Scarcity or Mortality Salience? The effects of COVID-19 pandemic and power in Consumer Behavior in Brazil

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Abstract

Title: Scarcity or Mortality Salience? The effects of COVID-19 pandemic and power in Consumer Behavior in Brazil

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The COVID-19 pandemic and its impacts on people's lives have changed consumer behavior, dramatically impacting economies around the world. Individual's sense of ontological security has been disrupted due to such great health and economic threats, which have led consumers to adapt to a new reality where physical interactions are frowned upon according to the World Health Organization (WHO) recommended safety and preventive measures. This dissertation intends to study the effects that the pandemic has on consumer behavior in Brazil, specifically regarding perceptions of power, mortality, and financial scarcity. Seeking to enhance the understanding of how consumers respond to such stimulus, mortality salience and financial scarcity are manipulated and one's sense of power is measured, allowing for an analysis on their impact over individuals facing threats originated or heightened by the pandemic. Additionally, I investigate the concept of temporal discounting as a mediator to such factors. Finally, I evaluate this effect by measuring both luxury consumption and saving for retirement intentions. The results of this study revealed no significant effect of mortality salience and financial scarcity on consumers' intention to save for the future nor for a preference towards luxury items. Regarding the moderation of power, the results showed that mortality salience has a direct impact on temporal discounting, in line with the literature, and confirmed power's impact on luxury consumption, contrary to future-oriented behavior expected according to prior research. Power as a moderator did not have a significant relationship with education, income levels, temporal discounting, mortality salience, or financial scarcity.

Keywords: Brazil, Consumer Behavior, COVID-19, Financial Instability, Luxury Consumption, Mortality Salience, Power, Resource Scarcity

Sumário

Título: Escassez ou Saliência da Mortalidade? Os efeitos da pandemia do COVID-19 e percepções de poder sobre o Comportamento dos Consumidores no Brasil

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A pandemia do COVID-19 e seus impactos mudaram o comportamento dos consumidores, impactando drasticamente a economia global. A segurança ontológica individual sofreu devido às ameaças relacionadas à saúde e economia, levando consumidores a adaptarem-se a uma nova realidade onde interacções físicas são desencorajadas de acordo com as medidas recomendadas pela Organização Mundial de Saúde (OMS). Esta dissertação pretende estudar os efeitos que a pandemia tem no comportamento dos consumidores brasileiros, especificamente relativamente às percepções de poder, mortalidade e escassez financeira. Procurando melhorar a compreensão de como consumidores respondem a tais estímulos, saliência da mortalidade e escassez financeira são manipulados e percepção de poder é medida permitindo uma análise dos seus impactos sobre indivíduos que enfrentam ameaças originadas ou agravadas pela pandemia. Também investigo o conceito de desconto temporal como mediador de tais factores. Finalmente, avalio este efeito medindo o consumo de luxo e poupança para aposentadoria. Os resultados deste estudo não revelaram nenhum efeito significativo da saliência da mortalidade e escassez financeira na intenção dos consumidores de poupar para o futuro nem de preferência por artigos de luxo. Quanto à moderação do poder, os resultados mostraram que a saliência da mortalidade tem um impacto directo no desconto temporal, de acordo com a literatura, e confirmaram o impacto do poder no consumo de luxo, ao contrário do comportamento orientado para o futuro esperado de acordo com pesquisas anteriores. O poder quanto moderador não apresentou uma relação significativa com a educação, níveis de rendimento, desconto temporal, saliência da mortalidade, e escassez financeira.

Palavras-chave: Brasil, Comportamento do Consumidor, COVID-19, Instabilidade Financeira, Consumo de Luxo, Saliência da mortalidade, Poder, Escassez de recursos.

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Glossary

b	Estimated value of unstandardized regression coefficient
&	And
ANOVA	Analysis of Variance
CARP	Contextually Appropriate Response Perspective
CI	Confidence Interval
DV	Dependent Variable
F	F distribution, fisher's F ratio
IV	Independent Variable
MS	Mortality Salience
p	p-value
r	Estimation of the Spearman correlation coefficient
R-sq	R-squared
RQ	Research Question
SD	Standard Deviation
SE	Standard Error
t	Output T-test
TMT	Terror Management Theory

1. Introduction

Everyday situations happen which, more or less, directly or indirectly, impact the choices consumers make preceding a purchase. Several factors influence the rationality behind consumer behavior, and, at times, the decisions made are not ideal based on consumers' needs. Psychosocial concerns such as status often shape individuals' economic decisions rather than utilitarian necessities (Bakshi & Chen, 1996; Belk, 1988; Furnham & Argyle, 1998; Kasser, Ryan, Couchman, & Sheldon, 2004). Studies have proven that power can be a highly impactful element in consumption. For instance, status is considered one of the bases of power (French & Raven, 1959), and luxury items can be used as an indicator of status, which often leads them to be desirable (Belk, Bahn, & Mayer, 1982). Power is highly valued by individuals and when these experience a lack of power they become motivated to increase their perceived power through conspicuous consumption (Rucker & Galinsky, 2008; Rucker & Galisnky, 2009). Such findings suggest that powerless individuals tend to place a higher value towards luxury goods (Rucker & Galinsky, 2009). While on the other hand, individuals with high perceived power are more inclined to focus on product's quality and utility rather than the status associated with it (Snyder & Debono, 1985). Another factor to be taken into account is socioeconomic status, occasionally associated with small degree of autonomy (Cosgun Ögeyik, 2016), as previous research suggests that consumers with low levels of autonomy in their jobs are more likely to be motivated for a purchase through belongingness appeals, presenting a communal orientation and low perceived power, linked to dependence on others (Bruner & Goodman, 1947; Dubois et al., 2011; Georgesen & Harris, 1998; Marmot, 2004; Rucker et al., 2011).

The year of 2020 has brought to light many fragilities of societies nowadays. The COVID-19 pandemic quickly became a global crisis, first by debilitating health care systems, which then followed an economic, informational, and social impasse (Campbell, Inman, Kirmani, & Price, 2020). Such alterations in day-to-day life caused by the lockdown imposed by governments all over the world have jeopardized consumers' quality of life and financial stability. Within this scenario, the physical distancing orders disconnected consumers from habitual socialization practices, such as family gatherings and any sort of face-to-face festivities, essentially threatening social interactions. These disturbances have altered consumers' socio-economic environment, and its impacts on overall wellbeing has transformed the reality of

the marketplace and consumer behaviors (Campbell et al., 2020). Such alterations in daily-life elicits feelings of uncertainty which, together with the constant news on the pandemic, may cause death anxiety and an increased need to regain control (Burke, Martens, & Faucher, 2010).

In this thesis, I will focus specifically on both scarcity and mortality salience, addressing the impact of coronavirus on consumers in Brazil. Concerns regarding mortality awareness may lead to increased efforts to secure oneself psychologically through cravings for meaning and self-esteem, as explained in the Terror Management Theory (TMT; e.g., Greenberg, Pyszczynski, & Solomon, 1986). TMT was based on the work of Ernest Becker (1962, 1973, 1975), which proposed existential anxiety results from the juxtaposition of the instinct for self-preservation and mortality salience (MS), implying the awareness of the inevitability of death (Gordillo et al., 2017). A common defense mechanism adopted against this potential death anxiety is to attempt to access symbolic immortality, having certain extensions of the self (e.g., accomplishments, offspring, luxury items) in order to continue "existing" posterior to one's biological death (Martin, 1999). Mortality salience can lead to changes in consumer behavior, impacting the urge for gratification through materialism (Rindfleisch, Burroughs, & Wong, 2009).

In the case of financial scarcity, besides its noticeable impact on consumers' acquisition power, it also has psychological consequences that may affect consumers' cognitions (Fülöp, 2004; Greenberg, 1981). Scarcity effects in consumer behavior are associated with increased perceived product value, and greater satisfaction with products or services (Aggarwal, Yun, and Huh, 2011; Lynn, 1991). According to commodity theory, assets will enhance perceived value when scarce rather than abundant (Brock, 1968; Lynn, 1991). Similarly, the reactance theory which focuses on one's lack of perceived freedom suggests that if an individual's liberty is threatened, psychological reactance will be triggered, motivating desire to perform restricted behavior (Brehm, 1966; Brehm & Brehm, 1981; Clee & Wicklund, 1980; Wicklund, 1974). Hence, perceived scarcity can imply a loss or threat to personal freedom, which may provoke psychological reactance, leading to an increased attraction towards the unattainable or unavailable good (Ditto & Jemmott, 1989; Markus & Schwartz, 2010; Worchel & Brehm, 1971).

Considering unstable and unpredictable environments, the choice to not delay gratification among consumers may be an adaptive strategy given uncertainties about the future (Ellis et al. 2009; Griskevicius et al. 2011), leading towards a more impulsive behavior. This is

especially the case for those who experience chronic financial deprivation (Hamilton et al, 2019). Interestingly, resource scarcity has been proven to both potentially increase generous behaviors, while at the same time, make individuals more self-interested (Roux, Goldsmith, & Bonezzi, 2015). This ubiquitous phenomenon can be explained through the proposition that resource scarcity may only increase generosity in situations which such behavior allows for personal gains (e.g., gain status by donating blood or money; Griskevicius, Tybur, & Van den Bergh, 2010; Roux et al., 2015). Similarly, resource scarcity has been proven to drive consumers towards a more present-oriented behavior (Hamilton et al., 2019). Prior work suggests that consumers are less likely to save up for large acquisitions while undergoing resource scarcity when they do not foresee an improvement in their situation, hence prioritizing more purchases in the present (Hill & Martin, 2014).

1.1. Problem Statement

Building on this work, this thesis explores the proposition that the pandemic of COVID-19, as an external threat, activates mortality salience and, in some cases, financial instability in consumers, which might be especially true in underdeveloped nations with high levels of inequality, such as Brazil. Additionally, it explores how mortality salience and financial scarcity impact consumer behavior. In order to better understand how mortality salience and financial scarcity impact consumer behavior, I investigated their effects on luxury consumption and financial savings for the future, under the current pandemic crisis on Brazilian consumers. I postulate that consumers become more future oriented when thinking about their own death, as TMT theory suggests this condition would cause people to attempt to aim for longevity (Kelley & Schmeichel, 2015), which would lead to financial investments for a more comfortable future; while more present oriented behavior is expected when scarcity is highlighted, increasing the desire to satisfy current wants on material goods (Chaplin, Hill, & John, 2014), and also when mortality salience is present, as it makes people more prone to try to feel invincible (Martin, 1999). Therefore, this research intends to answer the questions: “Does scarcity and mortality salience, caused by COVID-19, influence consumer behavior in Brazil regarding luxury consumption and financial savings?” and “If so, does power matter?”. This problem statement can be divided into seven main research questions:

RQ1: Does mortality salience, caused by COVID-19, impact Brazilian consumers’

willingness to save for retirement?

RQ2: Does mortality salience, caused by COVID-19, impact luxury consumption in Brazil?

RQ3: Does scarcity, caused by COVID-19, impact temporal discounting in Brazilian consumers?

RQ4: Does power moderate a hypothetical relationship between mortality salience and consumer behavior?

