CATÓLICA LISBON
BUSINESS & ECONOMICS

Promotions and Status Motives' Influence on Green Products' Desirability

Ana Sofia Nunes Teles von Hafe Martins

Dissertation written under the supervision of Professor João Pedro Niza Braga

Dissertation submitted in partial fulfilment of requirements for the MSc in Management with Specialization in Strategic Marketing, at the Universidade Católica Portuguesa, January, 2020

TABLE OF CONTENTS

ABSTRACT

Dissertation: Promotions and Status Motives' Influence on Green Products' Desirability

Author: Ana Sofia Nunes Teles von Hafe Martins

Abstract:

What are the factors influencing consumers' green behaviours? Past studies have been discussing this topic, assigning responsibility to different aspects namely economic incentives (Rational Economic Perspective) and genuine concern for the environment (Environmental Concern Perspective). Yet, as social creatures, individuals' behaviours are also strongly influenced by social factors such as one's motivation to have high social status and a positive reputation. Drawing on the Costly Signalling Theory, status driven consumers are more predisposed to forgo luxurious products, paying instead more for green options in order to signal their altruism.

Assuming that, this research aims to confirm that eliciting status motives incentivizes consumers to prefer green products which are more expensive. Additionally, it is hypothesised that status seekers' desirability for green products does not decrease when these are temporarily in promotion, since others do not know the context in which the product was bought. Hence, these consumers' social identity and reputation ends up not being damaged as they continue to be able to signal their self-sacrifice before relevant others.

The present research shows that status motives can lead to higher preferences for expensive green products, since buying them grants individuals with reputational benefits. Consequently, status seekers can be considered as less price sensitive than those who are not motivated to attain status. However, contrary to what the signalling literature would predict, when presented with the possibility of buying green products for a promotional price, status driven consumers do not lose their rational thinking, showing a higher preference for the available opportunity.

Keywords: Green consumption, Green gap, Social status, Costly Signalling Effect, Altruism, Promotions' effect

RESUMO

Dissertação: A Influência das Promoções e da Orientação para o Estatuto Social na Atratividade de Produtos Sustentáveis

Autor: Ana Sofia Nunes Teles von Hafe Martins

Resumo:

Que fatores influenciam os comportamentos sustentáveis dos consumidores? Vários estudos têm-se debruçado sobre este tópico, atribuindo responsabilidade a diferentes aspetos, tais como incentivos monetários (perspetiva da racionalidade económica) e preocupação genuína das pessoas para com o ambiente (perspetiva da preocupação ambiental). No entanto, o comportamento do ser humano é também fortemente influenciado por fatores sociais, como por exemplo a motivação para atingir um alto estatuto social e uma boa reputação. Segundo a teoria conhecida por "*Costly Signalling*", consumidores motivados para ter estatuto apresentam maior predisposição para abdicar de produtos luxuosos, em detrimento de produtos sustentáveis mais caros, demonstrando assim o seu altruísmo.

Assim, o presente estudo pretende confirmar que a promoção de sentimentos de estatuto incentiva os consumidores a optarem por produtos sustentáveis, ainda que mais caros. Adicionalmente, coloca-se a hipótese de consumidores orientados para ter estatuto não descartarem produtos sustentáveis em promoção, porque, desconhecendo as outras pessoas o contexto da compra, a identidade social e reputação desses consumidores não são prejudicadas.

Esta pesquisa prova que desencadear desejos de estatuto nos consumidores pode levá-los a demonstrarem uma maior preferência por produtos sustentáveis mais caros, visto que comprá-los lhes confere benefícios reputacionais. Consequentemente, consumidores motivados para ter estatuto social podem ser considerados menos sensíveis ao preço do que os não motivados para obter estatuto. Contrariamente ao que a literatura sobre sinalização prevê, quando confrontados com a possibilidade de comprar produtos sustentáveis em promoção, os consumidores orientados para ter estatuto não perdem o pensamento crítico, mostrando preferência pela oportunidade temporariamente disponível.

Palavras-chave: Consumo sustentável, *Gap* Sustentável, Estatuto social, Teoria do *Costly Signalling*, Altruísmo, Efeito promocional

ACKNOWLEDGEMENTS

I would like to start by expressing a deepest gratitude to my advisor, Professor João Pedro Niza Braga, whose patience and predisposition to help was a constant throughout the entire process of writing this dissertation. Without his advisory and guidance this project would not have been the same. In addition, I would like to thank professor Dr Griskevicius for so readily sharing with me the status manipulations used on his past researches, which were adapted to fit the objectives of this research.

Moreover, I would like to thank my family and friends for the unconditional support and dedication, as well as for their kind gestures of encouragement to motivate me to finish this last academic challenge. Lastly, I want to thank all the people who willingly predisposed themselves to voluntarily complete the survey used to draw conclusions for the present research, more specifically to all those who shared the questionnaire with other people and friends, making possible the timely delivery of this dissertation.

CHAPTER 1: INTRODUCTION

There is no doubt that the present days are marked by extreme environmental changes that have been seriously threatening the viability of planet Earth. Although 40 years ago (e.g., First World Climate Conference in Geneva in 1979) this topic was already part of a large debate among several scientists and researchers, it has been gaining visibility and importance over the last few years due to the amount of changes observed in the nature that, ultimately, impact society's wellbeing.

In fact, an article published in BioScience in 2019, joined the voices of more than 11 thousand scientists from 153 different countries (Henriques, 2019), who clearly supported the urgency of declaring a state of climate emergency. According to Ripple, Wolf, Newsome, Barnard and Moomaw (2019) and all the scientist who subscribe their concern, "climate crisis has arrived and is accelerating faster than most scientists expected. (…) It is more severe than anticipated, threatening natural ecosystems and the fate of humanity".

According to many scientists' claims, human influence is the main factor unbalancing today's natural world equation (León-Fernández, et al., 2018; WWF, 2014; United Nations Environment Programme, 2001; Geller, 1989). Nonetheless, despite all the information and open discussion about this topic nowadays, the society's inertia to effectively wage this issue may menace the viability of planet Earth (Ripple, Wolf, Newsome, Barnard, & Moomaw, 2019).

Herewith, as the human footprint on Earth's land surface dramatically enlarges, critical problems such as massive deforestation, borderless pollution of different ecosystems and global climate change continue to raise as a key concern. Starting with deforestation, both economic and political motivations are responsible for colossal destruction of important forest areas such as Amazon, which has lost 17,3% of its natural forest relative to the pre-1970's estimates (Butler, 2018), leading to a consequent soil erosion and irreversible loss of biodiversity. Regarding the pollution of different ecosystems, one can highlight the widely mentioned marine pollution, in which the "plastic is emerging as one of the most serious threats to ocean ecosystems" (Fabres, Savelli, Schoolmeester, Rucevska, & Baker, 2016), as well as the air pollution with the continuous abruptly growing greenhouse gas emissions, such as carbon dioxide (CO_2) (Global emissions increased from 2 billion tonnes in 1900 to over 36 billion tonnes in 2017 (Ritchie & Roser, 2017)) and methane (with rising values of 17% emission tonnes from 2000 to 2008 (Ritchie & Roser, 2017)), arising from the industrialization and car

usage and ruminant livestock excessive consumption (per capita meat production has increased 50% since 1980, registering now a level of consumption of 45Kg per year (Ripple, Wolf, Newsome, Barnard, & Moomaw, 2019)). In addition, the current usage of toxic substances in several product categories (e.g., pesticides, detergents, batteries, etc.) is also a relevant factor to consider when addressing this topic, since their release into the environment can damage both terrestrial and marine ecosystems. Moreover, the excessive consumption generates large scale waste levels of crucial resources, such as water, food and other materials that end up in landfills, some of them with the aggravating factor of taking years to fully deteriorate.

In the last instance, all the aforementioned factors based on anthropogenic causes contribute, directly or indirectly, to the current climate emergency paradigm. Although the global surface temperature increase is oftentimes hastily used to assess the extent of human actions' impact on the environment, it has recently been proven to be insufficient to truly unveil the damage caused by the society (Briggs, Kennel, & Victor, 2015). This means that drawing inferences about the planet's sensitive ecosystem solely based on surface temperatures may lead to a misunderstanding of the situation's seriousness. Hence, in order to monitor the continuous climate change in a more holistic way, other observable climate responses to human behaviours, such as the heating of the ocean and its increasing acidity, the sea-level rise, the melting glaciers, the decreasing snow cover and the changes in Arctic sea ice, should not be disregard (System, Global Climate Observing, 2016).

Nevertheless, despite the broad consensus on the climate urgency topic, as Sanderson et al. (2002) argument, the society does not fully understand this phenomenon and its implications, lacking on commitment to embrace solutions in its economic systems (Hall, Lindenberger, Kümmel, Kroeger, & Eichhorn, 2001) or in most of its political decisions (Chapin, et al., 2000). Everything mentioned inevitably helps understanding Ripple et al. (2019), who claim that "we must change how we live". The handicap relies though on the fact that, despite the extensive buzz around pro-environmental behaviours and ethical consumption, namely green consumption, many times this awareness is not translated into actions that benefit the environment. Thus, despite having alternatives to conventional (non-green) products, people are reluctant to modify their behaviour (Griskevicius, Tybur, & Van den Bergh, 2010; Dietz, Ostrom, & Stern, 2003). Proof of the mentioned is the significantly low green products' market share, especially when comparing these values with consumers' intention to purchase identified in market studies (Eckhardt, Belk, & Devinney, 2010; Auger & Devinney, 2007; Belk, Devinney, & Eckhardt, 2005; Ulrich & Sarasin, 1995).

If on the one hand recognising this may seem frightening and a dead-end road, on the other it gives society hope and an alternative to remedy past mistakes. "The long-term impact of human influence, positive or negative, benign or catastrophic, depends on our willingness to shoulder responsibility. (…) The most important acknowledgment is for human beings, as individuals, institutions, and governments, to choose to moderate their influence in return for a healthier relationship with the natural world" (Sanderson, et al., 2002).

As it is known from decades old research, meeting consumers' expectations and needs are a crucial foundation for companies in the process of new products development (Busse & Siebert, 2017; Cooper, 1979), which indicates that as a matter of fact, consumers' voice highly influences companies' actions. Therefore, knowing that consumers can play an active role in changing the current paradigm, makes motivating people to become pro-environmental an increasing urgency, especially because this may be the final key needed to pressure companies to change their research and development, production and marketing policies to become greener as soon as possible (Kotler, 2011). Herewith, there is no doubt that the sustainability path represents a challenge for companies. Nonetheless, it can also be an amazing opportunity to create value for consumers (Gleim, Smith, Andrews, & Cronin, 2013), most importantly because it clearly leads to companies' and products' differentiation.

To conclude, saving the planet Earth should be a maxim priority of the current generation and it is a job that lies in everyone's hands. Consumers whose purchase patterns are not in the best interest of the environment should be converted into green consumers, who understand the impact of their purchases and opt for green products (produced with concern for the physical environment: air, water, and land (Shrum, McCarty, & Lowrey, 1995) to mitigate their potentially negative impact on the environment (Gleim, Smith, Andrews, & Cronin, 2013).

The present research will look into the green products' market, aiming to understand how social motives, such as activating status motivations, can incentivize consumers to prefer green products over conventional (non-green) alternatives. In order to do that, past literature will be addressed and summarised to allow a better comprehension of the topic, namely the notion of pro-environmental consumption, the green gap concept and respective barriers preventing people to consume green products, as well as the factors driving to green behaviours. In addition, this study's hypothesis (presented later) are based on prior findings from Griskevicius et al., (2010) which state that altruism signals someone's willingness and ability to support costs for the benefit of others and that status motives increase consumers' desire for green products

when the latter are more expensive than nongreen alternatives. In addition, as a complement to what has been studied in the past, it will be investigated what happens to status seekers' preference for green products for when these are temporarily available for a promotional price.

CHAPTER 2: LITERATURE REVIEW

During the last years, a lot of research has been conducted aiming to better unveil consumers' pro-environmental behaviours, of which green consumption is a subset. Green consumption, as part of a larger concept known as ethical consumption (which includes society at large, such as workers' rights and fair trade) (Shaw & Shiu, 2002), focuses solely on the environment and on green issues (Carrington, Neville, & Whitwell, 2010), having for that reason been previously defined as "consumption behaviours that are perceived by people to have either a nil, minimal or reduced impact on the environment" (Johnstone & Tan, 2014).

In order to understand how pro-environmental behaviours happen, prior studies have looked at them basing their occurrence on a simple linear progression model (Ajzen & Fishbein, 1977). According to this perspective, environmental knowledge (one's amount of information about environmental problems and his ability to understand/evaluate its impact on society and on the environment (Chekima, 2016)) generates environmental awareness and concern which consequently, helps consumers adopting greener consumption patterns (e.g., (Kollmuss & Agyeman, 2002; Schlegelmilch, Bohlen, & Diamantopoulos, 1996). Nevertheless, other studies have empirically proven that the occurrence of green consumption is not as simple as it has been framed, questioning the existence of a simple linear model driving consumers' green actions (e.g., Carrington, Neville, & Whitwell, 2010; Frick, Kaiser, & Wilson, 2004; Chan, 2001; Jaccard, 1981).

With this theoretical assumptions enhancing the complexity of green consumption, researchers started to explore a phenomenon called green attitude/intentions-behaviour gap (e.g., (Johnstone & Tan, 2014; Carrington, Neville, & Whitwell, 2010; Gupta & Ogden, 2009; Pickett-Baker & Ozaki, 2008; Auger & Devinney, 2007; Belk, Devinney, & Eckhardt, 2005; Chatzidakis, Hibbert, Mittusis, & Smith, 2004; Carrigan & Attalla, 2001; Roberts, 1996)), aiming to understand the reason why consumers' positive attitudes towards the environment do not necessarily lead to actual green consumption.

Before continuing to dive into this topic, it is important to clarify the difference between attitudes and behaviours. These concepts are usually misused in spoken language, inasmuch

people usually confuse their meanings, assuming they are synonyms. Yet, despite the lack of agreement into a concrete phycological definition of attitudes, in this paper attitudes will be interpreted as a psychological tendency (Eagly & Chaiken, 1993) and a "a relatively enduring organization of beliefs, feelings, and behavioural tendencies towards socially significant objects, groups, events or symbols" (Hogg & Vaughan, 2005), while behaviours will be considered as the materialization of the attitude into an act.

As Carrington, et al. (2010) postulated, many consumers intend to opt more frequently for green products (perceived by consumers to be environmentally friendly, whether it is due to the production process, types of materials/ingredients used to manufacture it, packaging, marketing communications, etc. (Johnstone & Tan, 2014)) then they actually do, mainly because there are diverse constraints and competing demands to which they are exposed to, inhibiting their greener patterns. Hence, comprehending these barriers is crucial for all companies so that they can fully understand their potential consumers and adapt current strategies (e.g., policies, initiatives and assortment) to better reach them and fulfil their needs.

