consequence (Iyengar & Lepper, 2000). Choice overload refers to the negative affective states (e.g., low satisfaction with the chosen, high perceived task difficulty, high level of regret, high tendency toward choice deferral) experienced by an individual called to choose one out of too many alternatives. Reducing the alternative of choice is the commonly proposed solution to eliminate choice overload. However, this solution needs to consider the existence of many moderators that affect the occurrence of the phenomenon, such as the presence of categories in the choice set, the presence of brands, the age of the decision-makers, and so on. Current research on choice overload is still investigating on the role of many variables that might be responsible of the negative consequences of choice overload to better understand under which conditions the phenomenon occurs.

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