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Impulsivity and Memory Distortion: An Analysis of Perceived Goal Importance

Impulsividade e Distorção da Memória: Uma Análise da Percepção da Importância do Objetivo

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Abstract: This study proposes that high perceived goal importance in purchasing means highly impulsive people do not significantly distort their past memories when faced with an indulgent choice in the present, generating self-control in the future as opposed to indulgent behavior. In two studies, this effect is demonstrated in the domains of eating and spending. Altogether, 282 people participated, with priming activation and scales being applied. The results indicate that a high and low degree of perceived goal importance influences memory distortion in favor of indulgent behavior. Impulsive people tend to distort the number of calories in food less when they perceive the goal of eating a chocolate truffle as important. However, study 2 found that consumers who used credit cards distort the real value of items more when the perceived importance of the purchase is low. The reverse is also true. This research

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contributes to studies on memory distortion, impulsivity and perceived goal importance. The finding that impulsivity declines in people with high perceived goal importance at the moment of purchase may aid in self-control and contribute to the development of strategies to curb impulsivity. People get into debt not only in moments of high impulsivity, but also when the item purchased is deemed to be less important. Thus, organizations can raise awareness among consumers that it is not only large purchases that trigger debt in the population.
Keywords – Memory Distortion; Impulsivity; Perceived Goal Importance.

Resumo: Este estudo propõe que a alta importância percebida do objetivo na compra percebida por pessoas altamente impulsivas não distorcem significativamente suas memórias passadas quando confrontadas com uma escolha indulgente no presente, gerando autocontrole no futuro em oposição a um comportamento indulgente. Em dois estudos, esse efeito é demonstrado nos domínios da alimentação e dos gastos. Ao todo, participaram 282 pessoas, com ativação do priming e aplicação de escalas. Os resultados indicam que um alto e baixo grau de importância percebida do objetivo influencia a distorção da memória em favor do comportamento indulgente. Pessoas impulsivas tendem a distorcer menos o número de calorias nos alimentos quando percebem que o objetivo de comer uma trufa de chocolate é importante. No entanto, o estudo 2 constatou que os consumidores que usaram cartão de crédito distorcem mais o valor real dos itens quando a percepção da importância da compra é baixa. O contrário também é verdade. Esta pesquisa contribui para estudos sobre distorção de memória, impulsividade e importância percebida do objetivo. A constatação de que a impulsividade diminui em pessoas com alta percepção da importância do objetivo no momento da compra pode auxiliar no autocontrole e contribuir para o desenvolvimento de estratégias para conter a impulsividade. As pessoas se endividam não apenas em momentos de alta impulsividade, mas também quando o item comprado é considerado menos importante. Assim, as organizações podem conscientizar os consumidores de que não são apenas as grandes compras que desencadeiam o endividamento da população.
Palavras-chave – Distorção da Memória; Impulsividade; Importância do Objetivo Percebido.

Introduction

Impulsive behavior conditioned to self-control tends to result in more indulgent future choices when faced with an opportunity for indulgence (Mukhopadhyay, Sengupta, & Ramanathan, 2008; May & Irmak, 2014; May & Irmak, 2018; Laran, 2020). Research suggests that individuals will make indulgent choices when they perceive sufficient progress towards achieving a goal (Fishbach & Dhar

2005; Laran, Janiszewski, & Salerno, 2019; Mukhopadhyay et al., 2008; Schwartz, 2018) and when faced with goal conflicting (May & Irmak, 2014; May & Irmak, 2018).

Impulsive behavior is associated with choices for more immediate rewards, in which people inhibit or avoid certain behaviors because they seem less pleasant to them (May & Irmak, 2014). In this assumption, these choices are based on strong and chronic hedonic goals (Ramanathan & Menon, 2006; Sengupta & Zhou, 2007).

However, when approaching the dynamic character of the goals, these are mental representations of motivational networks supported by interconnected goals and means. We can activate different goal systems at the same time through priming (Bargh & Barndollar, 1996) and they can compete with each other for mental resources, the restrictions within which motivational properties can express themselves (Kruglanski et al., 2018).