RQ5: Does power moderate a hypothetical relationship between financial scarcity and consumer behavior?

RQ6: Does temporal discounting explain a potential relationship between financial scarcity and consumer behavior?

RQ7: Does temporal discounting explain the potential relationship between mortality salience and consumer?

1.2. Relevance

This thesis contributes to existing literature by demonstrating how the pandemic influences consumer behavior, more specifically in Brazil, based on what consequence is activated in consumers' minds. Particularly, it integrates power, mortality salience and financial scarcity concepts, applying such principles to the current situation that COVID-19 has brought to the world, allowing for an examination of its impacts on consumers' psychological and behavioral responses. Likewise, this study aims to contribute shedding light on the inconsistent literature on power and mortality salience. Additionally, it contributes to a better understanding of the pandemic's impact on perceived conspicuous consumption, which can be enlightening to companies operating in the Brazilian market and governments attempting to model behavior during such turbulent times.

1.3. Structure

In order to accomplish this thesis objective, an experimental study was conducted. Posterior to this introduction, this master thesis will follow with a literature review of the pandemic's impact in Brazil's economy, Brazilian consumer behavior, financial scarcity, temporal discounting, mortality salience, and conspicuous consumption. Subsequently followed

by a methodology chapter, which consists of the research strategy and design, along with participants and procedure description. Next, results will be presented, analyzed and discussed. Then, the main conclusions and academic implications will be provided. Lastly, limitations and future research ideas are disclosed.

2. Literature Review

2.1. COVID-19 Economic Impact in Brazil

The first case of COVID-19 in Brazil was confirmed on February 26, 2020, in São Paulo. Since then, the disease has spread across the country, having caused over 190 thousand deaths by the end of December 2020 (Brazil Covid Map and Case Count, 2020). Regardless of all implemented measures aimed to flatten the pandemic curve, such as quarantine, there are still many challenges faced by the country to lighten the coronavirus effects as the response regarding public health was not coordinated among authorities, as well as physical distancing and isolation have not been enforced by any federal policy (Benítez et al., 2020; Croda et al, 2020). Moreover, a vast part of the population lives in extreme poverty, characterized by the social inequality of an emerging country, suffering from poor health care and sanitation, as well as overcrowding, hindering the implementation of social distancing (Bretas & Alon, 2020). This is especially concerning to individuals living in urban slums, also known as "favelas", where density is high, and basic sanitation and infrastructure are not proper, facilitating the spread of the virus (World Bank, 2020). Hygiene is one of the most crucial factors to control the spread of diseases, however, as such poor living conditions impose severe limitations in hygiene, it leads to the inability of many individuals to take preventive measures (Macedo, Ornellas, & do Bomfim, 2020). Moreover, the propagation of misleading information on cure and prevention of diseases can lead to a weakened overall adherence to urgent preventive care (Galhardi et al., 2020). Although the country provides a universal health care system, its capacity is highly uneven across the country, which led it to be overwhelmed by the pressure the pandemic has posed, resulting in COVID-19's outbreak further debilitating an already vulnerable system (Croda et al., 2020; Surico & Galeotti, 2020), especially in impoverished regions, endangering lives particularly among poor individuals (World Bank, 2020).

Common responses regarding the health threat posed by COVID-19 involve disgust towards symptomatic people, and the fear of contamination (Galoni, Carpenter, & Rao, 2020;

Rozin, Haidt, & McCauley, 2008; Tybur et al., 2013). Behavioral immune system research has shown an increased motivation among consumers to avoid crowds, as biologically people seek to avoid potential contamination (Neuberg, Kenrick, & Schaller, 2011). Thus, simultaneously reducing physical gatherings while increasing social isolation, directly impacting businesses that are dependent on physical points of sale.

Economically, projections for the growth of Brazil's GDP in 2020 were already considered weak (2%) at the end of February (Banco Central do Brasil, 2020). Prior to the crisis, Brazil has been recovering from the 2015-2016 recession, which has left its economy quite fragile, while the pandemic is expected to cause a new recession due to its severe socio economic impact (World Bank 2020). The effects of an extended quarantine are disastrous as over 40% of the country's workforce is employed informally (IBGE, 2020; Surico & Galeotti, 2020), and the crisis generated will result in increased unemployment, aggravating the Brazilian GDP (Bretas & Alon, 2020). Domestic demand and supply have been affected due to restrictions imposed aiming to prevent contagion, which particularly affects smaller businesses as, besides facing higher risk of illiquidity, they are frequently present in sectors with substantial physical interactions, an element which consumers are more inclined to avoid (World Bank, 2020). Such smaller firms also tend to not be able to implement home-office policies, and they typically employ workforce from underprivileged backgrounds, which consequently tends to disproportionally affect the poor, who are in a disadvantaged position concerning both financial security and protection from a potential infection (World Bank, 2020). Another measure that incurs greater impact to those with lower socioeconomic status is school closures, which can lead to long-term consequences regarding opportunities and capital accumulation (World Bank, 2020). Aiming to mitigate the crisis economic impact, the Brazilian government has implemented provisional measures including an emergency aid to informal workers, extensions in the timing to or suspension of payment of taxes, and multiple economic stimulus measures facilitating the obtention of credit and loans, for example (KPMG Global, 2020; Ministério da Economia 2020). Nevertheless, according to Instituto Brasileiro de Economia (FGV-IBRE, 2020), Brazil is likely to no longer be a part of the world's top ten economies as of 2020, being overtaken by South Korea, Canada, and Russia.

2.2. Consumer Behavior in Brazil

Large-scale threats, such as the pandemic, can disrupt people's lives beyond superficial levels by the interruption of norms and routines. Ontological security, a term developed by psychologist Robert Laing, refers to disruptions to consumers' lives caused by external threats. It defines the extent to which individuals feel a certain level of security and predictability in the world around them (Cannon, Goldsmith, & Roux, 2019; Laing, 1960/2010). Feelings of uncertainty and anxiety can be experienced when such disruptions occur on what consumers expected and anticipated, causing a perceived lack of order (Campbell et al., 2020).

The threat posed by the COVID-19 pandemic generates social disruptions resulting in ontological insecurity, which highly impacts consumers' cognitions, and consequently, consumption patterns (Campbell et al., 2020). It leads to increased need for connection (Rindfleisch et al., 2009), loss of control (Beck, Rahinel, & Bleier, 2020; Van Bergen & Laran, 2016), higher mortality salience (Ferraro, Shiv, & Bettman, 2005), and financial scarcity (Shah, Shafir, & Mullainathan, 2015). Another relevant cognitive response caused by threats is uncertainty (Shen, Hsee, & Talloen 2019), which induces concerns regarding veracity of information, planning perspectives, and product availability (Campbell et al., 2020). Additionally, a consequence for uncertainty derived from threats can lead to affective responses (Faraji-Rad & Pham, 2017), "suggesting that consumers during the pandemic may be more affectively driven" (Campbell et al., 2020, p. 315).

The avoidance of crowds in order to achieve self-preservation is a crucial element that reshapes society's attitudes (Neuberg et al., 2011), and illustrates the disruption imposed by the pandemic. Previous research indicates that contagious diseases cause disgust and fear responses, leading consumers to seek for familiar products and brands (Galoni et al., 2020). Several factors, such as racial and economic inequality, moderate the extent to which consumer reactions will be impacted by such disruptions on ontological security (Campbell et al., 2020). For instance, disparity in digital access appears to have substantial influence on consumers' coping during the coronavirus crisis (Beaunoyer, Dupere, & Guitton 2020). Moreover, economic threats have a propensity to stimulate anxiety (Lowe, Loveland, & Krishna 2019), as it may directly affect one's household financial situation and possibility to save for the future (Meuris & Leana 2018). During the crisis' recovery period, it is expected that consumers' main concern will be over basic necessities. A large portion of the population had to remove all non-essential expenses, due to Brazil's substantial number of informal workers (Bretas & Alon, 2020). According to Instituto

Brasileiro de Economia (FGV-IBRE, 2020), 80% of consumers in Brazil are limiting their shopping to only essential products, essentially health care goods and food. Moreover, although supply has been normalized with the end of supermarket and pharmacy shortages, the general price of goods have increased (Dias & de Oliveira, 2020).

Furthermore, the pandemic affects consumers' behaviors as it activates thoughts about mortality and financial scarcity, leading individuals to have more present-oriented behaviors since future outcomes are perceived to be beyond personal control (Hamilton et al., 2019; Kelley & Schmeichel, 2015), consequently there is a smaller focus on saving for future wants and needs.

2.3. Luxury Consumption

According to Cialdini (1993), scarcity appeals tend to interfere with one's inclination to elaborate, leading consumers to somewhat automatic responses. Consistent with this, occasions in which products are scarce may induce consumers to assumptions that higher price is an indication of superior quality (Suri, Kohli, & Monroe, 2007), thus enhancing perceived value of goods (Brock, 1968; Gierl & Huettl, 2010; Inman et al., 1997). Furthermore, consumers make a distinction between product scarcity due to excessive demand and restricted supply, while the first situation may infer product popularity (Roy & Sharma, 2015), the latter one implies superior quality (Lynn, 1991), signaling status (Gierl & Huettl, 2010). Accordingly, product exclusivity due to supply restrictions tends to increase willingness to pay (Roy & Sharma, 2015), whilst scarcity associated with high demand has an opposite effect since it is an indication that such product is accessible to many people, exhausting its exclusivity, hence decreasing desirability (Hamilton et al., 2019).

Perceived value is also influenced by the suitability of a product to enhance status via conspicuous consumption (Gierl & Huettl, 2010). Studies on the symbolic nature of consumption suggest that money and material objects can hinder existential anxiety by providing a sense of value, meaning, and security (Zaleskiewicz, Gasiorowska, & Kesebir, 2013). Rucker & Galinsky (2008) outlined that minorities seek to acquire luxury items ascribing prestige as an attempt to compensate for a low socioeconomic status. Consistent with a communal orientation, powerless individuals foster a desire for luxury objects that may facilitate status recognition by others, leading to a higher interest in having status items that can be seen by others, rather than privately consumed (Dubois, Rucker, & Galinsky, 2012; Rucker et al., 2011). Hence, powerless

individuals practicing conspicuous consumption have a higher preference for items that display the brand name or logo, since making the brand visible allows one to impress others. On the other hand, powerful individuals seem to reject conspicuous consumption, favoring utilitarian aspects of goods (Rucker & Galinsky, 2009). Studies done in the United States provided evidence that African Americans are inclined to spend a higher percentage of their disposable income on visible conspicuous consumption (e.g., clothing, cars, jewelry), regardless of their income level due to such status-seeking behaviors (Charles, Hunt, & Roussanov, 2009). Such situation might not be applicable in Brazil bearing in mind its high criminality rates, as product exclusivity's relative importance "may differ based on perceived danger in the environment" (Hamilton et al., 2019, p. 537). From an evolutionary perspective, uneasiness caused by danger leads people to avoid being distinctive, as it is unappealing to attract attention in fear-inducing contexts, causing the aforementioned scarcity appeals to be less persuasive (Griskevicius et al. 2009; Hamilton et al., 2019).