Some examples of these constraints and competing demands creating barriers to pro-environmental behaviours among consumers are situational and personal factors (Johnstone & Tan, 2014; Tanner & Kast, 2003). When making decisions, consumers do not ponder the product in isolation, i.e. they interpret new information considering the context in which it occurs (Plous, 1993). Therefore, situational (or contextual) factors include aspects such as economic constraints, due to green products' higher prices (Gleim, Smith, Andrews, & Cronin, 2013; Gupta & Ogden, 2009), as well as lack of choice and availability (Gleim, Smith, Andrews, & Cronin, 2013; Tanner & Kast, 2003). In other words, consumers hold a green perception that being sustainable is not something everyone can commit to, claiming that "it is too hard to be green" due to a lack of time, money, knowledge and perceived sacrifice it implies (Johnstone & Tan, 2014).

On the other hand, personal factors refer to people's internal obstacles to be green. Some of these obstacles may be easier to solve with simple marketing solutions, such as one's ignorance about green goods and perceived time costs to buy them (Tanner & Kast, 2003), while others, as one's "green stigma" and "green reservations", imply a greater effort to educate the consumer. According to Johnstone & Tan (2014), the "green stigma" reflects the less positive perception that some people hold against green consumers. This includes the idea that the latter are controllers, who are more serious and enjoy imposing their beliefs on others (Johnstone &

Tan, 2014), as well as the cognitive association between the greenness and femininity concepts (Brough, Wilkie, Ma, Isaac, & Gal, 2016). Both the latter prejudices may lead consumers to run away from green behaviours, in order to avoid seeing their self-identity/perception and self-esteem harmed (Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004). Lastly, the "green reservation" concept stands for some consumers' uncertainty that their greener practices will have an impact on the environment welfare (Johnstone & Tan, 2014). This less favourable perception about green consumption relies on several aspects, namely an emerging consumers' cynicism concerning companies' green practices (Wang, Krishna, & McFerran, 2017; Carrigan & Attalla, 2001) and also on consumers' inability to recognise the difference between green and non-green products, as well as to see the different implications both of these have on the environment. In addition, consumers perceive green products as less effective (Luchs, Naylor, Irwin, & Raghunathan, 2010) and show lack of trust in their performance (Pickett-Baker & Ozaki, 2008; Ottman, 1998). Hence, to understand what "green reservations" are, it is important to dive in associated concepts: the environmental locus of control notion and the greenwashing reality. According to previous research, people who have an external environmental locus of control, feel powerless with regard external forces, meaning they do not believe individuals' actions will remedy environmental problems (Cleveland, Kalamas, & Laroche, 2005; McCarty & Shrum, 2001; Balderjahn, 1988) and, consequently, they do not even attempt to adopt green behaviours (Bandura, 1991). To finish on this matter, greenwashing refers to companies' dishonest act of claiming themselves as environmentally friendly to achieve other objectives not related to the environment welfare, such as cost savings (Kahle & Gurel-Atay, 2014). "Knowing that firms are highly motivated by the bottom line, some consumers may have an especially keen cynicism towards firms when they profess to «do good» or «be environmentally friendly»" (Wang, Krishna, & McFerran, 2017). Consequently, when a company introduces a new green product/initiative that also allows cost savings, consumers may get sceptical, questioning the firm's true intentions, as well as wondering if it its efforts are solely a marketing strategy to gain awareness and profit (Wang, Krishna, & McFerran, 2017).

Herewith, and baring in mind all the previously presented barriers people face to become green, it is now time to explore what are the motives eliciting consumers' intentions to adopt pro-environmental behaviours. To accomplish that, two points of view will be presented: the Environmental Concern Perspective (e.g., Griskevicius, Tybur, & Van den Bergh, 2010; Bamberg, 2003; Fransson & Gärling, 1999; Stern & Dietz, 1994) and the Rational Economic Perspective (e.g., Geller, 1989; Dawes & H. Thaler, 1988).

According to the Environmental Concern Perspective, people are assumed to intrinsically care about the welfare of the environment due to their human ancestral connection with nature (Wilson, 2007). Therefore, they may have the intention to incur in pro-environmental acts, without any extra motivation, such as monetary incentives. Nevertheless, as previously mentioned, green intentions do not necessarily lead to green behaviour, meaning the concern for the environment, by itself, is not enough to generate action (Frick, Kaiser, & Wilson, 2004). Contrariwise, the Rational Economic Perspective argues that consumers are rational and will always decide on behalf of their economic interests (i.e., pay less whenever it is possible). According to this perspective, informing people about the environmental problems is worthless because green practices are mostly motivated by economic reasons. Instead, effective strategies to incentivize green behaviours imply using prices as a mean to smooth barriers inhibiting people to perform such behaviours (e.g., "making green products cheaper, more efficient, and providing consumers with financial incentives (e.g., tax breaks) to buy them" (Griskevicius, Tybur, & Van den Bergh, 2010; Dietz, Ostrom, & Stern, 2003; Cone & Hayes, 1980)).

However, since green products usually comprise greater costs (e.g., higher prices, denser information search or bigger performance risk), purchasing them origins a social dilemma in consumers' minds, who must decide whether to choose their private interest or the public one, devaluing the inherent costs of being green in order to favour the common good (Van Vugt, 2001; Kollock, 1998). In this inner conflict, it is important to keep in mind that no matter what the final decision is, whenever people make a choice, they disclose something about them, not only to others but also to themselves (Bodner & Prelec, 2003). This disclosed information will help both the self and others to build a social identity which is highly related with one's membership to certain groups. Thus, by categorizing the individual as a member of one group out of two opposing ones (e.g., religious versus non-religious or altruists versus non-altruists), one's social identity can be inferred depending on one's belongingness to the ingroup or outgroup (Deaux, 1993). Hence, acknowledging the existence of other factors that soften the mentioned dilemma, such as the influence of social factors, is also a critical aspect to understand consumers' motives eliciting green behaviours (Gleim, Smith, Andrews, & Cronin, 2013). As a matter of fact, some recent studies have followed this path, suggesting that socially oriented motives such as belongingness to a community, reputation and status may have a stronger influence on consumers' propensity to act pro-environmentally (Van Vugt, 2009), something that will be explored from now on.

"As a group-living species, humans have a deep sense of belonging to social groups" (Van Vugt, 2009). This means that humans are social animals who need to belong to a community (Aronson, 1999). In fact, research shows that the cooperation and belongingness are related, inasmuch people seek to belong to a group and will only act prosocial (i.e. voluntarily help another person or even the common good) if they can be rewarded for it. Otherwise, if they fell excluded from the community, they will not preform prosocial behaviours (Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007). Thus, the previously mentioned social orientation plays a significant part in people's motives and behaviours, especially because it grants them a certain social identity and reputation which are ultimately desired due to its multiple advantages: more power and wealth, a higher self-esteem and a better health with a more positive mood and reduced stress levels (Hardy & Van Vugt, 2006; Marmot, 2004; Keltner, Gruenfeld, & Anderson, 2003).

Following on that reasoning, in order to obtain a prosocial reputation (collection of evaluations of one's prosocial traits by others (Yuan, Wu, & Yu, 2018)) individuals usually display prosocial behaviours, meaning they voluntarily choose to favour the common good (such as the environment welfare) even if it requires personal sacrifice (e.g., paying a higher price or forgoing a more luxurious option) (Griskevicius, Tybur, & Van den Bergh, 2010).

Although this contradicts the expectations of the Rational Choice and Evolutionary Theory (Hawkes, 1993; Olson, 1965), as well as it is considered a "theoretical anomaly" by the Rational Economic Perspective (Dawes & H. Thaler, 1988), altruistic behaviours do happen and can ultimately be explained through the lens of the Costly Signalling Theory (e.g., Van Vugt & Hardy, 2009; Griskevicius, et al., 2007; Hardy & Van Vugt, 2006; Zahavi & Zahavi, 1997). As this theory explains, an altruistic act, which implies self-sacrifice and prioritization of others, performs as a communicative signal (Bernheim, 1994). Besides communicating one's prosocial orientation, this signal also transmits to relevant others one's ability to forgo costly resources (e.g., time, energy and money) (Griskevicius, Tybur, & Van den Bergh, Going Green to Be Seen: Status, Reputation, and Conspicuous Conservation, 2010). This phenomenon was initially studied by Zahavi and Zahavi (1997) in the animal context and can be easily understood resorting to the peacock example:

> "A classic example from the animal world is the peacock's tail. There are substantial costs associated with growing and nourishing such an ornament which means that only healthy males can afford to bear these costs. (…) The tail thus provides reliable

> information about the health status of the individual and this information is used by peacock hens to select mates." - (Van Vugt & Hardy, Cooperation for reputation: Wasteful contributions as costly signals in public goods, 2009)

Similarly to what happens with peacocks, humans also display certain behaviours and support significant costs in order to give others relevant information about themselves, which ultimately enhance their social reputation. Research has revealed that when someone benefits a group of strangers at his expense, the latter's status level increases due to oneself self-sacrifice (Hardy & Van Vugt, 2006; Flynn, 2003; Milinski, Semmann, & Krambeck, 2002). In this case, "the costs of altruism may be offset by the benefits of social status" (Price, 2003). Thus, considering that acting prosocial may enhance someone's status, and that people want to gain a higher level of reputation and status, it becomes easy to understand the concept of competitive altruism, which foresees that people compete to attain status by trying to appear more altruistic (Barclay & Willer, 2007; Van Vugt & Roberts, 2007; Hardy & Van Vugt, 2006). Ultimately, people's social identity benefits from altruistic acts. Some examples of this are the fact that, the bigger the prosocial reputation, the more trustworthy (Feinberg, Willer, & Schultz, 2014; Barclay, 2004), respected (Price, 2003) and desirable as friends, allies, or romantic partners are the individuals (Farrelly, Clemson, & Guthrie, 2016; Iredale, Van Vugt, & Dunbar, 2008; Griskevicius, et al., 2007; Boone, 1998), as well as the bigger is the strength of their social identity (Hardy & Van Vugt, 2006). As a result of the latter mentioned aspects, and keeping in mind that humans are social creatures who easily make judgments about others (Cottrell, Neuberg, & Li, 2007), individuals tend to continue exhibiting prosocial behaviours in order to keep a positive reputation (Yuan, Wu, & Yu, 2018; Van Vugt & Hardy, 2009).

Up until now, it should have become clear that one of the aspects that motivates people to be altruistic and act prosocial (e.g., consuming green products) is achieving a better reputation, as well as a higher status among a group.

Hereupon, having in mind that someone's self-sacrifice can enhance his social status, the Costly Signalling Theory foresees that "people might engage in costly prosocial behaviours, such as environmental conservation, particularly when they are motivated to attain status" (Griskevicius, Tybur, & Van den Bergh, 2010). Since the consumption of green products allows people to signal that they are both willing to purchase something that benefits a group and able to support a higher cost for the community welfare, eliciting a motive for status should help people to behave pro-environmentally.

The latter argument was studied by Griskevicius, et al. (2010), having the scholars been able to empirically prove that, drawing on a Costly Signalling perspective concerning altruism, a desire for status would potentiate a tendency to act prosocial (e.g., green consumption), particularly if these acts are public (performed to an audience), and costly (more expensive than other options). In fact, this urge to attain status may be so powerful that consumers may even be predisposed to prefer prosocial green products over non-green luxury counterparts (with a better performance), if the first are more expensive than the luxury option.

In the light of this perspective, a certain controversy arises concerning the best approach to follow when defining pricing strategies for green products. If on the one hand, the ideal would be to price these goods at a lower value in order to attract a higher quantity of consumers who are price sensitive, consequently increasing the adoption of products which are less harmful to the environment, on the other hand, doing that may drive away status driven consumers, who are willing to pay more for the green product, but no longer see interest in buying it because doing so will not bring them reputational benefits. Herewith, it is precisely in this context that arises the idea of studying the effect of promotions as a potential solution to the latter dilemma.

The fiercely competitive context in which companies operate is nothing new and has been changing consumers' perceptions and behaviour patterns. Plenty of research has been conducted on this matter and revealed that price promotions substantially influence consumers' brand choice behaviour, helping them to decide what brand to buy and encouraging them to try new ones (e.g., Arce-Urriza, Cebollada, & Tarira, 2016; DelVecchio, Henard, & Freling, 2006; Alvarez & Casielles, 2005; Lattin & Bucklin, 1989; Gupta, Impact of Sales Promotions on when, what, and how Much to Buy, 1988). In the last instance, promotions can be blamed for lower levels of brand loyalty, insofar as these incentivise consumers to switch between different alternatives to find the best deal (Howell, Lee, & Allenby, 2016; Mela, Gupta, & Lehmann, 1997). Thus, given the large adoption of promotions as a pricing strategy to enhance consumption, being able to understand their potential effect in green products' attractiveness may be a topic of high relevance for companies. Specially if one takes as an example the Portuguese market that is extremely creased by constant promotions (Portugal is the 4th European country in which price promotions have more impact and in 2018, 46% of national sales were done in a promotion context (Nielson, 2019)).

However, before moving on, it is important to note that in the studied context, the main purpose of the use of promotions is not to strengthen the excessive consumerism, but rather to

incentivize consumers to try new alternatives to conventional products, such as green options, which are usually rashly judged as a not valid option due to the prejudice people hold against them (as it has been mentioned before).

Hence, by including a promotion as a new independent variable in this study, it would be possible to understand if temporarily more economic prices in green products would have (or not) a positive impact on status motivated consumers' desirability for this type of goods.

Since the hypothesis being framed in this research is that price promotions in green products should not make these look as less attractive in the eyes of status driven consumers, it is essential to understand which arguments may support this reasoning. Therefore, it is possible to suggest that temporary promotions do not threat these consumers' ability to signal their self-sacrifice before relevant others, given the fact that these do not know the context in which the product was bought. As people hold the heuristic that green products are usually more expensive and costly to acquire (Gleim, Smith, Andrews, & Cronin, 2013; Gupta & Ogden, 2009; Tanner & Kast, 2003), the social identity and reputation of the green consumer ends up not being damaged. Additionally, as an alternative to the previous argument, it is also reasonably to consider that the notion of smart-shopper might play an important role in the impact that promotions have on status driven consumers. The smart-shopper idea has been previously studied and it anticipates that consumers purchase promoted brands to increase their self-perception of being smart. When consumers buy a product in promotion it helps them reaffirming personal values, increasing shopper prestige, and enhancing social status (Chandon, Wansink, & Laurent, 2000). This means that, similarly to what happens when individuals display altruistic acts, finding a good deal and enjoy it can also confer a certain level of social status.

Herewith, can the lack of awareness of other people, regarding the circumstances under which the green product was bought, make consumers more comfortable to buy green products for a promotional price, without being afraid of harming their social status? Or as an alternative, is it possible that by acknowledging the smart-shopper concept and the fact that seizing a promotion can enhance one's social status compensate the status seekers' decreasing desire for inexpensive green products, when these are temporarily available at a lower price?

Research question: What is the effect of promotions on the desirability of (prosocial) green products for a status motivated consumer?

H1: Status motives should lead green products to become more desirable when these products are relatively more expensive.

H2: Buying a green product for a temporarily less expensive price does not decrease its desirability/attractiveness for status motivated consumers.