The goals are part of one of the three strands of the self-control mechanism, namely: setting priorities (Laran, 2020). It is not the focus of this study to evaluate how psychological aspects of self-control are concerned. However, it is pertinent to demonstrate which concept of self-control we use.

In this study, we have established that consumers "(…) exert self-control when they choose a behavior that is beneficial in the long term and avoid a behavior that brings more pleasure in the short term. (…) they choose a behavior that brings more pleasure in the short term over one that is more beneficial in the long term" (Laran, 2020, p. 92).

Indulgent choices occur because impulsive consumers typically distort past memories when in a state of self-control in order to license more indulgent choices in the future (May & Irmak, 2014). The impact of impulsivity on time perception could explain why impulsive people show a well-established preference for immediate rewards rather than delayed, but more preferable rewards (Paasche, Weibel, Wittmann, & Lalanne, 2018; Wittmann & Paulus, 2009).

Some studies have investigated why and how impulsive individuals indulge, including strategies to support conscious and unconscious goal seeking, leading the consumer to be more or less likely to seek opposite goals in sequential choices, for example, by being virtuous after being indulgent (Laran et al., 2019), in health contexts (Schwartz, 2018), in contexts of second-hand P2P platforms and understanding impulse buying on this new web interface (Parguel, Lunardo, & Benoit-Moreau, 2017).

In this article, the experiments used two domains: eating and spending. That's because in Brazil obesity has increased 67.8% in the last thirteen years, from 11.8% in 2006 to 19.8% in 2018. As for spending, according to the National Confederation of Commerce of Goods, Services and Tourism (CNC, 2020), a union entity in Brazil, the percentage of credit card debt in the total debt reached 80.5%, reaching a historic level. In January 2020, the rate was 79.8%. In view of these data, it is justified to carry out studies in these domains. The studies were carried out in 2019, before the pandemic, with university students.

This article reports on a set of studies which demonstrate that perceived goal importance moderates the relationship between impulsivity and memory distortion, altering future choices. We propose that goal importance is a promising construction that may explain why some individuals distort memories in times of indulgence. Some goals may not be important enough to be well-regulated, since perceived goal importance is an interactive function of the level of past performance (Hollenbeck & Williams, 1987). As such, goals can be viewed as having a high or low degree of perceived importance, influencing self-control (Laran, 2020; Laran et al., 2019). In our context, however impulsive a consumer may be, the greater the perceived importance of a goal the less they will distort memory when faced with an opportunity to indulge, thus affecting choices of self-control in the more distant future.

The present study is based on research that relates memory distortion (Croyle et al., 2006; Zhou & Zhao, 2019) to pursuing a goal (Berridge & Aldridge, 2008; Fishbach & Dhar, 2005), indicating that indulgent behavior resulting from goal conflict may be malleable, depending on the degree of perceived goal importance shown by individuals (Laran, 2020).

In the sequence of experiments, we demonstrate that when conditioned into a state of self-control, impulsive people with a high degree of perceived goal importance (versus low goal importance) are not likely to distort their memories when faced with an opportunity to indulge. This indicates that, though impulsive, people with a high degree of perceived goal importance will not distort memories of self-regulatory behavior in the face of an opportunity to self-regulate, meaning they will make self-regulatory choices in the future.

Theoretical Background

Impulsive Behavior through Memory Distortion

The study of consumer behavior involves the processes in choosing and purchasing services, products, experiences or ideas. In these processes, not only the moment of exchange is evaluated, but an entire timeline: planning, pre-purchase or not planning, engagement and decision to purchase and/or exchange and post-purchase, resulting in feelings of remorse/satisfaction, disposition and/or influence over others (Adams, 2019).

In these processes, the pursuit of happiness can cause people to fabricate positive or negative aspects of consumption goals in order to justify future choices (Mather, Shafir, & Johnson, 2000). This occurs because people tend to distort memories in order to behave in a certain way (Croyle et al., 2006).