Conversely, financially deprived individuals may be a surprisingly effective target for status goods, given that they have a higher tendency to attribute large perceived value on exclusive products, even though their income levels may make it more challenging for them to acquire superfluous purchases (Hamilton et al., 2019). This is especially true for consumers that do not expect to improve their financial situation over time (Hill & Martin, 2014), as saving for future larger purchases could seem irrational. Due to the fact that chronic monetary resource scarcity negatively impacts self-esteem, suggesting that consumers from low socioeconomic backgrounds seek to boost morale, being more susceptible to materialism as a compensatory mechanism (Hamilton et al., 2019). Hence, affordable tangible indulgences (e.g., Starbucks coffee, a branded beer, or small items such as a keychain from designer stores), seem to be particularly appealing to such consumers (Hill & Martin, 2012).

2.4. Savings for the Future

Saving behavior is shaped by factors such as psychological, demographic and economic ones (Lunt & Livingstone, 1991; Wärneryd, 1989), being able to provide desirable elements, namely self-esteem and a sense of control (Zaleskiewicz, Gasiorowska, & Kesebir, 2013). Essentially, saving involves dealing with the uncertainty associated with the future, and making decisions to ensure a certain level of stability by having enough resources in the coming years.

Being prepared for emergencies is one of the primary reasons to save money, fundamentally to buffer potential fears of the unexpected (Zaleskiewicz, Gasiorowska, & Kesebir, 2013). Hence, saving is related to a sense of control, aside from providing a sense of independence. Moreover, according to the Consumer Attitudes to Saving Survey (Poland, 2012), saving for the future is seen as a desirable and valuable behavior, thus being able to provide a personal sense of self-worth and positive social impressions, consequently being a shield from existential anxiety (Maheswaran & Agrawal, 2004). Consistent with such findings, savers have shown higher tendency to discuss their financial situation with others, while non-savers appear to be more inclined to keep such matters private (Lunt & Livingstone, 1991).

Managing to save enough for retirement is a task many people fail at (Munnell, Webb, & Golub-Sass, 2009), perhaps resulting from the inability to forecast implications of investments (Goldstein, Johnson, & Sharpe, 2008), or to feel connected with their future selves (Partif, 1971; Schelling, 1984). Retirement length has augmented due to an overall increase in life expectancy thanks to advances in technology and medicine (Lee, 2001), which unfortunately leads to the risk of possibly outliving one's wealth or an abrupt decline in living standards (Hershfield et al., 2011). In accordance with such findings, over 65% of Early Baby Boomers (1945-1955) are unable to maintain the same level of life quality prior to their retirements (McKinsey Global Institute, 2008). Research on excessive discounting of the future suggests that people who are able to interact with age-progressed illustrations of themselves demonstrate an increased willingness to allocate resources for future use, displaying higher tendency towards future monetary rewards as opposed to immediate ones (Hershfield et al., 2011). Indeed, encouraging individuals to reflect on future applications for money tends to improve patience for intertemporal decision-making (Weber et al., 2007).

The degree to which a person feels related to a future version of themselves should affect their willingness to save as it can make them comprehend they will be the ones benefiting from that money one day. Accordingly, financial assets appear to be positively correlated with higher levels of future self-continuity (Ersner-Hershfield, Garton, Ballard, Samanez-Larkin, & Knutson, 2009). Past research suggests that people tend to follow a similar decision-making process regarding their future selves and other individuals (Pronin, Olivola, & Kennedy, 2008), likewise, thoughts about oneself in the future elicits similar neural activation patterns to thoughts about a stranger (Ersner-Hershfield, Wimmer, & Knutson, 2009). Correspondingly, individuals who are

disconnected from their future selves may view a choice between immediate and future rewards similarly to enjoying their money today or giving it to an unknown person years later (Hershfield et al., 2011). Research on empathy gaps suggests individuals expect emotions in the future to be less intense than those felt in the present, leading to the conclusion that people may underestimate the future consequences of their decisions made in the present (Wilson & Gilbert, 2005; Loewenstein, O'Donoghue, & Rabin, 2003). In line with this finding, Parfit (1987) observed that future pains are envisioned less vividly and thought to be less painful.

2.5. Financial Scarcity

There are several instrumental purposes that can be attributed to spending or saving money. For instance, when money is spent on essential needs, namely food and shelter, it enhances one's life quality; while saving money can allow people to address those same needs in the future, as well as in potential emergencies (Zaleskiewicz, Gasiorowska, & Kesebir, 2013).

Resources are means used or consumed by individuals in the interest of self-preservation, survival, or growth (Abrams, 1992). Reminders of resource scarcity stimulate a competitive orientation, guiding consumers' decision making in a manner that benefits themselves (Roux et al., 2015). It is common for consumers to experience short-term resource scarcity due to situations such as increased workload resulting in less free time, as well as unforeseen expenses leading to financially constrained perceptions. Resource scarcity directs consumption patterns to focus on the current most pressing needs, causing long-term ambitions such as savings to be non-prioritized (Hamilton et al., 2019). Those who have lower levels of resource experience higher constraints and less control, facing a greater amount of external threats (Bruner & Goodman, 1947; Kraus et al., 2009; Johnson & Krueger, 2006). The perception of limited ability to secure that returns on investments will be received in the future is linked to a lack of personal control, which leads to a bigger focus on the present in a range of domains due to the assumption of not being able to enjoy deferred rewards (Pepper & Nettle, 2017). Thus, socioeconomic inequalities promote behavioral differences which ultimately affect disparities in mortality (Pampel, Krueger, & Denney, 2010). Haushofer and Fehr (2014, p. 862) argued that "poverty may have particular psychological consequences that can lead to economic behaviours that make it difficult to escape poverty", suggesting such paradox affects multiple behavior dimensions. Additionally, there is a greater tendency for individuals from lower socioeconomic status to invest less in education, have less savings for the future, and incur more debt than those from

upper social classes (Blanden & Gregg, 2004; Chowdry, Crawford, & Goodman, 2011; Lea, Webley, & Levine, 1993; Livingstone & Lunt, 1992; Sirin, 2005; White, 1982).

Financial resource scarcity can influence the extent to which opportunity costs are taken into account when making consumption decisions (Hamilton et al., 2019), especially among individuals who are financially restrained as tradeoffs are considered inherent to spending money, given that they have less resources to accommodate unessential expenses (Spiller, 2011; Shah et al., 2015). Those who have comparatively limited financial resources also demonstrate greater preference towards material goods over experiences due to their higher concern over the durability and utility of purchases (Tully, Hershfield, & Meyvis, 2015); hence, such individuals can be considered as more materialistic as there is a heightened importance on tangible assets as means to reach contentment (Richins & Dawson, 1992).

Moreover, people raised in unstable and threatening surroundings, with long-term exposure to resource scarcity, are less likely to delay gratification as the future is considered to be uncertain (Ellis et al., 2009). For instance, the probability of being a homicide victim is heightened when living in a violent neighbourhood with high criminality rates, which can be a factor beyond one's control if there are no financial means to move to a safer neighbourhood, as having a low income is a rather uncontrollable factor itself (Pepper & Nettle, 2017); such example is supported by research on mortality caused by violent crimes (Leyland & Dundas, 2010; Markowitz, 2003) and homicide (Cubbin, LeClere, & Smith, 2000; Redelings, Lieb, & Sorvillo, 2010; Shaw, Tunstall, & Dorling, 2005). Accordingly, an impoverished home environment with high instability and lack of resources can induce a chronic behavior related to financial deprivation, influencing willingness to delay gratification (Griskevicius et al., 2011; Griskevicius et al., 2013), as those experiencing chronic resource scarcity shall assume to have a low likelihood of personal economic enhancements (Hill & Martin, 2014).

Furthermore, low-income populations experience an elevated risk of mortality even when health-related behaviors are not the focal point, validating that crimes of violence are not the sole element debilitating the control over mortality risk for the poor (Lantz et al., 1998). Such finding indicates that individuals with lower socioeconomic status deal with extrinsic mortality risks, namely risks that are not a consequence from behaviors (Pepper & Nettle, 2017). Consequently, populations with a short average life expectancy, facing a limited ability to protect their own longevity, tend to be less willing to wait for future rewards (Falk et al., 2015). Exposure to

factors indicative of personal mortality risk influence people's valuation of future financial outcomes. For instance, susceptibility to experience violence is linked to financial future discounting (Ramos, Victor, Seidl-de-Moura, & Daly, 2013). Therefore, for all previous considerations, I hypothesize the following:

H1: Financial Scarcity will lead to a decreased saving behavior.

2.6. Temporal Discounting

Intertemporal choice (Loewenstein, 1988; Loewenstein & Thaler, 1992) corresponds to decisions that take into consideration the weight, trading off costs and benefits at various points in time, in order to rationalize how much resource shall be consumed in the present or allocated over time. Behavioral disparity in intertemporal choices can be explained by temporal discounting (Kirby & Marakovic, 1995; Green & Myerson, 2004; Doyle, 2013), a term which refers to people's impulses to perceive desirable results in the present as more valuable than one in the future (Rodzon et al., 2011). Past research has shown that people "assign relative values to different payoffs at various points in time and they tend to give greater value to payoffs as they move closer to the present moment" (Duan, Wu, & Sun, 2017, p. 1). Namely, individuals normally rather receive $1000 right away than receive $1500 in one-year time. The construal level theory in social psychology explains the reasoning behind individuals' tendency to prioritize small and instant rewards over large although delayed ones, since there is a higher focus in time rather than amount of money (Trope & Liberman, 2003).

Deprivation is associated with a "tendency to prioritise more immediate outcomes above distant ones" (Pepper & Nettle, 2017, p. 5). Illustrating the relation between power and temporal discounting, those with fewer financial resources are more present-oriented due to their lack of control over the possibility that they will be able to enjoy future rewards of their current decisions; formerly proposed by the extrinsic mortality risk, as death is the utmost future-limiting factor. Nevertheless, uncertainty about the future influences temporal discounting (Frederick, Loewenstein, & O'donoghue, 2002), particularly it may incline individuals to prioritize immediate rewards rather than delayed ones (Ersner-Hershfield et al., 2009; Bartels & Rips, 2010). The perspective that life will be short ultimately leads to the understanding that compensations from investing in the future are limited, being it financially, socially or regarding

personal health (Pepper & Nettle, 2017). The aforementioned line of thought can lead to the assumption that indulging in activities or hobbies that are damaging in the long term, although gratifying in the short term, should be less of a worry once individuals assume they may not live long enough to experience their future repercussions (Daly & Wilson, 2005). Additionally, accruing debt should not be a substantial reason to worry for those who believe there is a narrow chance they will have to repay it in the future (Pepper & Nettle, 2017). Previous work suggests that decreased consideration for future consequences together with greater temporal discounting can be linked with unlawful activity and behaviors that compromise health (Pepper & Nettle, 2017), which entail potential negative consequences in the future, such as potential punishment and health debilities (Dassen, Houben, & Jansen, 2015; Nagin & Pogarsky, 2004; Reimers, Maylor, Stewart, & Chater, 2009).