In order to explore the previous research question and resulting hypothesis, a quantitative analysis focused on a new independent variable (temporarily less expensive) is suggested. To do that, a replication of study 3 from the article "Going Green to Be Seen: Status, Reputation, and Conspicuous Conservation" written by Griskevicius et al., (2010) was conducted.

On their original study, the authors had two between-subjects motive conditions: status and control, which differentiated themselves through two short stories, the control one aiming to avoid suspiciousness and the status one to elicit social status feelings on the readers. Once again, in order to divert participants from the real purpose of the experiment, they were told that they would be asked to recall information about the story later. After this instruction, participants were invited to make three product choices between luxurious non-green products and less luxurious green alternatives in which two between-subjects price conditions were used: green product less expensive and green product more expensive. Nevertheless, as aforementioned, the goal of the present research is to comprehend if providing a temporarily less expensive price for a green product will inhibit or keep status motivated consumers interested in buying a prosocial green option, reason why (as explained) a new price condition was added to the experimental design.

CHAPTER 3: METHODOLOGY AND DATA COLLECTION

1. Participants

A total of 446 participants voluntarily answered the survey prepared for the current study, with no promised reward. Nevertheless, out of these 446 responses, only 271 (113 men and 158 women) could be considered as valid answers, given the high dropout rate at the beginning of the survey, possibly driven from the length of the status and control stories.

In order to facilitate the data collection among people with different characteristics and backgrounds (e.g., ages and school level), who could eventually be less comfortable with English, and achieve a statistically significant sample size of 60 (according to G*Power), a Portuguese version of the survey was created. In the end, 26 answers were collected in English

and 245 in Portuguese. The figures 1, 2, 3 and 4 are a graphic representation of the demographic data of the sample.

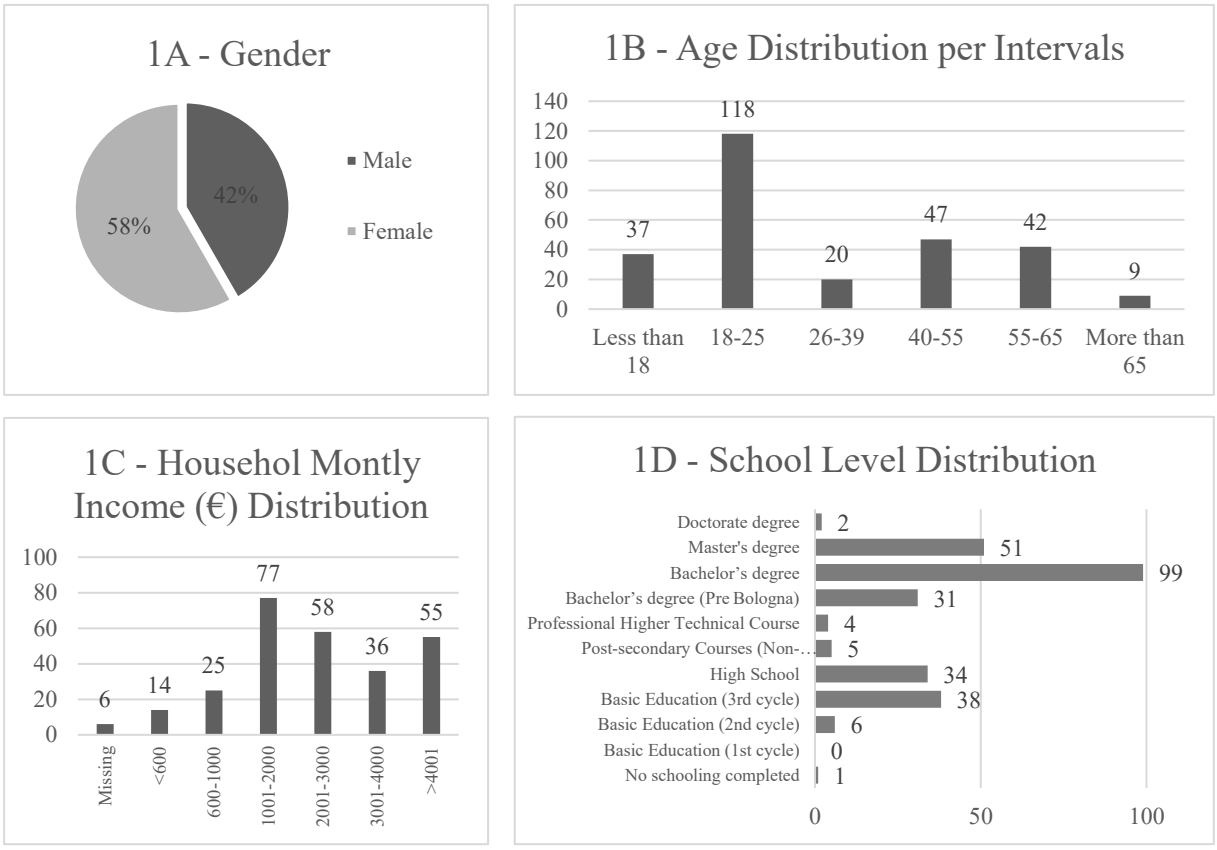


Figure 1 – Graphic representation of four demographic characteristics of the sample: 1A – gender; 1B – age distribution grouped in six groups; 1C – household monthly income (in €) distribution in seven groups; 1D – school level distribution in nine categories.

2. Materials and Procedure

Participants had the opportunity to collaborate in this study through an online survey. A small introduction was given in which they were told they were participating in an academic research, aiming to expand general knowledge of consumers' behaviours and preferences.

The procedure described in this study had already been used in other researches (e.g., (Griskevicius, Tybur, & Van den Bergh, 2010; Griskevicius V. , et al., 2009)), reason why for the present study only a few changes were compiled (e.g., products categories, one independent variable, and settings), as it will be presented later. Thus, for this research, two main variables were used: motive and price of the green product. The variable motive included two different conditions, which divided the sample in two groups: control and status. In the control group, participants were not exposed to any stimuli, while in the status group, respondents were

presented with a written manipulation (small story) to elicit a desire for higher status and a motivation to have more prestige.

To avoid potential suspiciousness about the studied topic, the participants were initially told that the first part of the study intended to evaluate their memory. Once given that introduction, they were incentivized to carefully read the story and to picture themselves as the main character ("Please read it carefully. Try to imagine yourself as the protagonist of this episode and feel the emotions and feelings that the person is experiencing." (Griskevicius, et al., 2009)). The respondents were then randomly assigned to one of the two motivation conditions (control or status), receiving in each circumstance a different story. Both the stories were presented to the participants in a summarized version of the official ones (written by Griskevicius et al. (2009)) in order to slightly minimize their length and time spent by the respondents reading it. Nevertheless, at the end and following some of the author's guidelines of the original stories, both the control and the status texts had similar number of words (approximately 400 words).

The participants assigned to the control condition read a story about a situation in which the protagonist loses two tickets (his/her and his/her friend's) for a long-awaited and important concert. After realising that, the protagonist hurries to search throughout the entire house, leaving it in a complete mess. After a while, he/she finally finds the tickets, feeling a resulting peak of adrenaline and relief for realising he/she can go to the concert after all. Contrariwise, the respondents who were allocated to the status condition, received a story with a completely different nature. In the status story, the main character heads to his/her first day in a new job in a big and prestigious company that presents the greatest opportunity of moving up. Participants read about the protagonist's day, and several aspects of the company's environment are emphasized, such as high-status decorations of the work place, upscale clothing people wear, as well as the expensive and luxurious cars that people own. After being impressed with such a prestigious environment, the protagonist prepares himself/herself for the first meeting with the new boss and his/her new colleagues, in which they ultimately get to know that they will have the chance to receive an incredible promotion. The story finally ends as the main character imagines himself/herself moving up in status comparing to their colleagues.

The aforementioned status story was used in this study to manipulate a status motivation and desire for prestige in the readers' minds, in order to test the formulated hypothesis, while the control story aimed to later investigate the differences among the two groups. As a final remark,

the status story made no reference to the type of business performed by the company, nor to what types of behaviours might be useful to conquer higher levels of status or to receive a promotion offer. Thus, the status manipulation did not suggest any type of behaviours such as cooperation, self-sacrifice/altruism, or pro-environmental behaviour (such as green consumption).

After reading the story, participants were asked to briefly describe it in a sentence, in order to identify potential respondents who did not pay attention to it. The participants who answered things completely out of the topic were eliminated from the dataset.

Once completed this section of the questionnaire, participants were introduced to a new task, in which they should imagine that they were home alone searching for products online. They were then presented with three pairs of products, with a conventional (non-green) and a green version (labelled with Product A and Product B), and asked to indicate in each pair, the product they would find the most attractive to them, on a 9-point scale with the labels "Definitely product A" and "Definitely product B" at the endpoints.

Posteriorly, the respondents were asked to state their level of agreement with some general questions (on 9-point scale with the labels "Do not agree at all" and "Totally agree" at the end points): "(1) People who buy sustainable products are ethical", (2) "People who buy sustainable products have high economic power", (3) "People who buy sustainable products have high social value", (4) "People who buy sustainable products are smart shoppers", (5) "People with high social status have more power". The main objective of these questions was to understand what kind of heuristics dictate people's perceptions of sustainable consumers. Moreover, participants were also requested to answer to another two questions related to the story they read in the beginning of the survey: "To what extent do you desire to have higher social status?" and "To what extent are you motivated to have higher prestige?", using a 9-point scale with "Not at all and" Very much" at the endpoints using a 9-point scale with the labels "Not at all" and "Very much" at the endpoints. These two questions were intended to test if the stories elicited the expected mental state in each participant (i.e., desire to have status with the status story or no specific felling with the control story).

Lastly, the survey included a final section that aimed to collect demographic information about the sample, namely gender, age, school level and the household monthly income.

2.1. Products

In this experience, each participant was subjected to three pairs of products, presented in a randomized order, both within the pair and between the set of the three pairs. The product pairs used in the data collection were selected due to their current availability in the market in two different versions (green/pro-environmental and non-green/conventional). In addition, the products were carefully chosen to assure that their green version were considered to be pro-environmental in slightly different aspects: water efficient (dishwasher), plastic usage reduction (toothbrush) and nontoxic (household cleaner).

Non-green/Conventional Products	Green/Pro-environmental Products
Sub-Zero ED40 Elite Dishwasher • Comes in choice of stainless steel or white exterior with black chrome trim; • Features a revolutionary heated drying system that eliminates water spots; • Has powerful water sprays but produces no sound.	Sub-Zero Eco-Trend Dishwasher • Has a standard 40-minute running cycle; • Uses a recirculating water system to save water; • Is made with recycled components.
Colgate Slim Soft Charcoal • 0.01mm thick charcoal filaments for a proper gums cleaning; • Reaches hard-to-reach places of the mouth; • Plastic handle with comfortable rubber areas for a comfortable usage.	Colgate Bamboo • Natural and sustainable bamboo handle (FSC Certified); • Charcoal-infused bristles with thin ends; • Comes in a recyclable paper packaging.
Lysol Industrial Strength Household Cleaner • Awarded most effective cleaner on the market award; • Chemically engineered to cut through the toughest grease, rust, and mould; • Kills 99.9% of germs;	Lysol Natural Household Cleaner • Made from biodegradable nontoxic materials; • Contains no acids, dyes, or harsh chemicals; • Not tested on animals.

Table 1 – Products' description.

All the product categories were carefully priced so that the two products (green and non-green) in each pair were valued using the same procedure that Griskevicius et all. (2010) established, more specifically, defining a 20% difference in the counterparts' prices of each category). Thus, when the green product was the most expensive counterpart in the pair, it would cost more 20% than its alternative. Contrariwise, when the green product was the less expensive in the pair, it would cost 20% less than its counterpart. When the green product was temporarily available for a cheaper price, it would cost 20% less than its original price (which was coincident to its non-green counterpart).

In order to allow each participant to go through the three mentioned price scenarios (within-subject component of the experimental procedure), three different conditions (1, 2 and 3) were designed using the six product categories:

Product Category	Condition 1	Condition 2	Condition 3
Dishwasher	Green product more expensive: • Non-green (790€) • Green (990€)	Green product temporarily less expensive: • Non-green (990€) • Green (before: 990€; temporarily in promotion: 790€)	Green product less expensive: • Non-green (990€) • Green (790€)
Toothbrush	Green product less expensive: • Non-green (3.75€) • Green (3€)	Green product more expensive: • Non-green (3€) • Green (3.75€)	Green product temporarily less expensive: • Non-green (3.75€) • Green (before: 3.75€; temporarily in promotion: 3€)
Household Cleaner	Green product temporarily less expensive: • Non-green (7.5€) • Green (before: 7.5€; temporarily in promotion: 6€)	Green product less expensive: • Non-green (7.5€) • Green (6€)	Green product more expensive: • Non-green (6€) • Green (7.5€)

Table 2 – Survey condition 1, 2 and 3 with assigned price conditions (green product more expensive, green products less expensive or green product temporarily less expensive) for each one of the three product categories. Conditions 1, 2 and 3 were the same for the control group and for the status group and each participant answered to a survey in which one of the 3 conditions was randomly allocated.

3. Design

For this experimental study, a mixed design was used: 2 (motive: status, control) & 3 (price of green product: more expensive, less expensive; temporarily less expensive), with repeated measures for the last factor (price of the green product). Each participant was solely exposed to one motive condition (Status or Control), while concerning the price of the green product, the respondent would see all the three conditions. 136 participants received the survey with the control story, while the remaining 135 saw the status motivation story.

		Motive	
		Status	Control
Price of green product	More expensive		
	Less expensive		
	Temporarily Less expensive		

Table 3 – Experimental design representation. Each participant is assigned either to the light or dark grey condition.

CHAPTER 4: RESULTS' ANALYSIS

Before starting the analysis, all the responses from under 18 years old participants were excluded (37 responses), in order to obtain the most reliable results as possible.

Furthermore, before moving to the proposed data analyses, it was important to verify that all the manipulations used in the present research had led to the intended effects. Thus, two manipulation checks were conducted, one to confer that the status manipulation worked as planned and another to assure that its effect on each product category was the same in both motive groups.

Regarding the first manipulation, when comparing the two independent groups (control and status motivated) statistically significant differences in the levels of desired social status ($M_{Control}$ = 3.32, $SD_{Control}$ = 2.33, M_{Status} = 4.76, SD_{Status} = 2.70, $t(231)$ = - 4.35, $p < .001$, d = 0.57) and motivation to have a higher prestige ($M_{control}$ = 3.69, $SD_{control}$ = 2.55, M_{Status} = 5.56, SD_{Status} = 2.53, $t(231)$ = - 5.61, $p < .001$, d = 0.74) were found. As the results demonstrate, when comparing participants from the two distinct groups, the ones exposed to the status story manifested more desire to have higher social status as well as a bigger motivation to have higher prestige.

Question:	Motive	N	*M*	*SD*
To what extent did you desire to have higher social status?	Control	121	3.32	2.33
	Status	112	4.76	2.70
To what extent were you motivated to have higher prestige?	Control	121	3.69	2.55
	Status	112	5.56	2.53

Table 4 – Elicited desire to have higher social status and motivation to have higher prestige descriptive results for each motive group.