For some people, memories of past behavior may change, depending on what is happening in the present, which is known as distortion. Under certain conditions, the same person might remember an event differently (May & Irmak, 2014). Individuals undergoing a process of ongoing self-regulation (that is, active self-regulation) tend to interpret a temptation to indulge as something harmful to their initial self-regulation goals (Zhang, Huang, & Broniarczyk, 2010).

In certain situations, consumers may consult past experiences through memory to achieve a self-regulatory or indulgent goal (Laran, 2020), including a conscious goal and a nonconscious goal (Laran et al., 2019). Some studies demonstrate that conscious as well as non-conscious goals are essential in adaptive decision-making (Huang & Bargh 2014; Laran et al., 2019; Williams & Poehlman, 2017). Since conscious and non-conscious goals are of equal importance, any type of goal can influence behavior, even if it happens in different ways. Thus, impulsive people in a state of control distort memories of past behavior to justify indulgence in the present (May & Irmak, 2014).

May and Irmak (2014) explain their findings by using the following example. Imagine that Jill is presented with the opportunity to indulge in a piece of delicious chocolate cake. She knows that eating the cake would be detrimental to her diet. In order to decide whether to eat it, she may consult her memory to make a decision. If her last food-related indulgence was not so damaging to her diet, then perhaps consuming the cake would be permissible. Is it possible that Jill may distort her memory of her

last indulgence in order to allow herself to eat the cake? According to May and Irmak (2014), the answer to this question is yes, provided Jill displays impulsive behavior.

Highly indulgent people express their indulgent characteristics (Ramanathan & Menon, 2006). As a result, highly impulsive consumers often experience conflicts between short-term pleasure and long-term self-regulation goals (Mukhopadhyay et al., 2008). Thus, highly impulsive people are more likely to distort past memories than those who are less impulsive (May & Irmak, 2014). The motivational phenomena have their own endogenous aspects (related to expectation considerations and value). They are also determined by the (exogenous) cognitive conditions of a particular goal system that influence the nature and values of those goals. Therefore, self-regulation is made possible by a joint operation of cognitive and motivational principles that interactively impact goal-directed action (Kruglanski et al., 2018).

Laran (2020) considers that individuals face everyday choices that provoke a certain renunciation of short-term pleasure in favor of future rewards. Thus, the author mentions that this type of situation activates self-control and people consult their memories in order to observe the last indulgence and make a decision. For him this decision process is conflicting, but if people respond to the conflict in favor of their long-term interests, then they are exercising self-control and mitigating impulsive behavior. As such, impulsive people who are conditioned towards regulatory goals will seek to modify their memories, having a less damaging effect on their self-regulation goals. This means they will be licensed to indulge in the present by distorting their past memories (May & Irmak, 2014). Thus, it is expected that:

H1: Impulsive behavior through memory distortion will license the indulgence.

Memory Distortion and Degree of Perceived Goal Importance

Why are some people able to resist the temptation to eat sweets at children's parties while others attack the dessert table? Why do some people continuously strive to improve themselves while others are content to continue through life using the same knowledge in a state of inertia? Why do some consumers pay for trips on credit and pay in installments, spending months paying an expensive bill, while others enjoy travelling without getting into debt? Why do some people manage to overcome

harmful behavior that can affect their lives (smoking, overeating, drinking and gambling), while others repeatedly succumb to harmful behavior? Why do some people throw themselves wholeheartedly into challenging tasks, while others avoid them completely? The degree of perceived goal importance provides at least a partial response to these questions and may also be useful in understanding the process of memory distortion in indulgent behavior.

People make decisions by taking into account the importance of the goal and indulgence. To do this, they trigger their memories in order to remain self-controlled. Thus, self-control resides in the ability to control emotions and desires based on learned and stored responses. Thus, individuals define priorities and behaviors that are more consistent with their consumption goals, reducing impulsive behavior (Laran, 2020).