The contextually appropriate response perspective (CARP) concludes that in response to indicators that the future is beyond personal control, people tend to prioritize present-oriented decisions. The understanding that concepts such as temporal discounting and locus of control should not be considered as fixed attributes is one of the key implications of CARP, emphasizing how responses to stimuli is a reflection of one's future prospects and environment (Pepper & Nettle, 2017). Furthermore, renouncing instant gratification can be perceived as a loss according to prospect theory (Kahneman & Tversky, 1979). Hence, in order to avoid loss, individuals tend to prioritize instant gratifications, resulting in temporal discounting (Duan et al., 2017). Thus, I also hypothesize that:

H2: Financial Scarcity will lead to a more present-oriented behavior, resulting in less concerns about saving for the future.

Considering the previous information supporting a higher tendency for materialism (Hamilton et al., 2019) and conspicuous consumption among people with low socioeconomic status (Rucker & Galinsky, 2009), along with a more present-oriented behavior caused by uncertainties about the future (Ellis et al., 2009), I also hypothesize that:

H3: Financial Scarcity will lead to a more present-oriented behavior, resulting in increased luxury consumption.

Concerning decision making, while individuals with a low sense of power tend to focus on avoiding loss, people with high power focus on benefits (Keltner et al., 2003). Moreover, the aforementioned findings promote conclusions that powerful individuals are less subject to feelings of loss associated with forgoing instant gratification, thus are less sensitive to temporal discounting. In line with this conclusion, Duan, Wu, & Sun (2017) observed that individuals with a high sense of power presented a lower tendency of temporal discounting, being less likely to choose immediate consumption over investments and savings (delayed gratification).

2.7. Mortality Salience

"The idea of death, the fear of it, haunts the human animal like nothing else; it is a mainspring of human activity—activity designed largely to avoid the fatality of death, to overcome it by denying in some way that it is the final destiny for man" (Becker, 1973, p. ix).

Survival instinct, common to all animals, can be particularly complex to humans, as the only species able to have abstract thoughts and self-consciousness, having mental abilities sophisticated enough for the awareness of life's fragility and death's inevitability (Zaleskiewicz, Gasiorowska, & Kesebir, 2013). The belief that a valued aspect of oneself will surpass one's death, either symbolically or literally (e.g., accomplishments or heaven, respectively), is a self-preservation mechanism against anxiety about death (Burke, Martens, & Faucher, 2010; Martin, 1999). Terror Management Theory suggests that "transcending death" can be attempted by individuals who are made aware of their vulnerability through longstanding achievements, including having offspring (Fritsche, Fischer, Koranyi, Berger, & Fleischmann, 2007; Wisman & Goldenberg, 2005; Zhou, Lei, Marley, & Chen, 2009), as well as preferences for having them sooner rather than later (Pepper & Nettle, 2017).

Prior research suggests that self-esteem and materialism are strongly related (Chaplin & John, 2007). Validation of a person's beliefs and self-esteem are two factors that can increase feelings of meaningfulness (Arndt, Cook, & Routledge, 2004; Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004b), achieved by adherence to religious beliefs (Jonas & Fishcer, 2006) or faith in symbolic immortality through procreation (Solomon et al., 1991), mitigating the terror associated with mortality (Greenberg, Solomon, et al., 1992). Additionally, sense of value, generally found in close personal relationships can also buffer against death

anxiety (Zaleskiewicz, Gasiorowska, & Kesebir, 2013). A fundamental principle of TMT is the assumption that if a psychological structure ensures protection against death-related anxiety, consequently when death is salient the need for such structure should increase (Dechesne et al., 2003; Greenberg et al., 1990; Pyszczynski et al., 2004b; Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989).

According to the theory, people develop such structure that serves as an anxiety buffering system in order to remain functional. Therefore, reminders of mortality increase the desire to boost one's self-esteem (Schmeichel et al., 2009), as well as to strengthen interpersonal relationships (Dechesne, Greenberg, Arndt, & Schimel, 2000; Hirschberger, Florian, & Mikulincer, 2002), as such outcomes decrease anxiety by diminishing focus on death-related thoughts (Harmon-Jones et al., 1997; Schimel, Hayes, Williams, & Jahrig, 2007). Moreover, past research suggests that when mortality is not in focal attention, the unconscious knowledge of death triggers urges to validate cultural world perceptions (Greenberg et al., 2000; Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994). Interestingly, death-thought accessibility can be activated merely by proximity to cemeteries (Pyszczynski et al., 1996), leading to the conclusion that mortality salience may influence behavior on a regular basis (Wadian, 2009).

Mortality salience (MS) has a substantial influence on attitudes and behaviors. For instance, research suggests that mortality salience increases affiliation with victorious sports teams and fitness activity (Arndt, Schimel, & Goldenberg, 2003; Dechesne et al., 2000). Also, mortality salience can lead to increased purchase and consumption (Mandel & Smeesters, 2008), as well as materialism (Rindfleisch et al., 2009), and indulgence (Ferraro et al., 2005). Such materialistic behavior of using wealth with the purpose of transcending death and obtaining meaning represent an attempt to buffer existential anxiety (Fromm, 1976; Hirschman, 1990; Maslow, 1954; Yalom, 1980). Similarly, research has shown that reminders of mortality increase conspicuous consumption (Arndt, Solomon, Kasser, & Sheldon, 2004; Solomon, Greenberg, & Pyszczynski, 2004), as well as death-related thoughts augment desire for luxury products associated with high-status (Mandel & Heine, 1999). Additionally, money itself has been proven to carry strong psychological anxiety buffering effects (Zaleskiewicz, Gasiorowska, Kesebir, Luszczynska, & Pyszczynski, 2013), as self-reported death fear can be decreased by physically interacting with cash (Zaleskiewicz, Gasiorowska, & Kesebir, 2013).

As reviewed, there is evidence pointing to an impact of financial scarcity on luxury consumption and also for mortality salience impact on luxury consumption, so it is unclear which variable (financial scarcity or mortality salience) will have a stronger impact. Similarly, the same situation occurs regarding financial scarcity and mortality salience impacts on temporal discounting, as both variables should lead to more temporal discounting according to the literature. Therefore, I do not advance with directional hypotheses, but I will verify whether one has a stronger impact than the other. Thus, I hypothesize that:

H4: Both Financial Scarcity and Mortality Salience will lead to more temporal discounting.

H5: Both Financial Scarcity and Mortality Salience will lead to increased luxury consumption.

Furthermore, there are two main and opposite predictions associated with TMT concerning the correlation between mortality effects and temporal discounting, firstly that contemplating one's own death induces eagerness for immortality, leading to higher focus on the future via enduring achievements, which is aligned with findings from the CARP (Pepper & Nettle, 2017). Secondly, in the evolutionary behavioral sciences it is believed that mortality salience makes people more present-oriented, directly contrasting the aforementioned hypothesis (Kelley & Schmeichel, 2015). Moreover, although low power and mortality salience can be both considered as threats linked to loss of control, lack of power reflects on resource control, while mortality salience is associated with one's existence (Arndt, Solomon, Kasser, & Sheldon, 2004).

2.8. Power

Being a relational concept, power reflects one's perception of relative control levels over resources in social relationships (Dahl, 2007; Magee & Galisnky, 2008; Parsons, 1963). Perspective power can be a highly influential element in consumption as it has been proven to affect individual's cognitions, response to money and status (Gal, 2012; Rucker & Galinsky, 2008; Rucker & Galinsky, 2009), as well as saving behavior (Garbinsky, Klesse, & Aaker, 2014), thus impacting overall decision-making (Guinote, 2017). Belmi & Pfeffer (2016)

observed that as feeling powerful reduces death anxiety, mortality salience leads to an increased aim to high power. By definition, power heightens independence from others, whereas lack of power leads to an opposite effect, accentuating one's relationship with others (Rucker, Galinsky, & Dubois, 2011). Interestingly, such effects can be reflected on gift giving occasions, as powerful individuals tend to attribute higher value on the self, leading to a greater willingness to spend on purchases for oneself. Conversely, powerless individuals may tend to attribute higher value to others, therefore being inclined to spend greater amounts of money on gifts for others (Rucker & Galinsky, 2009). Given that poverty is occasionally associated with lower power, such findings might lead to the conclusion that those with less monetary power can spend a higher proportion of their resources on others (Banerjee & Duflo, 2007).

Nevertheless, power can lead to reduced price sensitivity, regardless of target, as it may increase perceived resources available (Mandel, Petrova, & Cialdini, 2006; Rucker, Dubois, & Galinsky, 2011). Similarly, society's social structures distinguish consumers based on power positions related to their economic resources (Bourdieu, 1984), leading upper-class individuals to be considered more powerful in society for holding greater monetary resources (Magee & Galisnky, 2008). However, due to the diversity of social roles played by every individual (e.g., as a family member, one's professional position, etc.) power tends to shift according to temporal structural changes (Rucker, Galinsky, & Dubois,2011), or even being a mindset evoked through episodic recall (Galinsky et al., 2003), signaling its several layers and high level of complexity.

Furthermore, high power is associated with increased social distance (Lammers, Galinsky, Gordijn, & Otten, 2012) and self-oriented behavior (Galinsky, Magee, Inesi, & Gruenfeld, 2006). Anderson and Galisnky (2006) concluded that powerful individuals are propense to evaluate potential risks in a more optimistic manner, thus presenting a risk-taking attitude. Kanten (2011) suggested that powerful people feel more in control of their future, in accordance with findings that high perceived power shall decrease a tendency towards temporal discounting (Duan et al., 2017).

Previous work suggests that the perception of low power; can lead to feelings of lack of control, and higher dependence on others (Fast, Gruenfeld, Sivanathan, & Galinsky, 2009; Galinsky, Gruenfeld, & Magee, 2003; Rucker et al., 2011; Wiggins, 1991). Moreover, powerlessness is an aversive state (Rucker & Galinsky, 2008), which foments motivation to recover power, leading to an inclination to signal status through conspicuous consumption

(Rucker & Galinsky, 2009). Therefore, powerlessness may increase willingness to pay for objects that signal status, therefore potentially increasing spending, as an attempt to restore a sense of power due to the association between status and power (Magee & Galinsky, 2008; Rucker & Galinsky, 2008).

There has been an increase of mental disorders and depression cases due to the pandemic (Dias & de Oliveira, 2020). According to the University of Oxford (Taquet et. al, 2020), one in every sixteen COVID-19 patients develops a mental disorder, such as anxiety, depression and insomnia, in approximately three months after the diagnosis. This can be especially interesting when taking into account that when people feel powerless, there are certain behaviors that can be expected of them as consumers. Large-scale threats such as the pandemic can activate feelings of lack of control and mortality salience, which ultimately may lead to increased indulgence and consumption as means to restore perceived power (Beck et al., 2020; Ferraro et al., 2005; Van Bergen & Laran, 2016). Consequently, in line with the above reviewed evidence, I also hypothesize that:

H6: Low power will lead to increased luxury consumption. This might be specially the case in the mortality salience condition (vs. financial scarcity) as high power protects against the effects of mortality salience.