Thereafter, in order to validate that the status manipulations (already proved to be effective) had a similar effect on the three pairs of products (dishwasher, toothbrush and household cleaner) regardless the motive group, a one-way repeated measures ANOVA was conducted, using product category as within-subjects factor and motive as the between-subjects variable. The results showed no significant interactions ($F(2, 462) = 0.246$, $p = .782$, $\eta_p^2 = .001$), meaning that no matter the type of manipulation (motive) to which participants were exposed to, the three distinct product categories did not have different effects on product preference between the two groups.

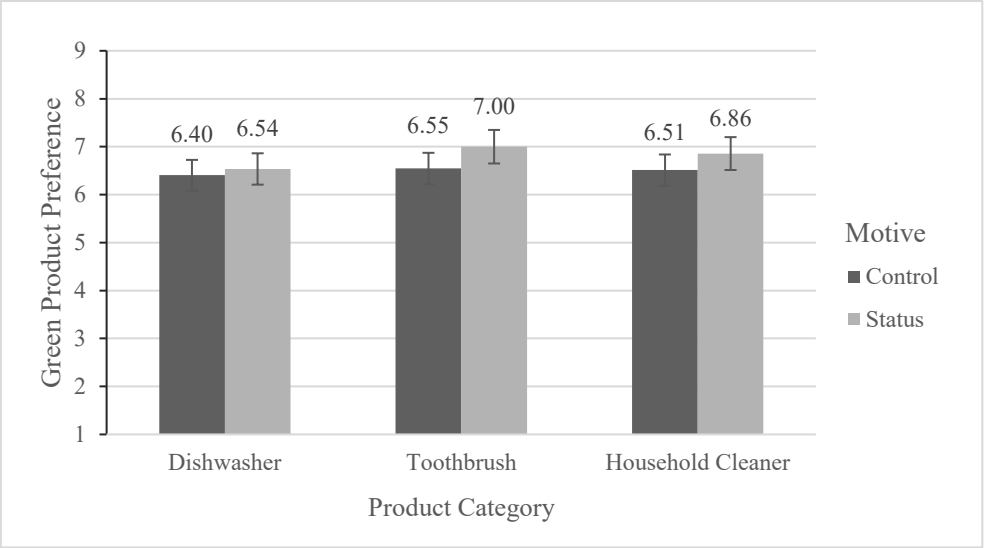


Figure 2 – Preference for green products in each product category (dishwasher, car, backpack, sneakers toothbrush and household cleaner) depending on motive group.

Once all initial processes was concluded, it was finally time to start the intended analysis to verify the formulated hypotheses.

The main goal of this research was to understand how status motives would influence consumers' preference for green products depending on the latter's price. If, in fact, status motives and price conditions affect the level of consumers' preference for green products, then it is also a main objective of this study to understand if promotions can be an effective strategy to incentivize green products purchase among status driven consumers.

In order to study that, on the first stage of the current data analysis an ANOVA 2 (motive: control, status) x 3 (green product's price: more expensive, less expensive, temporarily less expensive) with repeated measures on the last factor was conducted. The results yield a significant main effect of price on green product's attractiveness ($F(2, 462) = 16.156$, $p < .001$,

η_p^2 = .07), meaning that green products' price leads, by itself, to different responses regarding products' preference. More specifically, participants show a lower preference for green products when these are more expensive (*M* = 5.92, *SD* = 2.89) than when they are the less expensive (*M* = 6.80, *SD* = 2.68) or temporarily less expensive option (*M* = 7.19, *SD* = 2.37). Contrariwise, the status motivation effect on green products' attractiveness was not significant (*F*(1, 231) = 1.831, *p* = .177, η_p^2 = .008), even though, the preference for such products in the status group (*M* = 6.79, *SD* = 1.66) is, as expected, higher than in the control one (*M* = 6.45, *SD* = 1.80). Nevertheless, the interaction effect between price and motive was significant (*F*(2, 462) = 4.382, *p* = .013, η_p^2 = .02), which demonstrates that green products' price has a different impact on the preference for green products, depending on the motive to which the participant was exposed (control or status).

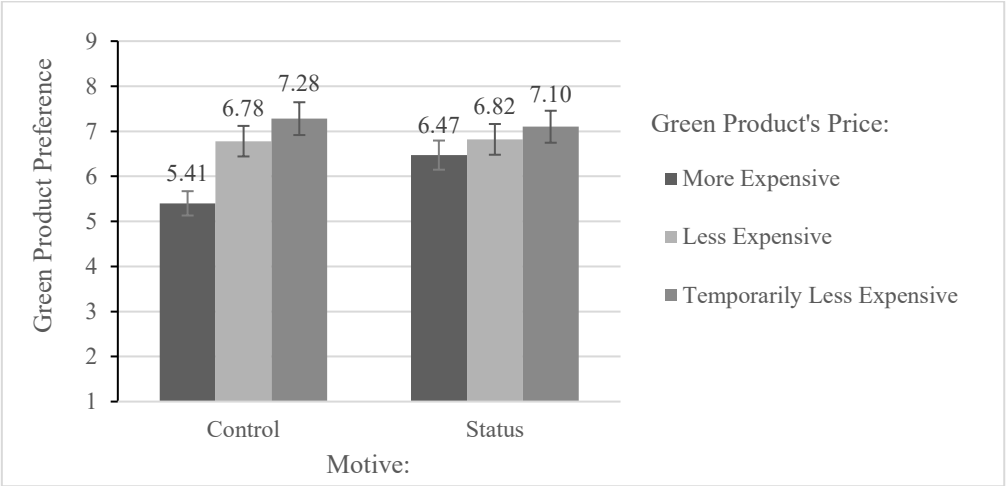


Figure 3 – Participants' preference for green products as a function of motive (status or control) depending on green's product price (more expensive, less expensive and temporarily less expensive).

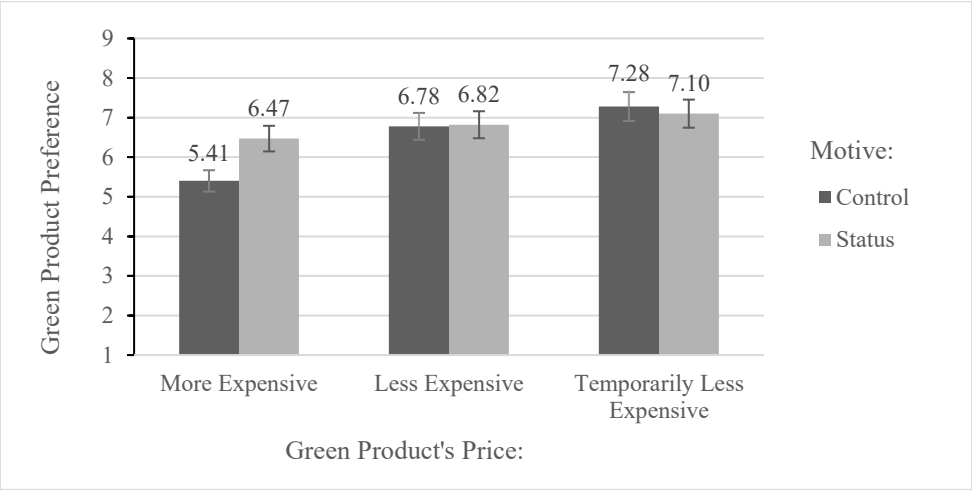


Figure 4 - Participants' preference for green products as a function of green's product price (more expensive, less expensive and temporarily less expensive), depending on motive (status or control).

The next step of this research consisted of breaking down the latter interaction (which contemplated the three price conditions simultaneously), in order to better understand the significant differences between the two groups. To do that, more statistical tests were conducted, starting by the analysis of solely two price conditions: more expensive and less expensive green products.

Therewith, the difference between the preference for more expensive and less expensive green products revealed to be significantly different in the two motive conditions ($F(1, 231) = 5.011$, $p = .026$, $\eta_p^2 = .02$), being this higher in the control group ($M_{More\ expensive} = 5.41$, $SD_{More\ expensive} = 3.01$, $M_{Less\ expensive} = 6.78$, $SD_{Less\ expensive} = 2.71$) than in the status one ($M_{More\ expensive} = 6.47$, $SD_{More\ expensive} = 2.66$, $M_{Less\ expensive} = 6.82$, $SD_{Less\ expensive} = 2.65$). When looking specifically to the control group, as it would be expected given figure 3, green products' attractiveness when these are more expensive revealed to be significantly lower than when they are less expensive ($M_{control\_more\ expensive} = 5.40$, $SD_{control\_more\ expensive} = 3.01$, $M_{control\_less\ expensive} = 6.78$, $SD_{control\_less\ expensive} = 2.71$, $t(120) = -4.140$, $p < .001$, $d = 0.48$). The latter mentioned results fit the Rational Economic Perspective, which foresees that people prefer to save money and opt for the less expensive options whenever possible. Contrariwise, in the status group this difference (between more expensive and less expensive) is strongly attenuated, turning out to be no longer significant ($M_{status\_more\ expensive} = 6.47$, $SD_{status\_more\ expensive} = 2.66$, $M_{status\_less\ expensive} = 6.82$, $SD_{status\_less\ expensive} = 2.65$, $t(111) = -1.114$, $p = .268$, $d = 0.13$). Reaching this conclusion allows to corroborate what Griskevicius et al., (2010) found, inasmuch it demonstrates that when status motives are elicited, the preference for green products, available at a more expensive price,

significantly rises to a point in which the mentioned preference is equal to when green products are available for a less expensive price. As the Costly Signalling Theory explains, this happens because status driven consumers believe their prosocial reputation will improve if they signal before others their concern about the environment and, at the same time, their ability to support higher costs to protect it. In order to better understand what motivates people who want to have higher status to buy green products, some descriptive results of both the motive groups (from general questions asked in the survey) are presented, highlighting important heuristics which help people to assign a certain reputation to other individuals.

People who…	N	*M*	*SD*
Buy sustainable products are ethical	233	5.89	2.28
Buy sustainable products have high economic power	233	4.92	2.24
Buy sustainable products have high social value	233	5.14	2.31
Buy sustainable products are smart shoppers	233	6.13	2.07
Have high social status have more power	233	6.43	2.33

Table 5 – General questions regarding participants' perception of people who buy green products and who have high social status.

As shown in the Table 5, people who buy green products are seen as ethical and smart-shoppers, as well as, as holders of a high economic power and social status. In addition, as a consequence of having a higher social status, green consumers are also perceived as more powerful. At the end, all these attributes are positive associations which ultimately help building a solid reputation. When comparing the results from the two separated motive groups, only the sentence "people who buy sustainable products have high economic power" led to significant differences between status and control participants ($M_{Control}$ = 5.22, $SD_{Control}$ = 2.22, M_{Status} = 4.59, SD_{Status} = 2.22, $t(231) = 2.18$, $p = .030$, $d = 0.28$), which may indicate that status seekers do not consider economic power to be that important for consumers to be green.

Therewith, the first hypothesis of this research is verified, meaning that eliciting status motives on consumers should help relatively more expensive green products to become more desirable.

However, it is important to note that although the results found validate what was initially discovered by Griskevicius et al. (2010), the highest preference for more expensive green products in the status group, reported by the authors, is not as evident with the current data. First of all, the preference for less expensive green products showed no alterations between the

two groups ($M_{control\_less\ expensive}$ = 6.78, $SD_{control\_less\ expensive}$ = 2.71, $M_{status\_less\ expensive}$ = 6.82, $SD_{status\_less\ expensive}$ = 2.65, $t(231) = -0.13$, $p = .899$, $d = 0.01$), contrary to what happened in the authors' prior results, in which a lower preference for less expensive green products was found among status driven consumers, comparing to the control group. As a consequence, the results point to a statistically equal preference of the latter price condition (less expensive) over more expensive green goods. In second place, as it will be presented in the following paragraph, the results from the current study point to the existence of a higher preference for green products when these are temporarily less expensive, which continues to verify when consumers are manipulated to have status.

For that reason, the way is now open to study the second hypothesis which focuses on what happens to status driven consumers' preference for green products when these are available for temporarily less expensive prices. To do that, the following analyses were conducted solely with two price conditions: more expensive and temporarily less expensive green products.

Although participants show a preference for temporarily less expensive green products than for more expensive green products both in the control condition ($M_{Control\_more\ expensive}$ = 5.40, $SD_{Control\_more\ expensive}$ = 3.01, $M_{Control\_temporarily\ less\ expensive}$ = 7.28, $SD_{Control\_temporarily\ less\ expensive}$ = 2.21, $t(120) = -6.101$, $p < .001$, $d = 0.71$) and in the status condition ($M_{Status\_more\ expensive}$ = 6.47, $SD_{Status\_more\ expensive}$ = 2.66, $M_{Status\_temporarily\ less\ expensive}$ = 7.10, $SD_{Status\_temporarily\ less\ expensive}$ = 2.53, $t(111) = -1.73$, $p = .087$, $d = 0.24$), this difference is significantly higher in the control group than in the status one ($F(1, 231) = 7.011$, $p = .009$, $\eta_p^2 = .029$). The prior results demonstrate a general lower preference for green products when they are more expensive than their non-green counterparts, whether the consumer is motivated to attain status.

In any case, it is concluded the veracity of the second hypothesis which suggested that buying a green product for a temporarily less expensive price would not decrease its desirability/attractiveness for status motivated consumers.

Despite being a fact that the preference for more expensive green products significantly increases in the status group ($M_{control}$ = 5.40, $SD_{control}$ = 3.01, M_{Status} = 6.47, SD_{Status} = 2.66, $t(231) = -2.860$, $p = .005$, $d = 0.38$), which validates the existence of the effect predicted by the Costly Signalling Theory, the effect foreseen by this theory is less clear when status seekers have the opportunity to buy expensive green products with a temporary price reduction. Under these circumstances (when green products are available for a promotional price) the consumers' response is the same in both groups, as there are no significant differences between green

products' preference among the control and the status group ($M_{Control\_Temporarily\ less\ expensive}$ = 7.28, $SD_{Control\_Temporarily\ less\ expensive}$ = 2.21, $M_{Status\_Temporarily\ less\ expensive}$= 7.10, $SD_{Status\_Temporarily\ less\ expensive}$= 2.53, $t(231) = .588$, $p = .557$, $d = 0.08$). As it has been explained in the literature review section, such outcome may be associated with consumers' perception that they will still be able to signal status, since relevant others will continue to think that the chosen green option is actually the most expensive one, or related with the notion that they attain status for finding a good deal and seizing the promotion (i.e., being smart-shoppers).

CHAPTER 5: CONCLUSIONS

Main conclusions

Given the current state of Earth planet and its illness, mainly caused by human actions, looking away from today's environmental problems is no longer an option. More than recognising that a balanced relationship with the natural world is necessary to save it, people need to understand that their inaction to remedy the problem is actually in the basis of the current climate emergency state. Therefore, part of the solution to revitalize the natural world and its threatened ecosystems is to acknowledge the possibility to rewind this scenario, as long as humans change their mindsets and commit to conserve and protect what is left.