The theoretical approach that studies self-control in unconscious choices has been analyzed in research that involves directly defining goals or targets, known as "goal-setting theory" (Locke, Chah, Harrison, & Lustgarten, 1989; Locke, 1991). Goal setting has been studied for almost fifty years, since the publication of Glaser and Strauss (1967). During this time, studies have indicated that goals serve as a guide for action and, at the same time, as standards for assessing performance. Goal-setting theory proposes, based on introspective evidence, that conscious goals regulate much human action, specifically performance on unconscious tasks (Locke, 1991).

Goals are defined as internal representations of desired states, which are broadly interpreted as results, events or processes. Internally, desired states vary according to biological conditions (for example, body temperature) and complex cognitive representations of desired results (such as a successful career, losing weight or buying a certain product) (Austin & Vancouver, 1996).

In defining a goal and assessing its potential performance, we clearly think of cognitive comparisons. This is because goals are constructed in moments of a life span, moving between the neurological and interpersonal (Izard, 1993). The relationship between setting a goal and evaluating its performance indicates that individual goals cannot be understood in isolation from others. Individuals can set and pursue multiple goals (Austin & Vancouver, 1996), that is, an individual can simultaneously aim to be productive at work during the week, lose two kilograms, and save money to buy a car, among others. As such, certain defined goals generate critical relationships, establishing goal hierarchies that

branch off along different paths. Some goals are considered less important and others more so. This study aims to analyze perceived goal importance by using the goal importance theory described in research by Hollenbeck and Williams (1987).

Given that people are unable to control all their goals at the same time, there are different levels of perceived goal importance. Some goals may not be important enough to be well-regulated, since perceived goal importance is an interactive function of the level of past performance (Hollenbeck &Williams, 1987). An individual may prefer to focus more on dieting to lose weight than securing a pay raise. Although both goals are important, weight loss may be more accessible at a time when an individual has recently started a diet, whereas a pay raise in more complex in the short term because they received one the previous month. In this case, some goal may not be important enough to be regulated due to past conditions (Cummings, Schwab, & Rosen, 1971).

The role of perceived goal importance is directly related to the goal setting process (Hollenbeck & Williams, 1987). Thus, the present article proposes modifying the model put forward by May and Irmak (2014) based on perceived goal importance. The authors suggested that impulsive people in a self-controlled state who are stimulated to indulge will distort memories, generating goal conflicts that lead to indulgent behavior.

Exercising self-control tends to involve more effort on the part of individuals than indulgent behavior. But, for the author, both behaviors are linked to established goals, in which people seek to obtain greater results, in their actions, in the long term (Laran, 2020).

Our empirical findings indicate that studies conducted by May and Irmak (2014) are only confirmed at low levels of perceived goal importance. In this case, there is a greater probability of memory distortion and more indulgent behavior, since goal conflicts are enhanced. In the case of high perceived goal importance, memory distortion will not occur since goal conflict is not present and, as such, self-control will be stimulated as opposed to indulgent behavior.

This occurs because prior perceived performance is more accurate (in other words, the past is more real) to individuals characterized with high perceived goal importance, unlike those with low-level perceived goal importance, for whom perceived performance is less accurate (that is, the past is more abstract) (Hollenbeck & Williams, 1987). Therefore, memory distortion will only occur in the event of

low perceived goal importance. Based on the set of experiments conducted, we believe that the level of perceived goal importance may be influenced by situational characteristics. Thus, it is expected that:

H2: High (low) level perceived goal importance predispose individuals to adopting a particular response pattern through indulgent (self-control) behavior.

Study 1: Perceived Goal Importance and Memory Distortion

The theoretical evidence referenced in this article points to a relationship between memory distortion and perceived goal importance in highly impulsive people. In other words, having information that encourages indulgent behavior may lead to self-control in highly impulsive people if they inflate the perceived importance of a goal.