In line with the literature reviewed above, there is evidence that high power may lead to less concerns about saving for the future given their perceived control (Fast et al., 2009) and higher risk taking propensity (Anderson & Galisnky, 2006), and also for the opposite impact, as power may also lead to a future-oriented behavior, resulting in more concerns about financial savings and investments from being less sensitive to temporal discounting (Duan et al., 2017). Therefore, as there is research pointing in both directions, and it is unclear which factors have the strongest effect, I refrain from proposing a directional hypothesis, and hypothesize instead that:

H7: High power will affect temporal discounting.

H8: High power will affect financial saving behavior.

3. Methodology

3.1. Research Strategy and Design

I aimed to test the effects of mortality salience and financial scarcity on consumer behaviors, specifically concerning the COVID-19 crisis, and how manipulations of such factors will influence decisions on luxury consumption and savings for the future (e.g., retirement). The present research is limited to Brazil; other countries may vary in their social restriction policies and behavioral responses. An experimental study was designed in order to investigate the aforementioned elements, given that it is the most customary manner to test causality in hypothetical scenarios (Malhotra, Nunan, & Birks, 2017). This study consisted of an online study designed with an online survey tool: Qualtrics. This experiment consisted of two scenarios (mortality salience vs. financial scarcity), within the context of COVID-19, to which participants were randomly assigned, aiming to increase results validity (Malhotra et al., 2017). Finally, a between-subjects design was conducted enabling a comparison between participants exposed to distinct scenario conditions, whilst transference of knowledge was avoided among scenarios in accordance with order effects.

In this study, firstly there was a section to check participant's perceived power. Then, I manipulated the independent variables, mortality salience and financial scarcity related to COVID-19 in Brazil, in order to understand how such manipulations would affect the dependent variables, luxury consumption and willingness to save, as well as the mediator, temporal discounting. In order to adapt the survey to target participants, all questions were translated to Portuguese.

3.2. Participants

This study was distributed through Social Networks such as LinkedIn and Instagram. The chosen distribution method allowed gathering data on the specific target demographics, also enabling a high response rate. Participants were not paid for participating in this study. The recommended minimum sample size for an experimental study is 30 participants per cell (VanVoorhis & Morgan, 2007). The sample size was increased for this study with the purpose of increasing statistical power, as a result I gathered a total of 275 valid answers from 397 participants. Given that this study has two cells (mortality salience vs. financial scarcity) this results in approximately 137.5 participants per cell. Regarding the relevant sample of 275

participants, 65.58% were female, the mean average of participants was 40.6 years (SD = 24.21), and most participants' highest education level was a Bachelor's degree (62.18 %). This study was conducted exclusively with Brazilian participants. For more demographic information see Appendix D.

3.3. Procedure

Posterior to reading and accepting the consent form, participants' perceived power in relation to others was measured with a Personal Sense of Power Scale (Anderson, John, & Keltner, 2012), widely used among researchers in the field (e.g., Goodwin, Dodson, Chen, & Diekmann, 2020; Schmidt-Barad & Uziel, 2020). This was done in order to allow the distinction between high and low power individuals prior to the manipulation, considering the direct and strong influence of perception of power on mortality salience and financial scarcity according to the literature (Zaleskiewicz, Gasiorowska, & Kesebir, 2013). Then, participants were randomly assigned to one of the two possible scenarios related to the impact of COVID-19 in Brazil for manipulation purposes: its effects on mortality rates (mortality salience) or economic crisis (financial scarcity). Subsequent to scenario presentation, participants were asked to briefly describe feelings related to either thoughts about their own death or financial instability. This was followed by manipulation checks, to measure how scared they are of their own deaths and financial situation.

Afterwards, participants were presented a number of questions aimed to measure their temporal discounting, in which they would choose between an immediate or delayed reward, the latter being of a significantly larger value. This temporal discounting measurement served as a mediator, and consisted of ten questions in which every subsequent question would present an immediate reward increasingly closer to the delayed one's value. Additionally, participants answered questions extracted from both the Luxury Consumption Tendency Scale (Chaudhuri, Mazumdar, & Ghoshal, 2011) and a scale to measure financial planning perspectives (Jacobs-Lawsona & Hershey, 2005). Finally, participants answered demographic questions to particularly collect data regarding their level of income in order to be able to make a distinction between high and low socioeconomic power individuals. The study ended with a final acknowledgment and debriefing of the study's goals. For detailed information, please see Appendix A.

3.4. Independent Variables

The impacts of COVID-19 in Brazil related to the activation of mortality salience and financial scarcity in participants' minds. In this experimental research design, I manipulated the independent variables by randomly assigning two different texts, providing an overview of the repercussions of the COVID-19 pandemic in Brazil in 2020. The only difference between scenarios was the focus of the second paragraph, in which participants were divided equally into those who were exposed to a scenario highlighting mortality or financial instability caused by the pandemic. Participants were presented with an open question, subsequent to the text, which asked them to briefly describe the feelings they have when asked to think about either their own death or financial instability, in accordance with the scenario they were exposed to previously. By doing that, I expected that differences resulting from the manipulation would have been caused by which type of situation they were assigned to.

Additionally, as power has been associated with both previously mentioned independent variables (mortality salience and financial scarcity), as well as according to literature, it influences the mediator (temporal discounting), and dependent variables (luxury consumption and saving for the future), perceptions of power were measured prior to the manipulation. Such measurement aimed to understand if those perceptions would impact the relationship between dependent and independent variables, as well as the mediator, hence acting as a moderator.

3.5. Measurement Variables

3.5.1. Dependent Variable

In order to measure Luxury Consumption, I applied an adaptation of the Luxury Consumption Tendency Scale (Chaudhuri et al., 2011). Approaching luxury consumption tendency as a trait variable, evaluated in a multidimensional construct (Dogan, Ozkara, & Dogan, 2018), as it is done in the current paper, is consistent with past research such as the conspicuous consumption tendency scale (Chaudhuri et al., 2011), and the status consumption tendency scale (Eastman, Goldsmith, & Flynn, 1999). Drawing upon previous work, luxury consumption tendency was analyzed within the following segments: uniqueness, expensiveness, symbolic meaning, arbitrary desire, and belonging to an exclusive minority (Dogan et al., 2018). This scale included five items based on the aforementioned segments (e.g., "In my purchasing

decisions, I consider whether the product/service has unique characteristics"; "I prefer an expensive product/service to a cheap one"; "I would like to feel that I belong to an exclusive minority through the products/services I purchase") and was presented in a five-point Likert-scale format ranging from 1 (Completely disagree) to 5 (Completely agree). For detailed information, please see Appendix B.

Moreover, measurements of Resource Scarcity were obtained by an adaptation of multiple measures across distinct items (Jacobs-Lawson & Hershey, 2005). A subset of items was extracted from different studies in the field, which were specifically selected for enabling an analysis of participants' financial knowledge and risk tolerance. Such studies were based on future time perspective (Hershey & Mowen, 2000), knowledge of financial planning for retirement (Hershey & Mowen, 2000; Mowen, Hershey & Jacobs-Lawson, 2000), financial risk tolerance (Jacobs-Lawson, 2003), and retirement saving indicator (Neukam & Hershey, 2002). This scale included five items (e.g., "The distant future is too vague and uncertain to plan"; "I would be willing to make risky investments to ensure financial stability in retirement"; "I will strive to save for retirement"), which was presented in a five-point Likert-scale format ranging from 1 (Completely disagree) to 5 (Completely agree). For more detailed information, see Appendix B.

3.5.2. Mediator Variable

In order to measure participant's "current relative valuation of goods", commonly known as Temporal Discounting, participants were instructed to make several intertemporal choices, choosing between immediate or prospective future outcomes (Hardisty & Weber, 2009), with changes for the purpose of adapting to the Brazilian currency (Brazilian Real, R$), as well as amounts proposed by the questions were adapted to values that could have a significant financial impact in Brazil. Participants were presented 10 binary choice questions, in which they could choose between receiving amounts ranging from R$1000 to R$5500 immediately, or receiving R$6000 in six months. Such procedure was done in order to elicit an indifference point, in which participants demonstrate indifference towards present or future gains (Duan et al., 2017).

3.5.3. Moderator Variable

Power: In order to assess how power can influence mortality salience, financial scarcity and temporal discounting, and, consequently, luxury consumption and financial savings, participants' perceptive power was measured at the very beginning of the survey, prior to the manipulation. This measurement was based on the Personal Sense of Power Scale (Anderson, John, & Keltner, 2012) with the aim of distinguishing high and low power individuals, allowing for an analysis of the potential influence of such perceptions on overall results. Expectations were not clear due to contradicting literature, which has led to somewhat opposing hypotheses. For instance, aligned with the literature (Fast et al., 2009; Keltner et al., 2003; Rucker & Galinsky, 2009), hypotheses 11, 12 and 13, expect high power leads to less temporal discounting, consequently leading to more savings for the future, and decreased luxury consumption, while hypothesis 9, for example, states that high power would have the opposite effect due to perceptions of control over future outcomes, leading to more temporal discounting and less concerns regarding saving money (Anderson & Galisnky, 2006; Duan et al., 2017; Kanten, 2011).

3.5.4. Covariables

Income Levels: The literature of resource scarcity has indicated that luxury consumption and financial savings have a strong correlation with income levels (Shah et al., 2015; Griskevicius et al. 2011). Therefore, I decided to include this variable as a covariable in this research. This data was collected by asking participants to indicate their household's income, as well as how many people live in their household, to enable the examination of income per capita. The options for answers provided regarding income levels were based on the classification of socioeconomic classes in Brazil by the Instituto Brasileiro de Geografia e Estatística (IBGE; Carneiro, 2020). Results of such calculations was that, among the valid data, participants indicated an average of 2.9 people per household, while income levels presented indicate that participants on average live in a household with earnings between R$10,450 and R$20,900 per month, leading to an approximated income of R$5,400 per capita. As expected, this study's data has shown that the demographic variable income level is significantly correlated at with financial savings, r (.235), $p \leq .001$), and with luxury consumption, r (.183*), $p = .003$, so I will control for these variables in my analysis. For more detailed information see Appendix E.

Education: Education was positively associated with income levels in the literature, which would lead to the conclusion that education levels could also be correlated to luxury consumption and financial savings (Blanden & Gregg, 2004; Chowdry, Crawford, & Goodman, 2011; Lea, Webley, & Levine, 1993; Livingstone & Lunt, 1992; Sirin, 2005; White, 1982) . Therefore, I also decided to control for education in this study, and results showed that education is significantly correlated with financial savings, r (.074), p = .042, however, for luxury consumption its correlation was not significant, r (.073), p = .225. Nevertheless, due to previous literature, and for the purpose of maintaining similarity of analysis between dependent variables, such control will remain for luxury consumption despite the fact education does not significantly impact it in these results. For more detailed information see Appendix E.

4. Results

4.1. Data Preparation

From a sample of 397 respondents, 122 were excluded for not having properly completed all required questions. Therefore, the total valid sample was composed of 275 participants. Furthermore, reversed scored items were accounted for, as well as all scales combining multiple items were combined by their means. An additional variable was created in order to represent the manipulation factor (mortality salience or financial scarcity), taking into account which scenario was presented per individual. For more detailed information see Appendix C.