Goods' consumption and groceries have a considerable effect on the household consumption environmental impact, accounting for more than one-third of the latter (Moser, 2015). This household consumption' impact is directly associated to people's daily habits, such as commuting to stores, storing goods, cooking meals, generating waste, among others, and indirectly to industrial processes assuring individuals' consumption patterns, as food production, processing and transportation (European Environment Agency, 2016). Hence, greener purchasing decisions may enable a substantial reduction on this environmental impact by simply replacing higher-impact products with alternatives that are environmentally friendlier.

However, as prior studies have highlighted, namely the ones approaching the green gap, not every consumer who claims to be interested in acting pro-environmentally, ends up behaving accordingly. As Belk, Devinney and Eckhardt (2005) suggest "Some consumers do bring ethical concerns into their product choices, but most would rather have a good product at a good price", regardless its ethical value.

As the results from the study show, social orientation plays a substantial role in consumers pro-environmental acts. More specifically, consumers who are motivated to attain social status tend to show a higher predisposition to purchase expensive green products because it grants them certain reputational benefits. Therefore, as the findings indicate, when people are not motivated to have status, they tend to have a higher preference for green products if they are temporarily less expensive or less expensive than their conventional/non-green counterparts. Under these circumstances, people are less willing to forgo luxury non-green products over greener alternatives because what prevails in consumers' subconscious is the intention to buy the best product for the best price (Rational Economic Perspective). On the other hand, when people are status driven, meaning they care about their reputation and aim to improve their social status, they are much more willing to pay a higher price for green products, as well as to choose these over luxurious yet, less expensive, alternatives. This confirms what the Costly Signalling Theory defends in a sense that people base their behaviours depending on what it signals to others. If their behaviour allows them to be well perceived by relevant others, then it is much more likely to watch them with a bigger readiness to act in the best interest of the common good, otherwise they will probably behave as people in the control group, favouring their personal interests. Thus, if they intend to gain social status, buying green products can work as mean to signal their willingness to "self-sacrifice" for the common good (through environmental protection) and ability to support higher costs to do it, which other cannot.

In addition to this, the results also point to a greater preference for green products when these are priced with a temporary promotion, scenario that occurs both in the control group and in the status group. Thus, if on the one side, these results show that consumers with status orientation are less sensitive to price, given their bigger attraction for more expensive green products when comparing to consumers who are not motivated to attain status. On the other side, it was also proved that status driven consumers do not lose their rational thinking when they come across the opportunity to buy the same expensive green product for a temporary promotional price. Although it is unclear whether promotions are well accepted by status driven consumers because they can still communicate status through a seemingly costly behaviour (since buying green under a promotion is no longer costly), or due to the smart-shopper perception consumers may hold about themselves, it is important to retain that green products can truly become more attractive for these type of consumers when they are offered at a promotional price, rather than when they are solely available for a more expensive price. Nevertheless, despite the fact that this attitude (measured using an attractiveness level scale) cannot be seen as a strong predictor

of behaviour (Fishbein & Ajzen, 1975), the results that have been described may still have high relevance in terms of managerial implications as it will be discussed later in this study.

Limitations

First of all, it should be reinforced that the current results evidenced an equal preference, in both groups, for less expensive green products. However, that result is not in line with previous literature from Griskevicius et al., (2010) according to who the preference for such products with inexpensive prices should be significantly low in the status group, when comparing with the control one, since with low prices consumers are no longer able to signal their ability to support higher costs for the sake of the public welfare. Even though, the present research does not allow comprehending why consumers who are driven to attain status continue to show a high preference for green products when they are less expensive, such finding should not be disregarded because there may be multiple reasonable explanations behind it.

One of those possible explanations for such finding may be the fact that participants were asked to imagine they were answering the survey in an isolated environment ("Imagine you are home alone, looking for different product categories online"), aiming to let them comfortable to unveil their truly product preferences. Given the fact that altruistic behaviours must be observable (Hardy & Van Vugt, 2006), the mentioned context may have led people in the status group to show a smaller preference for more expensive green products, ultimately because there was no audience to whom they could signal their preference for the prosocial option.

Other reasonable possibility for the equal preference of less expensive green products in both groups may be related with the current notion of what it is to have status and how it can be achieved. As it involves self-sacrifice and forgoing luxury options, today's consumers should consider the act of buying green products as a prestigious behaviour which grants, per se, social status. If that is the case, then it is possible that achieving status may work as an additive process in which the act of purchasing green goods is already able to confer a certain status level, that is latterly increased if the bought green good has also a higher price. The presented reasoning would be able to explain the motive why the preference for less expensive green products was equal in both the condition groups. Since opting for the green product was already signalling status, then status driven consumers should continue to prefer it, even though they would probably be recognized with more social status if they would have bought it under an expensive price condition. Given that, the present experimental design may have masked this

phenomenon, reason why such limitation should be noted and taken into account in future researches.

Moreover, by retrieving the previously presented rationale, less expensive green products could have even appeared to be more desirable for status participants than for the control group, given the notion that the first would always attain status from choosing the prosocial option per se. Thus, as supported by the results, regardless of price, status seekers would always have a higher tendency to prefer the green option. In addition, if one considers the aforementioned additive process, it would have been expected to find similar results to the ones obtained by Griskevicius et al., (2010), in a sense that status driven consumers should have found green products even more attractive if they were expensive (situation under which they maximize the possibility to attain status) rather than when they are less expensive. Although the results that sustain this conclusion are not clearly present in the current study, given the fact that the preference for green products was statistically equal for less expensive and more expensive prices, it is possible to observe a tendency for green products' preference to increase when they are more expensive. Lastly, this would also explain why status driven consumers like the expensive green products more than those who were not manipulated to have status.

One last eventual explanation to why status driven consumers show a high presence for less expensive green products may be related with the sample's demographic characteristics, more specifically with participants' nationality, which was mostly Portuguese. As a consequence, one may speculate that given the Portuguese weak economy (Magone, 2011; Magone, 2014), consumers are highly price sensitive, leading to a greater product preference under less expensive and promotional price conditions.

Moving on to present the second limitation, it is noteworthy to mention that, as prior studies have suggested, it is extremely difficult to measure aspects related to ethical intentions and consequent behaviours. While some authors argue that the frequently used self-reported approaches (such as surveys) are useful to disclose people's ethical intentions and behaviours (e.g., Fujii, Hennesy, & Mak, 1985; Warriner, McDougall, & Claxton, 1984), some other defend that these methodologies are not reliable (e.g., Auger & Devinney, 2007; Carrigan & Attalla, 2001). According to this latter perspective, surveys are unable to force people to answer according to how they think and behave on a daily basis, meaning that, as a consequence, individuals answer ethical questions under the influence of what they believe to be socially

acceptable, overvaluing the impact that ethical aspects play in their purchasing and consumption behaviour patterns.

Another limitation, which is strongly related to the previous one and should be pointed out relies on the fact that this research did not consider actual behaviours, given that participants were neither observed performing certain tasks, nor asked questions about behavioural intentions such as, willingness to pay or willingness to buy. Instead respondents were inquired about product preferences that were measured through a product's attractiveness scale. Taking this into account, this could mean that, in line with the green intentions-behaviour gap, people who indicated to have a higher preference for green products may not actually end up purchasing them. Thus, the current research aimed to investigate the influence of social and economic factors, such as status motives and promotions, on consumers' green attitudes in a theoretical point of view. Studying the buying behaviour itself would require a more complex and time-consuming experimental research (Steg & Vlek, 2009).

Furthermore, literature on Costly Signalling Effect and on Competitive Altruism reinforces the fact that altruism must be observable in order to allow the person to issue a communicative signal (Hardy & Van Vugt, 2006; Henrich & Gil-White, 2001; Smith & Bleige Bird, 2000). Therefore, in the current research it would have been important to let participants make decisions in front of an audience, so that they would have the chance to gain a certain reputation. However, given the fact that the main objective of this study was to induce participants to truly reveal their product preferences without any fear of being judged, the present research was designed so that respondents were exposed to a context in which they were told to be in an isolated environment ("Imagine you are home alone, looking for different product categories online"). This way the respondents were ideally completely comfortable and free to prefer whatever type of product they liked the most. Yet, in any event, such limitation should be noted given that it may have impacted the obtained results.

Lastly, it is likely that the length of the stories (used in the beginning of the questionnaires to elicit either status or control motives) led to a higher complexity of the survey, which could also have been perceived as more time-consuming in the eyes of the voluntary participants. As a result, an unexpected quantity of responses had to be excluded from the dataset, leading to a substantial decrease of data to be analysed (from 446 total answers to 271 valid answers).

Future Research and Recommendations

> "Individuals can contribute significantly to achieving long-term environmental sustainability by adopting pro-environmental behaviour patterns. The challenge for environmental psychologists is to understand the cognitive, motivational and structural factors and processes that threaten environmental sustainability, so that pro-environmental behaviours could be facilitated and emerge worldwide." - (Steg & Vlek, 2009)

Even though there is already a certain level of knowledge concerning green consumption behaviours, there is still a lot to learn about this topic. More specifically, it is important to clearly understand if there are any other factors influencing green behaviours, besides economic, environmental concern and social ones.

As it has already been pointed out, it may have happened that the concepts of status have changed in recent years. As a result, there may be two distinct (and sometimes competing) sources of status, one from behaving in behalf of the common good (e.g., preferring green alternatives) and another from choosing to buy costly options (e.g., opting for expensive products). These two sources may be in the same direction, as it happens when the green product is the most expensive, but they can also be in conflict when the green product is the cheapest option. In such conflicting situations, status seeking consumers may end up feeling overwhelmed as they do not in which case they will attain more status, from behaving pro-socially or from showing economic power. Given the presented possibility, future studies should explore this matter as soon as possible. To do that, a similar research could be conducted, in which two different status manipulations would be used (status as a result of economic power and status as a consequence of a green lifestyle) and a new price condition would be added: non-green and green product with equal price. The main objective of the mentioned new study would be to explore whether the simple act of purchasing green products is sufficient to signal one's prosocial attitude, when one is motivated to have status derived form a green lifestyle, or if such behaviour is only valued when green products are costly.

Furthermore, the present research did not allow to clearly understand if promotions affected status consumers' preferences the way they did because they can still communicate status through a seemingly costly behaviour (derived from the fact that people do not know in which price context the product was purchased), or because they allow consumers to perceive themselves as smart-shoppers. Likewise, this study did not investigate the role that promotions may have on status seekers' self-signalling. As Dunning (2007) argued, people's decisions are

influenced by self-image in such a way that, whatever the final decision is, it must honour and affirm a flattering image of their self. Hence, even though status driven consumers may purchase green products with discounts and, consequently, keep signalling to others their costly behaviours for the common good, they will not be able to communicate that to themselves as they know the product was not truly expensive. Hereupon, future research should try to comprehend these aspects, investigating which theory would provide a better explanation for promotions' effect on consumers who are motivated to have status: the costly signalling theory, or the smart-shopper theory. Notwithstanding, the importance that self-signalling has on consumers' self-perception and identity is a crucial topic to deepen, as its implications may dictate the success (or not) of a price promotion strategy for green products aiming to target stratus driven consumers.

In addition, it is worthwhile to measure actual behaviour whenever possible, resorting to experimental designs which take into consideration aspects that are essential to find consistent results, such as validity and reliability of the self-reported behaviour measures (Steg & Vlek, 2009). Hence, the ideal would be to replicate this research in a physical context, so that it would be possible to understand if different environmental circumstances would lead to behaviours which do not align with the current findings. This is particularly important as there are no previous empirical studies that test the influence of promotions on status-oriented consumers, especially if one takes into account that everybody is intrinsically interested in achieving a positive self-image (Dunning, 2007) and, as a consequence, is motivated to attain status in social contexts (aspect that was exacerbated with the status manipulation used in the current research), such as when people are shopping in a physical environment. For that reason, it would be extremely relevant to additionally explore which type of promotions are the most suitable for each type of consumers: those who are motivated to have social status and those who do not have that social orientation and are mainly price sensitive. It is expected that status driven consumers do not appreciate buying the product when they clearly see that the promotion is available for everyone. Given this intuition, it may be possible that targeted promotions are needed. Therefore, future research should also look into this matter, aiming to understand how different types of promotions can affect status driven consumers' ability to signal their altruism and economic power. Moreover, it can also happen that in a more social context, consumers do not appreciate buying green products in promotion due to the possibility of others (e.g., other costumers observing, the cashier) being able to realise that they are not actually incurring in a costly behaviour. Under these circumstances, such behaviour ends up signalling contrary

information to the intended one, both to one's self and to relevant others, leading to a failing attempt of attaining status from purchasing green products temporarily available at a lower price, which could ultimately reduce consumers' preferences for such options. Therefore, future research should explore how these latter mentioned circumstances influence consumers' behaviours and additionally investigate which type of price promotions are the most suitable to target status driven consumers.

Moreover (and assuming that, as previously explained, buying green products can confer social status per se), understanding how to appeal to status seekers is essential for companies. Herewith, future research should consider this matter and focus on studying specific and effective ways, besides price, to attract consumers who are status driven. This includes exploring strategic aspects of green products' positioning and marketing mix, such as the best type of messages to convey in advertising, the best channels to place the products, the best type of packaging and so on. Besides that, companies can also search for ways to a status orientation in consumers, even in the ones who were not initially interested in attaining status, given that everyone is somewhat susceptible to social status cues as proved by the manipulation check used in the present research. Such investigations can be done resorting, in a first stage, to surveys. Nevertheless, the results should previously be confirmed in a physical context, inasmuch as aforementioned, intentions and attitudes are not good predictors of behaviour.

Lastly, it should not be forgotten that this research was solely focused on the effect of promotions on green products' attractiveness. Most managers will probably need practical evidences of how these promotions can work as added value to the company, in terms of profitability. Therefore, future research should focus on this angle, trying to understand if the investment in promotions on green products can be offset with higher number of sales both in the present and in the future. Given this point, it would also be extremely relevant to understand if these promotions are able to turn consumers who are trying the product for the first time, into loyal consumers, who shift their preference to the green option in the long-term.

Managerial Implications

As it is anticipated by the literature and supported with the current findings, price affects products' attractiveness and consumers' decision-making process. Consequently, people tend to choose products that require lower initial investments and lower perceived risks,

undermining other alternatives (such as green ones) that, although more expensive, many times offer the possibility of higher savings in the long-run (Gleim, Smith, Andrews, & Cronin, 2013).

Given the latter reasoning, one could hastily argue that the solution to the latter problem consists of pricing green products as less expensive than their counterparts. Yet, in most of the situations such suggestion is not even open for discussion, since green products usually comprise higher production costs, mainly due to the materials used both in the product itself (e.g., wood, silicon, fabrics, etc.) and in its packaging (e.g., paper, carton or glass). In addition, as the results point out, using such price strategy to position green products can have consequences, especially when targeting consumers who are motivated to have status and are more willing to pay extra money for this kind of goods.

Nevertheless, if on the one hand it could be dangerous for managers to price green products as less expensive than their counterparts, leading potential status driven consumers to lose interest in the product, on the other, by pricing them with temporary and clearly well-defined promotions, it appears to be a common ground in which it is possible to equally attract two groups of consumers (those who are status driven and those who are not motivated to attain status and are mostly price sensitive). These findings have interesting managerial consequences that should not be disregarded since, by pricing green products with temporary promotions, managers are able to capture a bigger portion of consumers during the promotional period, without losing status driven consumers out of those periods, given that these continue to be attracted to the product when this is available for a more expensive price.