Based on the set of theories studied, we predict that impulsive people exposed to self-control priming will be less economical in the present. If these people are then given an opportunity to indulge (a second truffle chocolate) they will distort their past memories (the calorie count of the first chocolate) to license an indulgent choice in the future. Indulgent behavior will increase in people with low perceived goal importance, while those exhibiting high-level perceived goal importance will displayer greater self-control.

Study 2: Buying on Credit Cards and Perceived Goal Importance

Study 2 demonstrates that high perceived goal importance tends to inhibit the previously triggered opportunity to indulge, resulting in no memory distortion and indicating self-control behavior in the future. These results indicate that low perceived goal importance tends to enhance the previously triggered opportunity to indulge, generating memory distortion. In this case, people were approached in the street near banks and invited to participate in a study aimed at analyzing credit card purchases. If they agreed, they were asked to provide their credit card statement (printed or scanned on a smartphone). We predict that when highly impulsive people are questioned about a purchase they consider to have high perceived goal importance, without looking at their credit card statement, they distort the price less than those for whom perceived goal importance was low.

Study 1 – Research Method

Participants and Procedure

In the first study a total of 240 participants were selected. The factorial design applied was 2 (impulsivity: low *versus* high) x 2 (perceived goal importance: low *versus* high). The self-control priming effect was manipulated between subjects (that is, all participants received the same information).

Participants were directed to the laboratory and sat down in front of a computer. They were advised that they would participate in two supposedly unrelated tasks and that there was no risk (physical or psychological) involved. They were asked to concentrate when completing the tasks and to participate voluntarily, with their anonymity preserved. Next, participants gave written informed consent to indicate they were aware of research adherence requirements.

Before the first tasks, subjects were given a chocolate truffle to be eaten immediately, which had no identifying brand or nutritional information (it contained 150 kcal). The first task was then initiated, aimed at triggering the priming effect using a set of randomly scrambled words and sentences that represented the set (Srull & Wier, 1979). The goal in this first stage was to prime for information associated with self-control. Respondents were presented with a set of scrambled words in a word search. Next, they were instructed to find the words in the word search, with a total of ten words hidden among 900 letters. Of these, eight words triggered self-control using expressions such as: *economize*, *save*, *unknown*, *risk*, *combine*, and *restriction*, among others. The other two expressions were ordinary words that, *a priori*, had no specific meaning. After observing the set of words, respondents were told to choose the option that best represented the ten words out of four alternatives, such as: "Tomorrow is unknown, that's why we should save". The search for words and correct selection of the sentences was aimed at triggering a *priming* effect for self-control. In order to verify priming manipulation a self-control *versus* indulgence scale was applied immediately afterwards.

After priming activation, participants completed an intermediate task in which they answered an impulsivity scale (Puri, 1996) followed by questions that expressed the perceived goal importance of consuming the first chocolate truffle. Next, participants were given a second chocolate, but forbidden to

eat it. First, they had to watch a 10-minute video and carry out another 10-minute-long activity (not related to the experiment). They were only allowed to eat the second chocolate after completing both these activities. At the start of the two activities participants were asked to guess the calorie count of the chocolate truffle (given at the start of the experiment). Next, participants were asked to answer a set of questions that measured confounding variables that should be controlled, including: hunger level during the experiment, dieting or not, and enjoyment of chocolate, among others. At the end of the experiment participants were thoroughly questioned to establish the *debriefing* procedures (Bargh & Chartrand, 2014; Fitzsimons & Shiv, 2001), advised of the actual purpose of the experiment, thanked, and then dismissed.

Pretest for the Type of Product Used in the Experiment

Forty participants from a same sample assessed the type of product to be tested in the experiment. To that end, ten products were selected that might induce indulgence and were sold at the university under study. Of these, the product most linked to indulgence was the chocolate truffle. To avoid the influence of possible confounding variables, the chocolate was wrapped in packaging with no nutritional information or brand.

Results

Manipulation Checks

The data collected in the manipulation of the first task in the experiment indicates that, in the self-control scenario, the correct response rate (correctly completing the sentences that induced self-control) among respondents was 96.7%. In addition, on a scale of 1 to 7, awareness of well-being and control habits after the priming activity was 6.83.