4.2. Manipulation Check

Following the manipulation texts presented, two manipulation check questions were presented to all participants in order to allow for analysis of potential impact of each manipulation on participants' perceptions. The questions of this section are focused on participants' fears associated with either financial instability or their own death caused by the COVID-19 pandemic. The results showed a high correlation, however, a low 2-tailed significance value, between the manipulation variables and both financial instability concerns (r = .058, p = .336), and death-related fears (r = .032, p = .596). Therefore, results are unfortunately not strong enough to elicit perceived differences in the manipulation (mortality salience vs. financial scarcity). For more detailed information see Appendix F.

4.3. Hypothesis Testing

4.3.1. Hypotheses review

Regarding financial scarcity, hypothesis 1 predicted financial scarcity would lead to a decreased saving behavior. Taking into account the potential influence of temporal discounting, hypothesis 2 and 3 predict that such present-oriented behavior caused by financial scarcity will lead to, respectively, less concerns about saving for the future, and an increased luxury consumption. Then, regarding both financial scarcity and mortality salience, hypothesis 4 predicted that both financial scarcity and mortality salience would lead to more temporal discounting. Similarly, hypothesis 5 predicts that both financial scarcity and mortality salience will lead to increased luxury consumption. Concerning power, hypothesis 6 predicted low power would lead to increased luxury consumption. Lastly, hypothesis 7 predicted that high power will affect temporal discounting, likewise, hypothesis 8 predicted high power would affect financial saving behavior. In order to test for moderation and mediation of the main effects of power on the manipulation (mortality salience vs. financial scarcity), temporal discounting, willingness to save and luxury consumption, both models 5 and 8 of the PROCESS Macro of Hayes were used aiming to assess if such relationships are supported by the data retrieved.

4.3.2. Moderated mediation model 5

In order to test for moderation and mediation of the main effects of power, financial scarcity and mortality salience on temporal discounting, and luxury consumption, the model 5 of the PROCESS Macro of Hayes was used aiming to assess if such relationships are supported by the data.

Dependent variable: luxury consumption.

The first regression analysis, model 5, allows for the evaluation of whether financial scarcity or mortality salience influence luxury consumption and temporal discounting. This analysis was done with 5.000 bootstrap samples and a 5% significance level (95% confidence interval). The model 5 of PROCESS Macro of Hayes was used considering luxury consumption as the dependent variable (Y), manipulation between financial scarcity and mortality salience as the independent variable (X), temporal discounting as the mediator (M), power as the moderator (W), and education and income levels as covariates, see Figure 1.

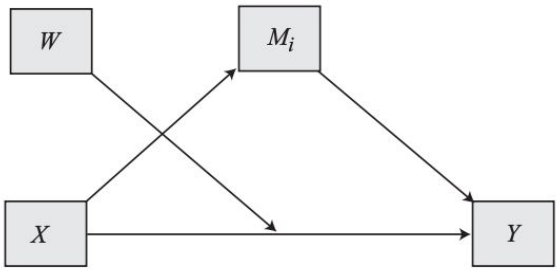

Figure 1. Conceptual Diagram - Model 5 PROCESS Hayes

Firstly, considering what impacts temporal discounting within the moderated mediation analysis, the overall model was significant (R-sq = .0283, F (2,5742), p = .0544). This analysis' results revealed that temporal discounting is marginally significantly affected by the manipulation (mortality salience vs. financial scarcity), b = -.0367, t = -1.8500, p = .0654, such that mortality salience leads to more temporal discounting, supporting hypothesis 4, demonstrating that mortality salience has a stronger impact on temporal discounting than financial scarcity. Regarding the covariates education (b = -.0314, t = -.5126, p = .6086) and income levels (b = .0469, t = 2.1553, p = .0320), results show that while education has no significant impact in temporal discounting, income level does, such that higher income leads to more temporal discounting. Furthermore, considering what impacts luxury consumption, the overall model was significant (R-sq = .3140, F (4,7750), $p \leq .001$). Such analysis has demonstrated that neither the manipulation (mortality salience vs. financial scarcity; b = .3090, t = 1.0493, p = .2950), nor the mediator (temporal discounting; b = .1424, t = 1.1608, p = .2468) have a significant impact on luxury consumption. Similarly, the covariates education (b = .0597, t = 1.1474, p = .2523) and income levels (b = .0232, t = .5296, p = .5968) did not have a significant impact on luxury consumption either.

Thus, such results support hypothesis 6, which predicted that mortality salience will lead to more temporal discounting, however, did not support several other hypotheses investigated by this test that stated that financial scarcity would lead to a more present-oriented behavior, leading to increased luxury consumption (hypothesis 3), similarly to hypothesis 5 which predicted that financial scarcity and mortality salience would lead to increased luxury consumption. Furthermore, hypothesis 4 which predicted that financial scarcity and mortality would lead to

more temporal discounting was supported, such that mortality salience presented a stronger significant impact on temporal discounting than financial scarcity. Finally, such analysis revealed that perceptions of power have a significant impact on luxury consumption (b = .3639, t = 4.5979, $p \leq .001$), such that the higher the power, the higher the tendency to consume luxury, which is in contradiction with hypothesis 6, which predicted low power would lead to increased luxury consumption. Additionally, regarding the bootstrap interval of the conditional direct and indirect effects of power, as a moderator, on luxury consumption (DV) and a potential interaction with the manipulation (IV), no significant results were found in the presence of temporal discounting for neither the direct effects (b = .0368, SE = .0592, p = .5348, CI [-.0797, .1533]; b = -.0151, SE = .0399, p = .7060, CI [-.0936, .0635]; b = -.0475, SE = .0516, p = .3585, CI [-.1491, .0542]), nor for indirect ones (b = -.0052, SE = .0054, CI [-.0179, .0031]) as results contain zero, which indicates there were no significant effects.

4.3.3. Moderated mediation model 8

Taking into account the previously presented hypothesis, in order to test for moderation and mediation of the main effects of power, financial scarcity and mortality salience on temporal discounting, and willingness to save, the model 8 of the PROCESS Macro of Hayes was used aiming to assess if such relationships are supported by the data.

Dependent variable: savings for the future.

The second regression analysis, model 8, allows for the evaluation of whether financial scarcity or mortality salience influence willingness to save for the future and temporal discounting. This analysis was done with 5.000 bootstrap samples and a 5% significance level (95% confidence interval). The model 8 of PROCESS Macro of Hayes was used considering saving for the future as the dependent variable (Y), manipulation between financial scarcity and mortality salience as the independent variable (X), temporal discounting as the mediator (M), power as the moderator (W), and education and income levels as covariates, see Figure 2.

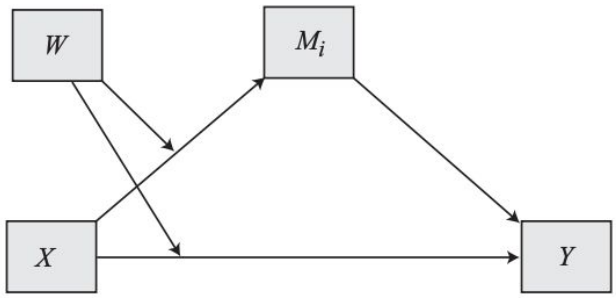

Figure 2. Conceptual Diagram - Model 8 PROCESS Hayes

Once again, a moderation analysis was conducted. Considering temporal discounting as the output within the moderated mediation analysis, the overall model was significant (R-sq = .2028, *F* (2,2552), p = .0494). This analysis' results revealed that temporal discounting is not significantly affected by the manipulation (mortality salience vs. financial scarcity; b = -.1625, *t* = -1.1002, *p* = .2723), power (b = .0657, *t* = 1.6613, *p* = .0978), nor education (b = -.0172, *t* = -.6573, *p* = .5116), whereas it is marginally significantly affected by income levels (b = .0428, *t* = 1.9592, *p* = .0512), such that higher income leads to more temporal discounting, similarly to results from model 5, discussed above. Furthermore, looking at the effects on financial savings, the overall model was significant (R-sq = .0569, *F* (2,6339), *p* = .0170). Such analysis has demonstrated that the manipulation (mortality salience vs. financial scarcity; b = .4200, *t* = 1.5638, *p* = .1191) and power perceptions (b = -.1283, *t* = -1.7781, *p* = .0766) have no significant impact on saving for the future. Similarly, the covariates education (b = .0754, *t* = 1.5906, *p* = .1129) and income levels (b = .0206, *t* = .5171, *p* = .6055) did not present a significant impact on financial savings either. Notwithstanding, in such analysis the mediator (temporal discounting) presented significant influence over willingness to save for the future (b = .2698, *t* = 2.4112, *p* = .0166), such that more temporal discounting leads to more willingness to save for the future. These results do not support any of the hypotheses investigated by this test that stated that financial scarcity would lead to a decreased saving behavior (hypotheses 1), financial scarcity would lead to a more present-oriented behavior leading to less concerns about saving for the future (hypothesis 2), both financial scarcity and mortality salience would lead to more temporal discounting (hypothesis 4), as well as that high power would affect temporal discounting (hypothesis 7) and saving behavior (hypothesis 8).

Additionally, regarding conditional indirect effects of the manipulation at different power levels on savings for the future (DV), for those lowest in power the manipulation has a significant impact on saving for the future, such that individuals with low power levels will have a higher tendency to save for the future under a mortality salience or financial scarcity condition, while medium and high power levels present no significant impact[1]. However, regarding direct effects, no significant results were found in such analysis (b = .1264, SE = .0540, p = .0199, CI [.0201, .2327]; b = .0705, SE = .0364, p = .0538, CI [-.0012, .1422]; b = .0355, SE = .0471, p = .4508, CI [-.0571, .1282]). These results do not support any of the hypotheses presented above (hypotheses 1, 2, 4, 7 and 8), as no independent variable has shown significant influence over temporal discounting, nor over financial savings. Although perceptions of low power do significantly impact the condition of the manipulation (mortality salience vs. financial scarcity), this does not support any of the hypotheses presented.

5. Discussion

5.1. Research Findings and Main Conclusions

The COVID-19 pandemic has brought unprecedented changes disrupting daily life as physical distancing became necessary in order to protect society's health. The threat caused by the pandemic impacted several aspects of consumer behavior by making scarcity and death-related thoughts salient. Therefore, implications of such scenarios play a relevant role in the decision-making process, which has led to the study of consumers' responses to COVID-19. Simultaneously, perceptions of power have been studied in depth due to their importance in understanding psychological reactions and patterns, among other things, for sales and marketing purposes. Hence, this research aimed to identify how power, financial scarcity and mortality salience would affect luxury consumption and financial saving behaviors, by exploring the mediating effect of temporal discounting, particularly in Brazil during the COVID-19 pandemic.