However, there are important considerations and caveats managers should always keep in mind in order to properly price green products without losing clients.

First of all, as Lattin and Buckin (1989) suggested, prior purchases, either on or off promotion, are a significant indicator of future brand choice behavior. For that reason, promotions can either benefit or harm the longer-term brand preference, depending on the experience the consumer has with the product bought. Therefore, understanding the effect of promotions' characteristics on post-promotion brand or product preference allows managers to minimize risk, by selecting the most suitable type of promotion (e.g., coupon, premium) and the best value to offer, for instance less 20% of the original price (as it was used in the present study) (DelVecchio, Henard, & Freling, 2006).

Secondly, it is true that price promotions are useful to help consumers deciding which product to buy when two goods are equally attractive to them (Alvarez & Casielles, 2005). Yet, in the

last instance, promotions can be responsible for consumers' higher price sensitivity (Mela, Gupta, & Lehmann, 1997) and when misused can lead to dangerous consequences, as it will be explained next. Consumers commonly form a reference price for each product or brand they come across with. Hence, when consumers face a moment in which a decision is needed, they compare the product's price with the reference price they have previously established. Out of the latter comparison, potential losses (when the reference price is lower than actual price) and potential gains (when the reference price is higher than actual price) arise as decision facilitators. Thus, losses make it less likely for the consumer to choose the product, as they feel that the good is not worth the price being charged, whereas gains increase the probability of the consumer opting for it, as they look at the investment as a good deal (Alvarez & Casielles, 2005).

As a consequence, managers need to keep in mind that too many price promotions can be risky and have an adverse result on choice behaviour, precisely due to how they affect consumers' reference price. Although it is undeniable that promotions increase individuals' response and make products temporarily more attractive, a consumer that is systematically exposed discounts may become used to find his or her favourite products available on promotion. As a result, the consumer may drastically decrease his/her consumption levels of those products during off promotion periods and stockpile them in promotional periods. Ultimately, these consumers' response may be so impactful that brands are not able to properly sell their products when they are not available with promotional prices (Lattin & Bucklin, 1989).

REFERENCES

Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin, 84*(5), 888-919.

Alvarez, B. A., & Casielles, R. V. (2005). Consumer evaluations of sales promotion: the effect on brand choice. *European Journal of Marketing, 39*, 54–70.

Arce-Urriza, M., Cebollada, J., & Tarira, M. F. (2016). The effect of price promotions on consumer shopping behavior across online and offline channels: differences between frequent and non-frequent shoppers. *Information Systems and e-Business Management,, 15*(1), 69-87.

Aronson, E. (1999). *The social animal.* New York: Worth.

Auger, P., & Devinney, T. M. (2007). Do What Consumers Say Matter? The Misalignment of Preferences with Unconstrained Ethical Intentions. *Journal of Business Ethics, 76*(4), 361–383.

Balderjahn, I. (1988). Personality variables and environmental attitudes as predictors of ecologically responsible consumption patterns. *Journal of Business Research, 17*(1), 51–56.

Bamberg, S. (2003). How does environmental concern influence specific environmentally related behaviors? A new answer to an old question. *Journal of Environmental Psychology, 23*, 21–32.

Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes, 50*(2), 248–287.

Barclay, P. (2004). Trustworthiness and competitive altruism can also solve the "tragedy of the commons". *Evolution and Human Behavior, 25*, 209–220.

Barclay, P., & Willer, R. (2007). Partner choice creates competitive altruism in humans. *Proceedings of the Royal Society B: Biological, 274*(1610), 749-753.

Belk, R., Devinney, T., & Eckhardt, G. (2005). Consumer Ethics Across Cultures. *Consumption Markets & Culture, 8*(8), 275–289.

Bernheim, D. B. (1994). A theory of conformity. *Journal of Political Economy, 102*(5), 841-877.

Bodner, R., & Prelec, D. (2003). *The Psychology of Economic Decisions* (Vol. 1). Oxford: Oxford University Press.

Boone, J. L. (1998). The evolution of magnanimity: when is it better to give than to receive? *Hum Nat, 9*, 1–21.

Briggs, S., Kennel, C. F., & Victor, D. G. (2015). Planetary vital signs. *Nature Climate Change, 5*(11), 969-970.

Brough, A. R., Wilkie, J. E., Ma, J., Isaac, M. S., & Gal, D. (2016). Is Eco-Friendly Unmanly? The Green-Feminine Stereotype and Its Effect on Sustainable Consumption. *Journal of Consumer Research, 43*(4), 567–582.

Busse, M., & Siebert, R. (2017). The role of consumers in food innovation processes. *European Journal of Innovation Management, 21*(1), 20-43.

Butler, R. A. (2018, April 4). *Calculating Deforestation Figures for the Amazon*. Retrieved from Mongabay: https://rainforests.mongabay.com/amazon/deforestation_calculations.html

Carrigan, M., & Attalla, A. (2001). The myth of the ethical consumer: Do ethics matter in purchase behaviour? *Journal of Consumer Marketing, 18*(7), 560-577.

Carrington, M., Neville, B., & Whitwell, G. (2010). Why ethical consumers don't walk their talk: Towards a framework for understanding the gap between the ethical purchase intentions and actual buying behaviour of ethically minded consumers. *Journal of Business Ethics, 97*(1), 139–158.

Chan, R. Y. (2001). Determinants of Chinese consumers' green purchase behavior. *Psychology & Marketing, 18*(4), 389–413.

Chandon, P., Wansink, B., & Laurent, G. (2000). A Benefit Congruency Framework of Sales Promotion Effectiveness. *Journal of Marketing, 64*(4), 65-82.

Chapin, F. S., Zavaleta, E. S., Eviner, V. T., Naylor, R. L., Vitousek, P. M., Reynolds, H. L., . . . Díaz, S. (2000). Consequences of changing biodiversity. *Nature, 405*, 234–242.

Chatzidakis, A., Hibbert, S., Mittusis, D., & Smith, A. (2004). Virtue in Consumption? *Journal of Marketing Management, 20*(5), 526-543.

Chekima, B. (2016). Consumer Values and Green Products Consumption in Malaysia: A Structural Equation Modelling Approach. (pp. 383-408). Hershey, PA: IGI . In A. Gbadamosi (Ed.), *Handbook of Research on Consumerism and Buying Behavior in Developing Nations* (pp. 383-408). Hershey: IGI Global.

Cleveland, M., Kalamas, M., & Laroche, M. (2005). Shades of green: linking environmental locus of control and pro-environmental behaviors. *Journal of Consumer Marketing, 22*(4), 198-212.

Cone, J. D., & Hayes, S. C. (1980). *Environmental problems/behavioral solutions.* Monterey: Brooks/Cole.

Cooper, R. (1979). The dimensions of industrial new product success and failure. *Journal of Marketing, 43*, 93-103.

Cottrell, C. A., Neuberg, S. L., & Li, N. P. (2007). What Do People Desire in Others? A Sociofunctional Perspective on the Importance of Different Valued Characteristics. *Journal of Personality and Social Psychology, 92*(2), 208–231.

Dawes, R. M., & H. Thaler, R. (1988). Anomalies: Cooperation. *Journal of Economic Perspective, 2*(3), 187-197.

Deaux, K. (1993). Reconstructing Social Identity. *Personality and Social Psychology Bulletin, 19*(1), 4-12.

DelVecchio, D., Henard, D. H., & Freling, T. H. (2006). The effect of sales promotion on post-promotion brand preference: A meta-analysis. *Journal of Retailing, 82*(3), 203–213.

Dietz, T., Ostrom, E., & Stern, P. C. (2003). The struggle to govern the commons. *Science, 302*, 1907–1912.

Dunning, D. (2007). Self-Image Motives and Consumer Behavior: How Sacrosanct Self-Beliefs Sway Preferences in the Marketplace. *Journal of Consumer Psychology, 17*(4), 237–249.

Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes.* Harcourt Brace Jovanovich College Publishers.

Eckhardt, G. M., Belk, R., & Devinney, T. M. (2010). Why don't consumers consume ethically? *Journal of Consumer Behaviour, 9*(6), 426–436.

European Environment Agency. (2016, September 1). *Household consumption*. Retrieved from European Environment Agency: https://www.eea.europa.eu/themes/households/intro

Fabres, J., Savelli, H., Schoolmeester, T., Rucevska, I., & Baker, E. (2016). Marine Litter Vital Graphics. *United Nations Environment Programme; GRID-Arendal*.

Farrelly, D., Clemson, P., & Guthrie, M. (2016). Are Women's Mate Preferences for Altruism Also Influenced by Physical Attractiveness? *Evolutionary Psychology, 14*, 1-6.

Feinberg, M., Willer, R., & Schultz, M. (2014). Gossip and Ostracism Promote Cooperation in Groups. *Psychological Science, 25*(3), 656–664.

Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention and Behaviour: An Introduction to Theory and Research.* Boston: Addison-Wesley Publishing Co.

Flynn, F. J. (2003). How Much Should I Give and How Often? The Effects of Generosity and Frequency of Favor Exchange on Social Status and Productivity. *Academy of Management Journal, 46*(5).

Fransson, N., & Gärling, T. (1999). Environmental concern: Conceptual definitions, measurement methods, and research findings. *Journal of Environmental Psychology, 19*, 397–408.

Frick, J., Kaiser, F. G., & Wilson, M. (2004). Environmental knowledge and conservation behavior: exploring prevalence and structure in a representative sample. *Personality and Individual Differences, 37*(8), 1597–1613.

Fujii, E. T., Hennesy, M., & Mak, J. (1985). An evaluation of the validity and reliability of survey response data on household electricity conservation. *Evaluation Review, 9*, 93–104.

Geller, E. S. (1989). Applied Behavior Analysis and Social Marketing: An Integration for Environmental Preservation. *Journal of Social Issues, 45*(1), 17–36.

Gleim, M. R., Smith, J. S., Andrews, D., & Cronin, J. J. (2013). Against the Green: A Multi-method Examination of the Barriers to. *Journal of Retailing, 89*(1), 44-61.

Griskevicius, V., Tybur, J. M., Gangestad, S. W., Perea, E. F., Shapiro, J. R., & Kenrick, D. T. (2009). Aggress to impress: Hostility as an evolved context-dependent strategy. *Journal of Personality and Social Psychology, 95*(5), 980–994.

Griskevicius, V., Tybur, J. M., Sundie, J. M., Cialdini, R. B., Miller, G. F., & Kenrick, D. T. (2007). Blatant benevolence and conspicuous consumption: When romantic motives elicit strategic costly signals. *Journal of Personality and Social Psychology, 93*(1), 85-102.

Griskevicius, V., Tybur, J., & Van den Bergh, B. (2010). Going Green to Be Seen: Status, Reputation, and Conspicuous Conservation. *Journal of Personality and Social Psychology, 98*(3), 392-404.

Gupta, S. (1988). Impact of Sales Promotions on when, what, and how Much to Buy. *Journal of Marketing Research, 25*(4), 342–355.

Gupta, S., & Ogden, D. T. (2009). To buy or not to buy? A social dilemma perspective on green buying. *Journal of Consumer Marketing, 26*(6), 376-391.

Hall, C., Lindenberger, D., Kümmel, R., Kroeger, T., & Eichhorn, W. (2001). The need to reintegrate the natural sciences with economics. *BioScience, 51*(8), 663–673.

Hardy, C. L., & Van Vugt, M. (2006). Nice Guys Finish First: The Competitive Altruism Hypothesis. *Personality and Social Psychology Bulletin, 32*(10), 1402–1413.

Henrich, J., & Gil-White, F. J. (2001). The evolution of prestige. Freely conferred deference as a mechanism for enhancing the benefits of cultural transmission. *Evolution and Human Behavior, 22*, 165-196.

Henriques, S. (2019, Novembro 5). Emergência climática: Cientistas mundiais alertam para "sofrimento incalculável". *Diário de Notícias*. Retrieved from Diário de Notícias: https://www.dn.pt/vida-e-futuro/emergencia-climatica-cientistas-mundiais-alertam-para-sofrimento-incalculavel-11481414.html

Hogg, M., & Vaughan, G. (2005). *Social Psychology.* London: Prentice-Hall.

Hong-Youl, H., & Perks, H. (2005). Effects of consumer perceptions of brand experience on the web: brand familiarity, satisfaction and brand trust. *Journal of Consumer Behaviour, 4*(6), 438–452.

Howell, J. R., Lee, S., & Allenby, G. M. (2016). Price Promotions in Choice Models. *Marketing Science, 35*(2), 319–334.

Iredale, W., Van Vugt, M., & Dunbar, R. (2008). Showing off in humans: Male generosity as a mating signal. *Evolutionary Psychology*, 386–392.

Jaccard, J. (1981). Atttudes and behavior: Implications of attitudes toward behavioral alternatives. *Journal of Experimental Social Psychology, 17*(3), 286–307.

Johnstone, M.-L., & Tan, L. P. (2014). Exploring the Gap Between Consumers' Green Rhetoric and Purchasing Behaviour. *Journal of Business Ethics, 132*(2), 311–328.

Kahle, L. R., & Gurel-Atay, E. (2014). *Communicating Sustainability for the Green Economy.* New York: M.E. Sharpe.

Keltner, D., Gruenfeld, D. H., & Anderson, C. (2003). Power, approach, and inhibition. *Psychological Review*, 265-284.

Kollmuss, A., & Agyeman, J. (2002). Mind the Gap: Why Do People Act Environmentally and What Are the Barriers to Pro-Environmental Behavior? *Environmental Education Research, 8*(3), 239-260.

Kollock, P. (1998). Social Dilemmas: The Anatomy of Cooperation. *Annual Review of Sociology, 24*, 183-214.

Kotler, P. (2011). Reinventing Marketing to Manage the Environmental Imperative. *Journal of Marketing, 75*(4), 132–135.

Lattin, J. M., & Bucklin, R. E. (1989). Reference Effects of Price and Promotion on Brand Choice Behavior. *Journal of Marketing Research, 26*(3), 299–310.

León-Fernández, Y., Gomera, A., Antúnez, M., Martínez-Escrich, B., Villamandos, F., & Vaquero, M. (2018). Enhancing environmental management in universities through participation: the case of the University of Cordoba. *Journal of Cleaner Production, 172*, 4328-4337.

Luchs, M. G., Naylor, R. W., Irwin, J. R., & Raghunathan, R. (2010). The Sustainability Liability: Potential Negative Effects of Ethicality on Product Preference. *Journal of Marketing, 74*(5), 18–31.

Magone, J. M. (2011). The Difficult Transformation of State and Public Administration in Portugal. Europeanization and the Persistence of Neo-Patrimonialism. *Public Administration, 89*(3), 756–782.

Magone, J. M. (2014). Portugal Is Not Greece: Policy Responses to the Sovereign Debt Crisis and the Consequences for the Portuguese Political Economy. *Perspectives on European Politics and Society, 15*(3), 346-360.

Marmot, M. (2004). *Status syndrome: How social standing affects our health and longevity.* London: Bloomsbury.