Participant Choices

After verifying priming manipulation, participants were divided into two groups according to the average of high and low impulsivity scores, as well as high and low perceived goal importance. Figure 1

shows the average calorie estimates made by participants for high and low perceived goal importance in both groups (high and low impulsivity). The relationship between the high and low impulsivity groups showed no significant interaction (F >1). The t-test indicated a difference in perceived calories within the low perceived goal importance group. In this case, significant differences ($t_{(1)} = 2.38;\ p = .022$) were observed between the estimates of participants with low (μ = 204.84 kcal) and high impulsivity (μ = 125.6 kcal). In this analysis 74.93% of highly impulsive participants estimated a lower calorie count than their less impulsive counterparts.

With respect to the high perceived goal importance group, the t-test found no significant differences ($t_{(1)} = -.466;\ ns$) between the projected calorie counts of the chocolate truffle for the highly (μ = 132.2 kcal) and less impulsive consumers (μ = 147.1 kcal). Although the highly impulsive subjects estimated higher calories than the less impulsive group, there was no evidence of significant differences. In this scenario, 53.14% of highly impulsive subjects projected calories counts above those of their less impulsive counterparts.

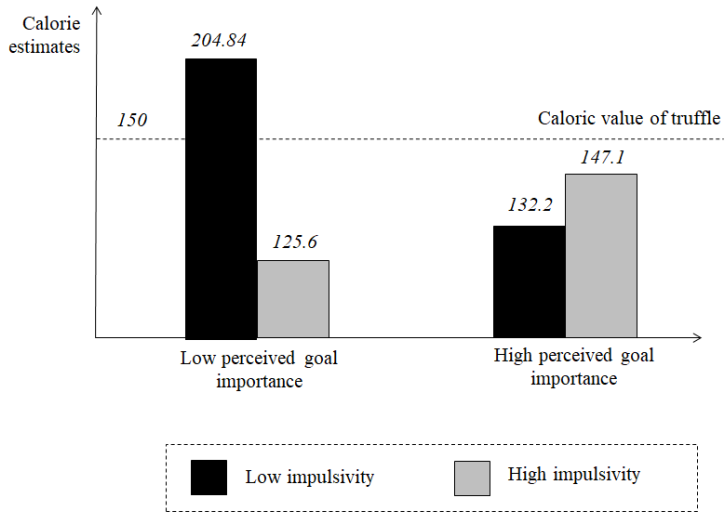

Figure 1. Impulsivity *versus* calories

In regard to the difference between averages for high and low perceived goal importance, ANOVA revealed significant differences between low ($F_{(1.72)} = 3.046; p = .058$) and high impulsivity ($F_{(1.71)} = 2.535; p = .016$).

Discussion

The results of study 1 show that triggering self-control information and the opportunity to indulge influenced memory distortion among people with high and low impulsivity. However, impulsive individuals with high perceived goal importance demonstrated self-control in the future, since the estimated calorie count was lower (μ = 125.6 kcal). This indicates that the second chocolate did not provoke memory distortion in the participants.

Previous research (Ramanathan & Menon, 2006; May & Irmak, 2014) has shown that impulsive people in a self-controlled state who are stimulated to indulge will distort memories in order to make more indulgent choices in the future. Based on our findings, people who exhibited high perceived goal importance showed no evidence of memory conflicts because they made more self-controlled choices in the future. Thus, it is suggested that the high perceived goal importance characteristics in study 1 inverted the effect observed by May and Irmak (2014).

Study 2 – Research Method

Participants and Procedure

Participants were 42 people (53% female, average age 36.4 years) who agreed to temporarily provide their credit card statements to participate in "a study on consumer behavior". The factorial design used one factor (purchases on the credit card statement) with two levels of perceived goal importance (low *versus* high perceived importance of the purchase) and impulsivity (low *versus* high).