Additionally, this research was designed to discover if, and how, perceptions of power together with the activation of mortality salience and financial scarcity would influence consumers' behavior via temporal discounting. This study's results have supported hypothesis 4, which predicted that financial scarcity and mortality salience would lead to more temporal discounting; results indicate that mortality salience has a stronger significant impact on temporal

[1] Output presents the variable power in three different levels – low (b = -.0144, SE = .0122, CI [-.0444, .0016]), medium (b = -.0088, SE = .0067, CI [-.0246, .0013]), and high (b = -.0052, SE = .0069, CI [-.0196, .0090]).

discounting than financial scarcity. Nevertheless, hypotheses regarding financial scarcity leading to: decreased saving behavior (hypothesis 1), a more present-oriented behavior and less concerns about saving for the future (hypothesis 2), a more present-oriented behavior and increased luxury consumption (hypothesis 3), have all not been significantly supported by the data. Similarly, hypothesis 5, which predicted that both financial scarcity and mortality salience would lead to increased luxury consumption was not supported by the survey results, as the relationship of such factors has not proven to be significant.

Regarding power perceptions, results confirmed that high-power leads to increased luxury consumption, which contradicts hypothesis 6, which predicted that low power would lead to such tendency towards luxury products and services. Additionally, hypotheses 7 and 8, which respectively predicted that: high-power would affect temporal discounting, and high-power would affect saving behavior, were not supported by the data. A relationship between income levels and temporal discounting was found to be significant, however, this was not the case regarding education levels nor with the independent variables of power and manipulation (financial scarcity vs. mortality salience). Finally, the relationship between perception of power and financial savings has been proven to be significant, while its relationship with luxury consumption did not, although the literature supported the theory that low power individuals should present increased levels of conspicuous consumption (Hamilton et al., 2019).

5.2. Academic and Market Relevance

The present study offers findings relevant to both academics and managers. Although mortality salience has been widely studied from multiple perspectives, there are few studies that have analyzed it in a pandemic context, taking into account that COVID-19 is still a relatively new aspect in daily life. This study has not only considered the current pandemic scenario but has also what can be considered as a hostile environment as a consequence of high levels of inequality in a developing country such as Brazil. Furthermore, it also assesses financial scarcity under the COVID-19 scenario, which according to literature on scarcity, should influence indulgence, conspicuous consumption and materialism, consequently leading to lower willingness to save (Hamilton et al., 2019). The present research suggests that mortality salience significantly impacts consumer behavior in Brazil regarding temporal discounting, however, not providing significant impact on luxury consumption nor willingness to save, whereas financial

scarcity predictions were not supported by the data, leading to the conclusion that it has little or no impact on consumers in Brazil. This adds to the existing literature on the relationship between mortality salience and consumer behavior, as well as on literature regarding scarcity and consumer behavior. Additionally, perceived power has also been analyzed, and according to literature, low levels of power should indicate a tendency towards present-oriented behavior with fewer concerns about saving for the future (Ellis et al. 2009; Griskevicius et al. 2011), and also increased conspicuous consumption as an attempt of regaining perceptions of power (Rucker & Galinsky, 2009). Contrary to the literature, results from the current study suggest that high-power has a significant impact on luxury consumption, therefore, leading to an opposite direction from the literature and no significant impact on financial savings have been determined in this research. Therefore, this study provides relevant evidence of the effects of both power and the manipulation (mortality salience vs. financial scarcity) on temporal discounting and luxury consumption.

Additionally, the mediation model of temporal discounting in the relationship between the manipulation (mortality salience vs. financial scarcity) with power, willingness to save, and luxury consumption was assessed, confirming findings from the literature that supported hypothesis 6 (Fromm, 1976; Hirschman, 1990; Maslow, 1954; Yalom, 1980), regarding mortality salience leading to more temporal discounting, however not supporting all other hypotheses as no significant effect was identified in the results. Despite being only one of the first steps towards understanding the impact of mortality salience and financial scarcity caused by COVID-19 on consumer behavior in Brazil, this study contributes to the overall understanding of a pandemic's influences over luxury consumption and financial saving patterns. By doing so, it also expands possibilities that can be explored by future research in this field of study.

Moreover, this research suggests corporate implications for organizations that are facing the consequences of the pandemic in the Brazilian market. In order to better target consumers, companies must first understand what their needs are, and such priorities are likely to have been influenced by COVID-19 and all changes it has brought to daily life. Thus, companies that aim to be successful midst the current worldwide crisis, should make efforts to comprehend what psychological impacts did the pandemic bring to its respective consumers, if it did affect their

purchase behaviors, and what strategies need to be in place to better communicate with those consumers, taking into account their current situation.

5.3. Limitations and Future Research

This research presents certain limitations that should be taken into account, though providing a basis for future research. Firstly, experimental studies may lack realistic aspects, despite the fact that it provides several advantages especially for the analysis of hypothetical situations. Despite such initial results, this experiment should be implemented in a non-virtual scenario, in order to collect more personal responses from participants. Given the social regulations implemented due to the pandemic, it must be taken into consideration that such realism would be rather limited at the moment. Additionally, it is important to expand this research to reach a higher understanding of the consequences of mortality salience and financial scarcity from COVID-19 actually have in Brazilian consumers' daily habits, and if behavior continues to adapt over time due to new outcomes regarding the vaccine, or the spread of new virus variants. Likewise, as results have shown that the manipulation done was not strong enough to have a significant impact, future research should test different manipulation methods aiming to activate the idea of financial scarcity and mortality salience, which could potentially be achieved by presenting a video instead of a text about the pandemic impacts in Brazil, for example. The lack of difference from results regarding hypothesis 5, which predicted that both financial scarcity and mortality salience will lead to increased luxury consumption, might result from both factors which would predict different effects weighting in equally for predicting the output. Future research should try and find what moderators explain such discrepancies in the literature.

Secondly, aiming to avoid cultural differences and seeking unambiguous results, the sample used was restricted to Brazilian participants. Despite such decision having been made in order to avoid external variables, it raises issues as results shall differ when the experiment is applied to different nations. Hence, it is important to study the impacts of mortality salience and financial scarcity caused by the COVID-19 with a sample providing distinct demographic characteristics, in particular across culturally divergent countries and nations, where governments responded differently to the crisis caused by the pandemic, and differing in socioeconomic inequality levels. Another limitation regarding this study sample is the fact it was gathered through social media, constraining to some degree the socioeconomic status of those

who had access to the survey. This is due to the fact that having a personal computer in Brazil is exclusive to a portion of the population, with 20 million of Brazilian households being digitally excluded (Mari, 2020). Therefore, future research should test different samples. Likewise, in this study only certain variables have been measured, such as, but not limited to, mortality salience, financial instability, power, and income levels, thus future research must take into account other factors that may have significant influence on the impacts of COVID-19 in consumer behavior.

Since COVID-19 is a relatively new disease, there is considerable little information regarding its effects on consumers decision-making. Different mediators, other than temporal discounting, can be exploited in future research, as for example rumination, a cognitive self-reflection defined by the reminiscence of feelings associated with negative events (Nolen-Hoeksema et al., 2008; Robinson & Alloy, 2003), aiming to explain the relationship between COVID-19 and consumption patterns. Another illustration of a mediator that could be explored by future research is the desire to feel special, as, according to the literature, in a mortality salience scenario, individuals demonstrate higher tendency towards luxury consumption as means to buffer death anxiety through associations with high-status (Mandel & Heine, 1999). This study is focused on how power perceptions, financial instability, death-related thoughts and temporal discounting can shape alterations in consumer behavior related to luxury consumption and financial savings. Future research could focus in understanding how the aforementioned variables affect generations differently, for instance, analyzing if millennials' higher inclination towards instant gratifications (Bracy, Bevill, & Roach, 2010) has been impacted in any level by the social distancing measurements imposed, or if younger generations encounter any advantages regarding adapting to new rules established due to COVID-19.

Moreover, this study is focused on how mortality salience and financial scarcity may affect consumer behaviors, disregarding different impacts associated with online shopping. Ecommerce growth has been accelerated by roughly five years, expediting the shift from physical to digital shopping (Perez, 2020), especially increasing grocery ecommerce and subscription services (Meyer, n.d.). Such shift has particularly impacted elderly consumers, due to their higher concern over COVID-19 contamination (Coker, 2020). Future research could focus in understanding the impact of online purchases during the pandemic, and if it alleviates cognitive traumas originated by this external threat associated with the COVID-19.

Finally, it is also important to mention criticism made to the Terror Management Theory (TMT), as it can be condemned for some of its concepts, as researchers point out that "a psychological structure that evolved to protect against the fear of death would have no evolutionary benefit" (Leary & Schreindorfer, 1997; Wadian, 2009, p. 6), since fear is fundamental for survival. Although TMT does not oppose such claim, it argues that the fright associated with death can be paralyzing, and one's worldviews can be helpful as distraction from such thoughts in order to properly function (Pyszczynski et al., 2004a). Another critique to TMT is about its presumption that utter non-existence (e.g., death) is humanity's deepest fear (Leary, 2004), as some researchers claim that self-esteem reinforcements and validations of one's worldview are not exclusively related to death triggers, as generally aversive circumstances such as social exclusion or pain can create even more anxiety than death (Leary & Schreindorfer, 1997; Wadian, 2009). Social deprivation puts into question one's relational value (Leary, 2004), which according to sociometer theory, leads to negative impacts on self-esteem, resulting in its bolstering, thus being unrelated to thoughts about mortality (Wadian, 2009). Conversely, Dechesne & Kruglanski (2004) propose that ostracism causes mortality salience as being socially excluded jeopardizes self-esteem while evidencing what would be like not to exist at all.

6. Conclusion

The COVID-19 pandemic is still a fairly recent field of investigation, thus there is little information that could be considered accurate regarding its impacts on consumer behavior all over the world. This study is simply another step towards a clearer understanding of the consequences caused by such health and economic crisis, which has certainly made a huge impact in the world. It is still too early to know what consequences of the pandemic will have more permanent influences over consumers' habits after a possible eradication of the disease globally. By analyzing the consequences of the pandemic in Brazil's population regarding luxury consumption and financial savings associated with perceptions of power, financial scarcity, and death-related thoughts, I hope it will contribute to a better understanding of the short-term effects such large-scale threats can have on consumer behavior.

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8. Appendix

Appendix A: Survey

Dear participant, welcome and thank you very much for taking part in this survey. This study seeks to better understand the effects of COVID-19 on the Brazilian population, in relation to purchasing intention, consumer behavior, and investments related to expectations about the future. It will take about 5 minutes to be completed. Please answer as honestly as possible. All answers are anonymous and confidential, which means that we cannot associate your answers to your identity. I ask you to answer everything at once, without pauses or distractions, and please pay attention to all questions. If you have any questions related to this study, please contact me: Bruna Oliveira (152119011@alunos.lisboa.ucp.pt). By continuing, you are agreeing to participate. Thank you very much!

This study seeks to better understand the effects of COVID-19 in Complete the sentence "In my relationship with others..." with the items below, using the following scale:

	Strongly disagree	Disagree	Slightly Disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
I can get them to listen to what I say.	○	○	○	○	○	○	○
My wishes do not carry much weight. (R)	○	○	○	○	○	○	○
I can get them to do what I want.	○	○	○	○	○	○	○

Even if I voice them, my views have little sway. (R)	○	○	○	○	○	○	○
I think I have a great deal of power.	○	○	○	○	○	○	○
My ideas and opinions are often ignored. (R)	○	○	○	○	○	○	○
Even when I try, I am not able to get my way. (R)	○	○	○	○	○	○	○
If I want to, I get to make the decisions.	○	○	○	○	○	○	○

(Note: Items copyright 2010 by Cameron Anderson, Oliver P. John, and Dacher Keltner; (R) indicates item is reverse scored.)