McCarty, J. A., & Shrum, L. (2001). The influence of individualism, collectivisim, and locus of control on environmental beliefs and behavior. *Journal of Public Policy & Marketing, 20*(1), 93-104.

Mela, C. F., Gupta, S., & Lehmann, D. R. (1997). The Long-Term Impact of Promotion and Advertising on Consumer Brand Choice. *Journal of Marketing Research, 34*, 248-261.

Milinski, M., Semmann, D., & Krambeck, H. (2002). Donors to charity gain in both indirect reciprocity and political reputation. *Proceedings of the Royal Society B: Biological Sciences*(269), 881–883.

Moser, A. K. (2015). Thinking green, buying green? Drivers of pro-environmental purchasing behavior. *Journal of Consumer Marketing, 32*(3), 167-175.

Nielson. (2019, March 27). *3,5 Mil Milhoões de Euros na "Selva Promocional" dos Bens de Grande Consumo*. Retrieved from Nielson: https://www.nielsen.com/pt/pt/insights/article/2019/3-point-5-billion-euros-in-promotional-jungle-of-consumer-goods/

Ottman, J. (1998). *Green Marketing: Opportunity for Innovation.* New York: Mcgraw Hill.

Pickett-Baker, J., & Ozaki, R. (2008). Pro-environmental products: marketing. *Journal of Consumer Marketing, 25*(5), 281-293.

Plous, S. (1993). *McGraw-Hill series in social psychology. The psychology of judgment and decision making.* New York: Mcgraw-Hill Book Company.

Price, M. E. (2003). Pro-community altruism and social status in a Shuar village. *Human Nature, 14*(2), 191-208.

Pyszczynski, T., Greenberg, J., Solomon, S., Arndt, J., & Schimel, J. (2004). Why Do People Need Self-Esteem? A Theoretical and Empirical Review. *Psychological Bulletin, 130*(3), 435–468.

Ripple, W. J., Wolf, C., Newsome, T. M., Barnard, P., & Moomaw, W. R. (2019). World Scientists' Warning of a Climate Emergency. *BioScience*.

Ritchie, H., & Roser, M. (2017, May). *CO_2 and Greenhouse Gas Emissions*. Retrieved from Our World in Data: https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions

Roberts, J. A. (1996). Green consumers in the 1990s: Profile and implications for advertising. *Journal of Business Research, 36*(3), 217-231.

Sanderson, E. W., Jaiteh, M., Levy, M. A., Redford, K. H., Wannebo, A. V., & Woolmer, G. (2002). The Human Footprint and the Last of the Wild. *BioScience, 52*(10), 891-904.

Schlegelmilch, B. B., Bohlen, G. M., & Diamantopoulos, A. (1996). The link between green purchasing decisions and measures of environmental consciousness. *European Journal of Marketing, 30*(5), 35-55.

Shaw, D., & Shiu, E. (2002). An assessment of ethical obligation and self-identity in ethical consumer decision-making: A structural equation modelling approach. *International Journal of Consumer Studies, 26*(4), 286-293.

Shrum, L., McCarty, J. A., & Lowrey, T. M. (1995). Buyer characteristics of the green consumer and their implications for advertising strategy. *Journal of Advertising, 14*(2), 71-82.

Smith, E. A., & Bleige Bird, R. L. (2000). Turtle hunting and tombstone opening: Public generosity as costly signaling. *Evolution and Human Behavior, 21*, 245-261.

Steg, L., & Vlek, C. (2009). Encouraging pro-environmental behaviour: An integrative review and research agenda. *Journal of Environmental Psychology, 9*, 309–317.

Stern, P. C., & Dietz, T. (1994). The value basis of environmental concern. *Journal of Social Issues, 50*, 65-84.

System, Global Climate Observing. (2016). The global observing system for climate: implementation needs. *World Meteorological Organization*.

Tanner, C., & Kast, S. W. (2003). Promoting Sustainable Consumption: Determinants of Green Purchases by Swiss Consumers. *Psychology & Marketing, 20*(10), 883–902.

Tripathi, A., & Pandey, N. (2018). Does impact of price endings differ for the non-green and green products? Role of product categories and price levels. *Journal of Consumer Marketing, 35*(2), 143–156.

Twenge, J. M., Baumeister, R. F., DeWall, C. N., Ciarocco, N. J., & Bartels, J. M. (2007). Social Exclusion Decreases Prosocial Behavior. *Journal of Personality and Social Psychology, 92*(1), 56-66.

Ulrich, P., & Sarasin, C. (1995). *Facing Public Interest: The Ethical Challenge to Business Policy and Corporate Communications.* Dordrecht: Kluwer.

United Nations Environment Programme. (2001). *UNEP Annual Report.*

Urde, M. (1994). Brand Orientation – A Strategy for Survival. *Journal of Consumer Marketing, 11*(3), 18-32.

Van Vugt, M. (2001). Community Identification Moderating the Impact of Financial Incentives in a Natural Social Dilemma: Water Conservation. *Personality and Social Psychology Bulletin, 27*(11), 1440–1449.

Van Vugt, M. (2009). Averting the tragedy of the commons: Using social psychological science to protect the environment. *Current Directions in Psychological Science, 18*(3), 169-173.

Van Vugt, M., & Hardy, C. L. (2009). Cooperation for reputation: Wasteful contributions as costly signals in public goods. *Group Processes & Intergroup Relations, 13*(1), 101–111.

Van Vugt, M., & Roberts, G. (2007). Competitive Altruism: Development of Reputation-based Cooperation in Groups. In D. R., & L. Barrett, *Handbook of evolutionary psychology* (pp. 531–540). Oxford: Oxford University Press.

Wang, W., Krishna, A., & McFerran, B. (2017). Turning Off the Lights: Consumers' Environmental Efforts Depend on Visible Efforts of Firms. *Journal of Marketing Research,, 54*(3), 478-494.

Warriner, G. K., McDougall, G. H., & Claxton, J. D. (1984). Any Data or None at All? *Environment and Behavior, 16*(4), 503–526.

Wilson, E. O. (2007). *The Creation: An Appeal to Save Life on Earth.* New York: Norton.

WWF. (2014). *Living Planet Report 2014.* Gland: WWF International. Retrieved from https://www.wwf.or.jp/activities/data/WWF_LPR_2014.pdf

Yuan, M., Wu, J., & Yu, K. (2018). Donors' Social Class and Their Prosocial Reputation. *Social Psychology, 49*(4), 205–218.

Zahavi, A., & Zahavi, A. (1997). *The handicap principle: A missing piece of Darwin's puzzle.* Oxford: Oxford University Press.

APPENDICES

Appendix 1 - Control Story

It's Friday afternoon, after a long week of work. You've been looking forward to this weekend for quite a while because tonight you and one of your friends are going to a sold-out concert. Both of you have been looking forward to this show for a long time and your friend has been talking about the it every day for weeks now, so you know she's excited.

Just so you don't forget later, you decide to get the tickets from your drawer. As you open it, you realise they're not there. You stop to take a breath and tell yourself to calm down. You start searching through other drawers, but no tickets. Now you start getting worried. What if you lost the tickets? What's your friend going to think?

You keep on rushing through the house to find the tickets: backpack, pockets, closet, wallets... You're feeling upset at this point. You try to retrace your steps and you clearly remember putting them in the drawer, so you search again. No, no tickets in the drawer!

In an act of despair, you start looking everyplace you could think of: kitchen, countertops and even the garbage can... You have no idea why the tickets would be there, but you need to look somewhere. In 15 minutes, your kitchen looks catastrophic. But still no tickets! What if they fell out somewhere?

Your thoughts are interrupted by a knock on the door... Your friend is early! She's eager to get going and will be crushed. As you open the door, ready for the worst, she yells:

- Are you ready? - and pulls out the 2 tickets from her back pocket.

Your eyes get wide. Your friend has the tickets! She's had them the whole time. You think back and remember that she took them the other day, so you wouldn't forget them. After all the stress, you begin to laugh. You and your friend will get to go to the show after all. As you try to forget what happened, you're even more thrilled about the concert than before. It looks like you just found the winning lottery ticket. You can appreciate going to the concert even more now, knowing that you were very close to not going at all.

Appendix 2 - Status Story

Imagine you recently applied to a job position for a well-known and powerful company. Besides paying well, this job offers you the greatest chance of moving up (assuming you continue to prove your worth)

As you enter the parking lot on your first day, you immediately see expensive new cars. Impressed, you think about the kind of car you wish to have and should get now that you've a new and well-paid job… Entering the lobby, you're impressed by how upscale everything looks. You're thrilled to be working at such a prestigious company and you feel this is exactly the kind of job you deserve.

In only 5 minutes, you'll meet your new boss, so you enter a room and wait together with 2 other people. They're about the same age as you and are dressed in brand new business suits. Each one briefly looks at you and smiles slightly. You realize they look a little nervous, so these are probably your new colleagues. Looking at their facial expressions and body posture, you feel a sense of competition in the air, so although you're are excited to meet them, you realize this job isn't a game.

Your new boss finally appears and greets everyone:

- You're all very fortunate to be here, you were chosen out of thousands of applicants! - Hearing that sends a rush of pride through your body - In the next few months, you'll work both independently and together, so you'll get to know each other pretty well.

As the atmosphere relaxes a little, everyone smiles. The boss continues:

- YET, after 6 months, one of you will be fired… - a shiver goes down your spine. You're trying to suppress any look of concern and remind yourself that you deserve a spot at the top, so you sit up straighter and show your confident expression. – Contrariwise, the person who does the best not only will get a promotion, but also a large bonus and the chance of a fast track to the top. You have 6 months to show everyone what you're made of.

You know there will come a day in 6 months when your boss will again call all three of you into the office. Feeling your heart beating faster, you're both anxious and excited. The boss points at each of you in turn:

- Now go out there and show us what you've got!

A rush of adrenaline pumps through your body. Seeing your two colleagues in the background, you walk out of the office with hopes of achieving something that few people will ever do…

Appendix 3 and 4 - Survey Flow and Structure

Appendix 3 – Survey Flow

- Standard: Motivation (4 Questions)
- Standard: Preferences Intro (1 Question)
- BlockRandomizer: 6 -
  - Block: Dishwasher Preference (3 Questions)
  - Block: Toothbrush Preference (3 Questions)
  - Block: Detergent Preference (3 Questions)
- Standard: Extra Questions (4 Questions)
- Standard: Manipulation Check (1 Question)
- Standard: Demographics (5 Questions)

Appendix 4 - Survey Structure

Start of Block: Motivation

Q1

The first part of this study intends to evaluate your memory. To do that, you will be presented a story.
Please **read it carefully.** Try to **imagine yourself as the protagonist of this episode** and **feel the emotions and feelings** that the person is experiencing.

Page Break

Q2

"It's Friday afternoon, after a long week of work. You've been looking forward to this weekend for quite a while because tonight you and one of your friends are going to a sold-out concert. Both of you have been looking forward to this show for a long time and your friend has been talking about it every day for weeks now, so you know she's excited.

Just so you don't forget later, you decide to get the tickets from your drawer. As you open it, you realize they're not there. You stop to take a breath and tell yourself to calm down. You start searching through other drawers, but no tickets. Now you start getting worried. What if you lost the tickets? What's your friend going to think?

You keep on rushing through the house to find the tickets: backpack, pockets, closet, wallets... You're feeling upset at this point. You try to retrace your steps and you clearly remember putting them in the drawer, so you search again. No, no tickets in the drawer!

In an act of despair, you start looking everyplace you could think of: kitchen, countertops and even the garbage can... You have no idea why the tickets would be there, but you need to look somewhere. In 15 minutes, your kitchen looks catastrophic. But still no tickets! What if they fell out somewhere?

Your thoughts are interrupted by a knock on the door... Your friend is early! She's eager to get going and will be crushed. As you open the door, ready for the worst, she yells:

- Are you ready? - and pulls out the 2 tickets from her back pocket.

Your eyes get wide. Your friend has the tickets! She's had them the whole time. You think back and remember that she took them the other day, so you wouldn't forget them. After all the stress, you begin to laugh. You and your friend will get to go to the show after all. As you try to forget what happened, you're even more thrilled about the concert than before. It looks like you just found the winning lottery ticket. You can appreciate going to the concert even more now, knowing that you were very close to not going at all."

Q3 Timing

Page Break

Q4

Please **briefly describe in a sentence what you felt** while reading the story

_____

End of Block: Motivation

Start of Block: Preferences Intro

Q5

For the next part of the study, we will ask you **6 brief questions** regarding **product preferences.**
Imagine you are **home alone**, looking for different product categories **online**:

End of Block: Preferences Intro

Start of Block: Dishwasher Preference

Q6

Product A: Sub-Zero ED40 Elite Dishwasher (790€)

- Comes in choice of stainless steel or white exterior with black chrome trim;
- Features a revolutionary heated drying system that eliminates water spots;
- Has powerful water sprays but produces no sound.

Q7

Product B: Sub-Zero Eco-Trend Dishwasher (990€)

- Has a standard 40-minute running cycle;
- Uses a recirculating water system to save water;
- Is made with recycled components.

Q8 Which of these two products is **more attractive** to you?

- ○ Definitely product A 1 (1)
- ○ 2 (2)
- ○ 3 (3)
- ○ 4 (4)
- ○ 5 (5)
- ○ 6 (6)
- ○ 7 (7)
- ○ 8 (8)
- ○ Definitely product B 9 (9)

End of Block: Dishwasher Preference

Start of Block: Toothbrush Preference

Q9

Product A: Colgate Slim Soft Charcoal (3,75€)

- 0.01mm thick charcoal filaments for a proper gums cleaning;
- Reaches hard-to-reach places of the mouth;
- Plastic handle with comfortable rubber areas for a comfortable usage.

Q10

Product B: Colgate Bamboo (3€)

- Natural and sustainable bamboo handle (FSC Certified);
- Charcoal-infused bristles with thin ends;
- Comes in a recyclable paper packaging.

Q11

Which of these two products is **more attractive** to you?

- ○ Definitely product A 1 (1)
- ○ 2 (2)
- ○ 3 (3)
- ○ 4 (4)
- ○ 5 (5)
- ○ 6 (6)
- ○ 7 (7)
- ○ 8 (8)
- ○ Definitely product B 9 (9)

End of Block: Toothbrush Preference

Start of Block: Detergent Preference

Q12

Product A: Lysol Industrial Strength Household Cleaner (7,5€)

- Awarded most effective cleaner on the market award;
- Chemically engineered to cut through the toughest grease, rust, and mold;
- Kills 99.9% of germs;

Q13

Product B: Lysol Natural Household Cleaner (before: 7,5€ ; temporarily in promotion: 6€)

- Made from biodegradable nontoxic materials;
- Contains no acids, dyes, or harsh chemicals;
- Not tested on animals.

Q14

Which of these two products is **more attractive** to you?