Participants were approached on five different days and invited to voluntarily participate in a consumer behavior study. After accepting, they were asked to provide their most recent credit card statement and the researcher then recorded all the purchases, amounts paid and number of installments on a form. Without allowing the participant to look at the statement, they were asked the price of each

item purchased and its perceived importance on a scale of 0 to 10. Next, the respondents answered five questions that assessed their impulsivity using Puri's (1996) scale. Personal information provided by the participants was kept confidential. Before dismissing the participants, they were advised of the aim of the study and thanked for participating.

Results

The 42 participants had made a total of 314 purchases, an average of 7.47 per person. The total amount spent with the credit cards studied was 36,377.85 USD; with an average amount per purchase of 60. The purchases made were divided into food (72), clothes and shoes (42), groceries (41), electronic goods (40), fuel (25), entertainment (20), health and beauty (18), financial services (16), school supplies (14), toys (7), airfares (7), construction material (6) and transport (2).

Figure 2 shows the averages for choices made by participants exhibiting high and low impulsivity for purchases considered to have low *versus* high perceived importance. In the case of high perceived goal importance, significant differences ($t_{(1)}$ = 6.268; p < .01) were recorded between low impulsivity (μ = 17.61%) and high impulsivity (μ = 22.32%).

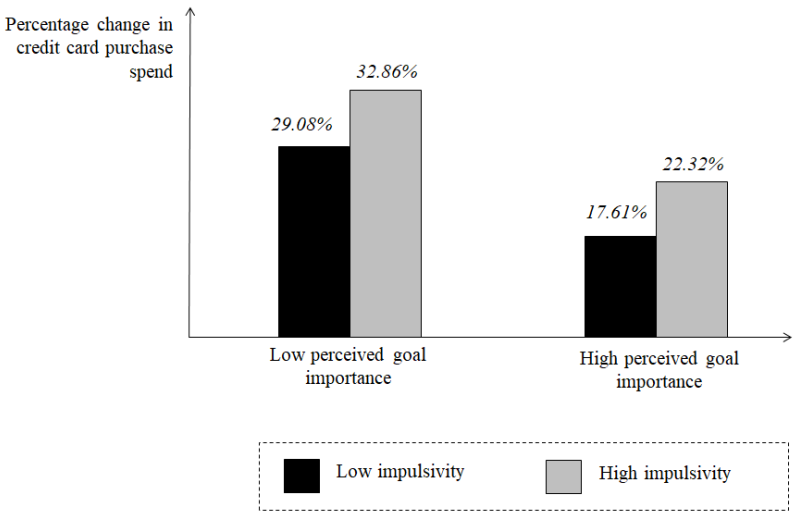

Figure 2. Impulsivity *versus* purchase spend

With respect to low perceived importance, the t-test revealed that significant differences ($t_{(1)}$ = 5.652; p < .01) were observed between low (μ = 29.08%) and high impulsivity (μ = 32.86%).

Discussion

Study 2 provides practical evidence that impulsive consumers distort the memory of the price of a purchase less when its perceived importance is high, whereas memory was more distorted when perceived importance was low. Thus, it is reasonable to assume that impulsive consumption can be reduced if consumers create a mechanism to ensure greater perceived importance of the item purchased.

Conclusions

General Discussion

Prior research has focused on how impulsive consumers distort memory in favor of indulgent behavior when stimulated by an opportunity to indulge (May & Irmak, 2014). This theoretical approach may be an alternative to explain the high level of debt in the Brazilian population which, despite being in a self-controlled state (due to the economic forecast), at times distorts its past memories to license indulgent choices. This phenomenon explains the credit card debt in a large portion of the population.

Our investigation shifts the focus from impulsivity at the moment of purchase to the perceived importance of a goal. We found that impulsive people tend to distort the calorie count of food less when they perceive the goal of eating a chocolate truffle as highly important (study 1). Finally, people who make purchases using a credit card distort the actual price more when the perceived important of the product is low, such as a simple lunch. The opposite is also true, that is, memory is less distorted when the perceived importance of the purchase is high, such as a special Sunday lunch with the entire family (study 2).