(Manipulation - randomly assigned to half of participants)

The year 2020 brought changes in daily life in an unprecedented way. The **COVID-19** pandemic quickly spread around the world, affecting global health and stability. The consequences of the threats imposed by the disease led governments around the world to implement measures for the contingency of the virus, creating social distancing orders that prevent interactions and rituals such as commemorative events (birthdays, weddings, graduations, funerals), religious practices, even dinners and movie nights, affecting immensely the well-being.

In Brazil, the first case of the disease was registered on February 26, 2020, in São Paulo. Since then, the disease **has killed more than 163 thousand people in the country**, being the second nation with more deaths from the disease in the world, after the United States. The number of

deaths from the disease in Brazil surpasses two crowded Maracanã Stadiums, and is greater than deaths from other diseases (for example, cancer, stroke, and cardiovascular diseases), major tragedies, or urban violence in the country, making it the largest cause of death recorded in a single year in the country.

Due to the lack of organization and bad management of the government, the lack of structure in public health, and the strong dissemination of "fake news", the projections of a significant improvement in health and stability in Brazil do not tend to be promising.

We ask you to think about **your own death** at this moment, being the coronavirus its cause. Please describe the emotions that this thought brings to your mind in the most specific way possible.

(Manipulation - randomly assigned to half of participants)

The year 2020 brought changes in daily life in an unprecedented way. The **COVID-19** pandemic quickly spread around the world, affecting health and the global economy. The consequences of the threats imposed by the disease led governments around the world to implement measures for the contingency of the virus, creating social distancing orders that prevent interactions and rituals such as commemorative events (birthdays, weddings, graduations, funerals), religious practices, even dinners and outings to the movies, affecting immensely the well-being.

In Brazil, the first case of the disease was registered on February 26, 2020, in São Paulo. Since then, the disease **has left about 14 million people unemployed**, and according to IBGE, the population outside the labor market has broken a record reaching the sum of 67.3 million people. Analysts predict that the GDP will fall by 6.54%, causing the largest recession in 120 years, and removing the country from the select group of the ten largest economies on the planet.

Due to the lack of organization and bad management of the government, the lack of structure in public health, and the strong dissemination of "fake news", the projections of a significant improvement in health and economy in Brazil do not tend to be promising.

We ask you at this time to think about the possibility that you have **financial instability** because of the coronavirus. Please describe the emotions that this thought brings to your head in the most specific way possible.

How much do you fear the impact that coronavirus may have on your financial situation?

- ○ A great deal
- ○ A lot
- ○ Significantly
- ○ A little
- ○ Very little
- ○ Not at all

How much do you fear the impact the coronavirus may have on your health?

- ○ A great deal
- ○ A lot
- ○ Significantly
- ○ A little
- ○ Very little
- ○ Not at all

In this part of the survey, we will ask you to consider some options and answer as honestly as possible.

You can choose between receiving R$1,000 today or R$6,000 in 6 months. Which option do you choose?

- ○ R$1,000 today
- ○ R$6,000 in 6 months

(Skip to End of Block if participant selects R$1,000 today)

You can choose between receiving R$1,500 today or R$6,000 in 6 months. Which option do you choose?

- ○ R$1,500 today
- ○ R$6,000 in 6 months

(Skip to End of Block if participant selects R$1,500 today)

You can choose between receiving R$2,000 today or R$6,000 in 6 months. Which option do you choose?

○ R$2,000 today ○ R$6,000 in 6 months

(Skip to End of Block if participant selects R$2,000 today)

You can choose between receiving R$2,500 today or R$6,000 in 6 months. Which option do you choose?

○ R$2,500 today ○ R$6,000 in 6 months

(Skip to End of Block if participant selects R$2,500 today)

You can choose between receiving R$3,000 today or R$6,000 in 6 months. Which option do you choose?

○ R$3,000 today ○ R$6,000 in 6 months

(Skip to End of Block if participant selects R$3,000 today)

You can choose between receiving R$3,500 today or R$6,000 in 6 months. Which option do you choose?

○ R$3,500 today ○ R$6,000 in 6 months

(Skip to End of Block if participant selects R$3,500 today)

You can choose between receiving R$4,000 today or R$6,000 in 6 months. Which option do you choose?

○ R$4,000 today ○ R$6,000 in 6 months

(Skip to End of Block if participant selects R$4,000 today)

You can choose between receiving R$4,500 today or R$6,000 in 6 months. Which option do you choose?

○ R$4,500 today ○ R$6,000 in 6 months

(Skip to End of Block if participant selects R$4,500 today)

You can choose between receiving R$5,000 today or R$6,000 in 6 months. Which option do you choose?

○ R$5,000 today ○ R$6,000 in 6 months

(Skip to End of Block if participant selects R$5,000 today)

You can choose between receiving R$5,500 today or R$6,000 in 6 months. Which option do you choose?

○ R$5,500 today ○ R$6,000 in 6 months

Please indicate how much you agree with the statements below.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
In my purchase decisions, I consider whether the product / service has unique features.	○	○	○	○	○
I prefer an expensive product / service over a cheap product.	○	○	○	○	○
I care more about what a product / service symbolizes than its functional features.	○	○	○	○	○

I shop according to my desires, even when I do not need to shop.	○	○	○	○	○
I would like to feel that I belong to an exclusive minority through products / services I purchase.	○	○	○	○	○

Please indicate how much you agree with the statements below.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I enjoy thinking about how I will live years from now in the future.	○	○	○	○	○
The distant future is too uncertain to plan for. (R)	○	○	○	○	○
I am very knowledgeable about financial planning for retirement.	○	○	○	○	○

I am very willing to make risky investments to ensure financial stability in retirement.	○	○	○	○	○
I will make a conscious effort to save for retirement.	○	○	○	○	○

(Note: (R) indicates item is reverse scored.)

What gender do you identify with?

○ Male ○ Female ○ Other ○ I prefer not to answer

What is your age?

What is your highest level of educational qualification?

○ No formal qualifications ○ Secondary education ○ High school diploma

○ Undergraduate degree (BA/BSc/other) ○ Post-Graduate degree

○ Graduate degree (MA/MSc/MPhil/other) ○ Doctorate degree (PhD/other)

What is your current employment status?

○ Employed part time ○ Employed full time ○ Autonomous worker

○ Unemployed ○ Student ○ Retired

Has your employment situation been affected by the COVID-19 pandemic?

○ Yes ○ No ○ I prefer not to answer

Including you, how many people live in your home?

What is your total family income?

○ Less than R$2.090 ○ R$2.090 - R$4.180 ○ R$4.180 - R$10.450

○ R$10.450 - R$20.900 ○ More than R$20.900

Thank you very much for participating in this questionnaire. This survey was done aiming to study how the presence of COVID-19 in daily life affects Brazilian consumers' behavior. In order to do so, we manipulated power by assigning half of the participants to a text highlighting deaths related to the coronavirus, and the other half to a text highlighting economic instability in the country.

Appendix B: Items from scales used in the investigation of Luxury Consumption and Financial Planning

Table 1

Luxury Consumption Tendency Scale (LCTS)

Uniqueness	In my purchase decisions, I consider whether the product/service has unique features. *(Em minhas decisões de compra, considero se o produto/serviço tem características exclusivas.)*
Expensiveness	I prefer an expensive product/service over a cheap product. (*Prefiro um produto/serviço caro a um barato.*)

Symbolic meaning	I care more about what a product/service symbolizes than its functional features. (*Preocupo-me mais com o que um produto / serviço simboliza do que suas características funcionais.*)
Arbitrary desire	I shop according to my desires, even when I do not need to shop. (*Compro de acordo com meus desejos, mesmo quando não preciso fazer compras.*)
Belonging to an exclusive minority	I would like to feel that I belong to an exclusive minority through products/services I purchase. (*Gostaria de sentir que pertenço a uma minoria exclusiva por meio dos produtos/serviços que adquiro.*)

Table contains English and Portuguese reporting formats.

Table 2

Financial Knowledge and Risk Tolerance

Knowledge of financial planning for retirement

1. I am very knowledgeable about financial planning for retirement.

Future time perspective

1. I enjoy thinking about how I will live years from now in the future.
2. The distant future is too uncertain to plan for. (R)
3. The future seems very vague and uncertain to me. (R)

Financial risk tolerance

1. I am very willing to make risky investments to ensure financial stability in retirement.

Retirement saving

1. Made a conscious effort to save for retirement.

Note: (R) indicates item is reverse scored.

Appendix C: Study Overview

Table 3

Study Sample Size

	Valid		Invalid		Total	
	N	%	N	%	N	%
Answers	275	69.27%	122	30.73%	397	100%

Study Scenarios Frequency

	Mortality Salience		Financial Scarcity		Total	
	N	%	N	%	N	%
Participants	134	48.73%	141	51.27%	275	100%

Appendix D: Study Demographic Characteristics

Table 4

Sample demographic characteristics of Study

		Mortality Salience	Financial Scarcity	Total
	Participants total #	134	141	275
Gender	Male	44.1%	55.9%	65.45%
	Female	51.7%	48.3%	33.83%
	Other	0%	100%	0.73%
Nationality	Brazilian	100%	100%	100%
Age	16-29	35.64%	34.18%	69.82%

	30-39	4.36%	7.64%	12%
	40-59	6.18%	5.09%	11.27%
	60-70	2.55%	3.27%	5.82%
Employment Status	Employed part time	6.18%	5.09%	11.27%
	Employed full time	12.36%	18.91%	31.27%
	Autonomous worker	9.45%	8%	17.45%
	Unemployed	2.91%	2.55%	5.45%
	Student	15.64%	13.82%	29.45%
	Retired	2.18%	2.91%	5.09%
Education	High School diploma	5.82%	5.45%	11.27%
	Undergraduate degree	29.82%	32.36%	62.18%
	Post-Graduate degree	8.73%	9.09%	17.82%
	Graduate degree	4.36%	4.36%	8.73%
Income Levels	Less than R$2.090	1.09%	0.36%	1.45%
	R$2.090 to R$4.180	5.45%	4%	9.45%
	R$4.180 to R$10.450	12.36%	13.82%	26.18%

	R$10.450 to R$20.900	14.18%	14.91%	29.09%
	More than R$20.900	15.27%	16.73%	32%

Appendix E: Covariables

Table 5

Correlations of demographic variables with Luxury Consumption and Financial Savings

		Income	Education
Luxury Consumption	*r*	.183**	.073
	Sig.	.003	.225
Financial Savings	*r*	.235**	.074
	Sig.	.000	.222

*Note. *** p < .001, ** p < .01, * p < .05*

Appendix F: Manipulation Check

Table 6

Correlations of Manipulation (Mortality Salience & Financial Scarcity) and Power with Fear of Financial Instability and Fear of Death

		Fear of Financial Instability	Fear of Death
Manipulation	*r*	.058	.032
	Sig.	.336	.596
Power	*r*	.028	.168**
	Sig.	.649	.005

*Note. *** p < .001, ** p < .01, * p < .05*