These studies do not preclude the findings that govern the distortion of memory in highly impulsive people. Nevertheless, they demonstrate that high perceived goal importance may reduce memory distortion when individuals are stimulated by an indulgent offer. We believe that high perceived goal importance results in more conscious decisions by consumers and that these decisions occur in a

state of self-control. High perceived goal importance is directly related to the ability to inhibit consumption impulses, causing concentration capacity to generate less memory distortion during decision-making.

We believe that memory distortion by highly impulsive people occurs in the sensitivity of the moment, as a reaction to an opportunity to indulge; almost as if it were difficult to reflect on the choice. Self-control is greater in people with high perceived goal importance, resulting in less impulsive behavior in the face of an opportunity to indulge.

This study contributes to clarifying important facts in the basic processes that influence consumers to distort their memories (Croyle et al., 2006; Kruglanski et al., 2018; Laran, 2020). Through these studies (1 and 2), it is noticed that even the most impulsive people may tend not to distort their memory and incur indulgence, as they perceive their goals to be of high importance. However, less impulsive people are more susceptible to indulgence if they perceive their goals to be of low importance. By incurring indulgence, these people can decide for less healthy options in food and, also, spend more on shopping and may incur health problems in the future and indebtedness.

The general population and a number of government organizations are increasingly interested in situations that promote less impulsive and more self-controlled behavior. However, life seems to push consumers toward indulgence several times a day (Laran, 2010; Laran et al., 2019; Laran, 2020). Additionally, impulsivity can be considered a symptom of Attention Deficit Hyperactivity Disorder (ADHD) and Hyperactivity. The finding that impulsivity declines in people with high perceived goal importance at the moment of purchase may aid in self-control and, at the same time, contribute to the strategies to curb impulsivity.

Managerial Implications

In managerial terms, the results of these experiments indicate that people get into debt not only in moments of high impulsiveness, but also when the item purchased is considered less important. In this way, wholesalers and retailers can make consumers aware that it is not only large purchases that generate debt in the population. Simple actions such as a daily meal or a small purchase without a specific objective can contribute to the increase in debt. Thus, it can be assumed that consumers who

make a series of purchases for low values do not have great perceived importance in the objective, generating greater conflict of objectives and making them more vulnerable to opportunities for indulgence.

It is essential to recognize that impulsivity is a multidimensional phenomenon, in which there may be aspects of affective, cognitive and functional attention (Xiao, Nicholson & Iyer, 2017) that can be influenced by long-term orientation (Lehmann, Krug & Falaster, 2019), anxiety and stress (Madeira Pontes, Peñaloza & Duarte Pontes, 2020).

Thus, marketing communication could employ slogans that lead consumers to plan their purchases, also prioritizing choices with low perceived goal importance, such as: "Shopping is like life: it's the little things that make the difference", "Thinking about the little things can make you big!" and "Little by little, you travel far!".

Limitations and Directions for Future Research

Regarding limitations, the authors recognize that the application of field and laboratory experiments is limited by the conditions of control manipulation. Furthermore, the studies used only two domains: eating and spending, and this can be considered a limitation of the research. However, despite these limitations, we hope that this article can contribute to further research on memory distortion, impulsivity and the perceived importance of the objective. It is suggested that alternative procedures be applied in different consumption environments to allow possible generalizations of the findings of this study.

Future research could investigate the relationship between perceived goal importance at the moment of purchase and regret. It is known that after a highly compulsive purchase some people tend to question their decisions as bad, inconvenient or poorly planned. It would therefore be interesting to study perceived goal importance for purchases that generate regret. For exemple, experimental investigations that analyze the relationship between "*stopping to think*" at a time of goal conflict (self-control *versus* opportunity for indulgence). It is well known that consumers who are highly reactive, and therefore make impulsive decisions, do not think enough when making choices that lead to regret.

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