- ○ Definitely product A 1 (1)
- ○ 2 (2)
- ○ 3 (3)
- ○ 4 (4)
- ○ 5 (5)
- ○ 6 (6)
- ○ 7 (7)
- ○ 8 (8)
- ○ Definitely product B 9 (9)

End of Block: Detergent Preference

Start of Block: Extra Questions

Q15

Please answer to this **general questions** for a complementary study:

Q16

What is your political **orientation?**

- ○ Liberal/Left 1 (1)
- ○ 2 (2)
- ○ 3 (3)
- ○ 4 (4)
- ○ 5 (5)
- ○ 6 (6)
- ○ 7 (7)
- ○ 8 (8)
- ○ Conservative/Right 9 (9)

Q17 - Please rate your **agreement** with the following statements.

	Do not agree at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	Totally Agree 9 (9)
People who buy sustainable products are ethical (1)	○	○	○	○	○	○	○	○	○
People who buy sustainable products have high economic power (2)	○	○	○	○	○	○	○	○	○
People who buy sustainable products have high social value (3)	○	○	○	○	○	○	○	○	○
People who buy sustainable products are smart shoppers (4)	○	○	○	○	○	○	○	○	○
People with high social status have more power (5)	○	○	○	○	○	○	○	○	○

Q18 - Please answer the following questions:

	Not at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	Very much 9 (9)
How important do you think it is to have social status? (1)	○	○	○	○	○	○	○	○	○
To what extent do you care about your social status? (2)	○	○	○	○	○	○	○	○	○

End of Block: Extra Questions

Start of Block: Manipulation Check

Q19

Please recall the story you read in the beginning of the study to answer these **2 questions**:

	Not at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	Very much 9 (9)
To what extent did you desire to have higher social status? (1)	○	○	○	○	○	○	○	○	○
To what extent were you motivated to have higher prestige? (2)	○	○	○	○	○	○	○	○	○

End of Block: Manipulation Check

Start of Block: Demographics

Q20

This last section is about your **demographic characteristics**. Please remember that **all your answers are anonymous**.

Q21

Please indicate your gender:

- ○ Male (1)
- ○ Female (2)
- ○ Other (3)

Q22

Please write your age here: _____

Q23

What is the highest degree or level of school you have completed?
(If currently enrolled, highest degree received)

- ○ No schooling completed (1)
- ○ Basic Education (1st cycle) (2)
- ○ Basic Education (2nd cycle) (3)
- ○ Basic Education (3rd cycle) (4)
- ○ High School (5)
- ○ Post-secondary Courses (Non-higher Technological Specialization Courses) (6)
- ○ Professional Higher Technical Course (7)
- ○ Bachelor's degree (Pre Bologna) (8)
- ○ Bachelor's degree (9)
- ○ Master's degree (10)
- ○ Doctorate degree (11)

Q24

Please indicate your household montly income:

- ○ Less than 600€ (1)
- ○ 601€ - 1.000€ (2)
- ○ 1.001€ - 2.000€ (3)
- ○ 2.001€ - 3.000€ (4)
- ○ 3.001€ - 4.000€ (5)
- ○ More than 4.001€ (6)

End of Block: Demographics

Appendices 5 - SPSS Outputs

Status Manipulation Check – Independent Sample T-test

Group Statistics

	Status_Dummy	N	Mean	Std. Deviation	Std. Error Mean
To what extent did you desire to have higher social status?	0	121	3.32	2.332	.212
	1	112	4.76	2.702	.255
To what extent were you motivated to have higher prestige?	0	121	3.69	2.546	.231
	1	112	5.56	2.532	.239

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the ...	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
To what extent did you desire to have higher social status?	Equal variances assumed	5.212	.023	-4.354	231	.000	-1.437	.330	-2.087	-.786
	Equal variances not assumed			-4.329	220.047	.000	-1.437	.332	-2.091	-.783
To what extent were you motivated to have higher prestige?	Equal variances assumed	.199	.656	-5.612	231	.000	-1.868	.333	-2.524	-1.212
	Equal variances not assumed			-5.613	229.802	.000	-1.868	.333	-2.524	-1.212

Product Manipulation Check – ANOVA 2 (motive: control, status) x 6 (dishwasher, toothbrush and household cleaner) with repeated measures on the last factor:

Within-Subjects Factors

Measure: MEASURE_1

Product_Type	Dependent Variable
1	Q8_Dishwasher_Atractiveness
2	Q19_Toothbrush_Atractiveness
3	Q23_HouseholdCleaner_Atractiveness

Descriptive Statistics

	Status_Dummy	Mean	Std. Deviation	N
Q8_Dishwasher_Atractiveness	0	6.40	2.821	121
	1	6.54	2.831	112
	Total	6.47	2.821	233
Q19_Toothbrush_Atractiveness	0	6.55	2.674	121
	1	7.00	2.442	112
	Total	6.76	2.570	233
Q23_HouseholdCleaner_Atractiveness	0	6.51	2.846	121
	1	6.86	2.578	112
	Total	6.68	2.720	233

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
Product_Type	Sphericity Assumed	11.257	2	5.629	.879	.416	.004	1.757	.201
	Greenhouse-Geisser	11.257	1.933	5.824	.879	.413	.004	1.698	.198
	Huynh-Feldt	11.257	1.957	5.752	.879	.414	.004	1.720	.200
	Lower-bound	11.257	1.000	11.257	.879	.350	.004	.879	.154
Product_Type * Status_Dummy	Sphericity Assumed	3.154	2	1.577	.246	.782	.001	.492	.089
	Greenhouse-Geisser	3.154	1.933	1.632	.246	.774	.001	.476	.088
	Huynh-Feldt	3.154	1.957	1.612	.246	.777	.001	.482	.088
	Lower-bound	3.154	1.000	3.154	.246	.620	.001	.246	.078
Error(Product_Type)	Sphericity Assumed	2959.361	462	6.406					
	Greenhouse-Geisser	2959.361	446.460	6.629					
	Huynh-Feldt	2959.361	452.108	6.546					
	Lower-bound	2959.361	231.000	12.811					

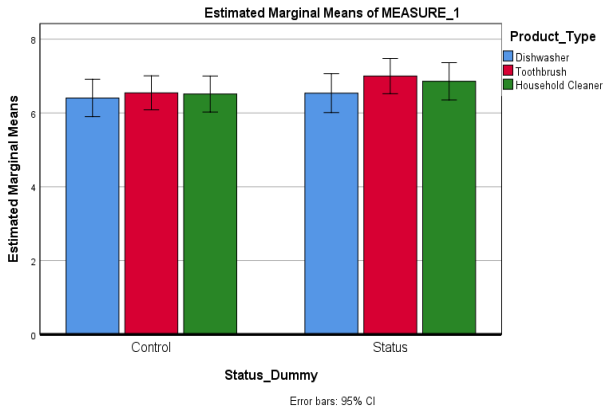
a. Computed using alpha = .05

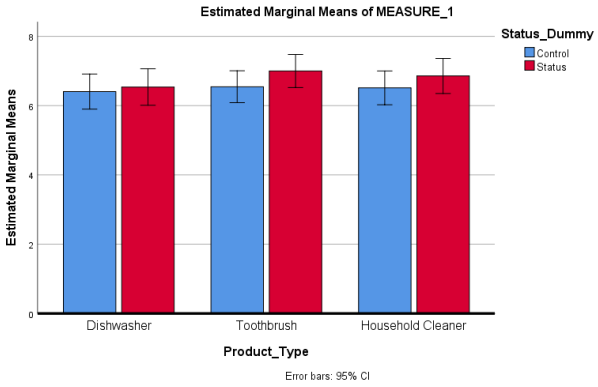
Tests of Between-Subjects Effects

Measure: MEASURE_1
Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
Intercept	30796.856	1	30796.856	3362.676	.000	.936	3362.676	1.000
Status_Dummy	16.770	1	16.770	1.831	.177	.008	1.831	.271
Error	2115.599	231	9.158					

a. Computed using alpha = .05





ANOVA 2 (motive: control, status) x 3 (green product's price: more expensive, less expensive, temporarily less expensive) with repeated measures on the last factor:

Within-Subjects Factors

Measure: Green_Product_Preference

Green_Product_Price	Dependent Variable
1	Green_MoreExpensive_Average
2	Green_LessExpensive_Average
3	Green_TemporarilyLessExpensive_Average

Descriptive Statistics

	Status_ Dummy	Mean	Std. Deviation	N
Green_MoreExpensive_Average	0	5.4050	3.00992	121
	1	6.4732	2.66428	112
	Total	5.9185	2.89281	233
Green_LessExpensive_Average	0	6.7769	2.71259	121
	1	6.8214	2.65498	112
	Total	6.7983	2.67936	233
Green_TemporarilyLessExpensive_Average	0	7.2810	2.21443	121
	1	7.0982	2.52897	112
	Total	7.1931	2.36744	233

Tests of Within-Subjects Effects

Measure: Green_Product_Preference

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
Green_Product_Price	Sphericity Assumed	190.461	2	95.230	16.156	.000	.065	32.312	1.000
	Greenhouse-Geisser	190.461	1.962	97.073	16.156	.000	.065	31.699	1.000
	Huynh-Feldt	190.461	1.987	95.841	16.156	.000	.065	32.106	1.000
	Lower-bound	190.461	1.000	190.461	16.156	.000	.065	16.156	.979
Green_Product_Price * Status_Dummy	Sphericity Assumed	51.662	2	25.831	4.382	.013	.019	8.765	.756
	Greenhouse-Geisser	51.662	1.962	26.331	4.382	.014	.019	8.598	.750
	Huynh-Feldt	51.662	1.987	25.997	4.382	.013	.019	8.709	.754
	Lower-bound	51.662	1.000	51.662	4.382	.037	.019	4.382	.550
Error (Green_Product_Price)	Sphericity Assumed	2723.247	462	5.894					
	Greenhouse-Geisser	2723.247	453.232	6.009					
	Huynh-Feldt	2723.247	459.056	5.932					
	Lower-bound	2723.247	231.000	11.789					

a. Computed using alpha = .05

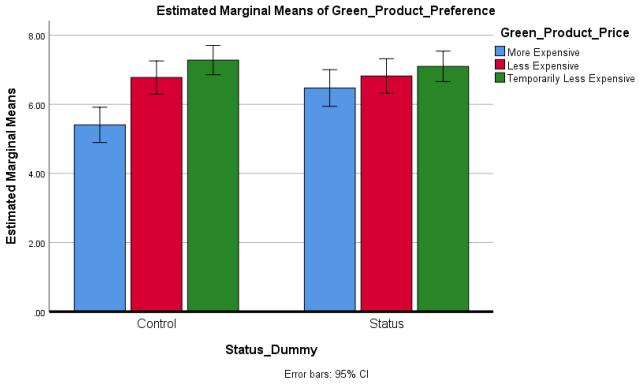
Tests of Between-Subjects Effects

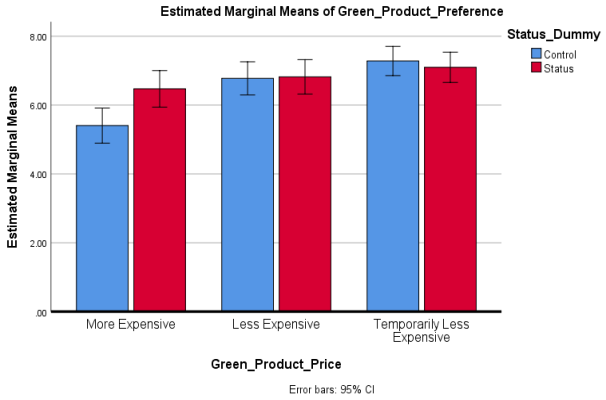
Measure: Green_Product_Preference

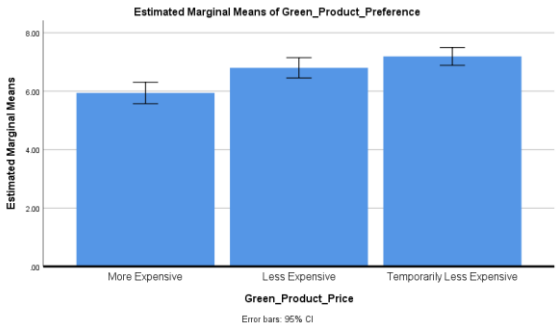
Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
Intercept	30796.856	1	30796.856	3362.676	.000	.936	3362.676	1.000
Status_Dummy	16.770	1	16.770	1.831	.177	.008	1.831	.271
Error	2115.599	231	9.158					

a. Computed using alpha = .05







ANOVA 2 (motive: control, status) x 2 (green product's price: more expensive, less expensive) with repeated measures on the last factor:

Within-Subjects Factors

Measure: Green_Product_Preference

Green_Product_Price	Dependent Variable
1	Green_MoreExpensive_Average
2	Green_LessExpensive_Average

Tests of Within-Subjects Effects

Measure: Green_Product_Preference

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
Green_Product_Price	Sphericity Assumed	86.046	1	86.046	14.149	.000	.058	14.149	.963
	Greenhouse-Geisser	86.046	1.000	86.046	14.149	.000	.058	14.149	.963
	Huynh-Feldt	86.046	1.000	86.046	14.149	.000	.058	14.149	.963
	Lower-bound	86.046	1.000	86.046	14.149	.000	.058	14.149	.963
Green_Product_Price * Status_Dummy	Sphericity Assumed	30.476	1	30.476	5.011	.026	.021	5.011	.606
	Greenhouse-Geisser	30.476	1.000	30.476	5.011	.026	.021	5.011	.606
	Huynh-Feldt	30.476	1.000	30.476	5.011	.026	.021	5.011	.606
	Lower-bound	30.476	1.000	30.476	5.011	.026	.021	5.011	.606
Error (Green_Product_Price)	Sphericity Assumed	1404.842	231	6.082					
	Greenhouse-Geisser	1404.842	231.000	6.082					
	Huynh-Feldt	1404.842	231.000	6.082					
	Lower-bound	1404.842	231.000	6.082					

a. Computed using alpha = .05

Tests of Between-Subjects Effects

Measure: Green_Product_Preference

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
Intercept	18875.379	1	18875.379	2041.644	.000	.898	2041.644	1.000
Status_Dummy	36.014	1	36.014	3.895	.050	.017	3.895	.502
Error	2135.638	231	9.245					

a. Computed using alpha = .05

ANOVA 2 (motive: control, status) x 2 (green product's price: more expensive, temporarily less expensive) with repeated measures on the last factor:

Within-Subjects Factors

Measure: Green_Product_Preference

Green_Product_Price	Dependent Variable
1	Green_MoreExpensive_Average
2	Green_TemporarilyLessExpensive_Average

Tests of Within-Subjects Effects

Measure: Green_Product_Preference

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
Green_Product_Price	Sphericity Assumed	181.910	1	181.910	28.020	.000	.108	28.020	1.000
	Greenhouse-Geisser	181.910	1.000	181.910	28.020	.000	.108	28.020	1.000
	Huynh-Feldt	181.910	1.000	181.910	28.020	.000	.108	28.020	1.000
	Lower-bound	181.910	1.000	181.910	28.020	.000	.108	28.020	1.000
Green_Product_Price * Status_Dummy	Sphericity Assumed	45.515	1	45.515	7.011	.009	.029	7.011	.751
	Greenhouse-Geisser	45.515	1.000	45.515	7.011	.009	.029	7.011	.751
	Huynh-Feldt	45.515	1.000	45.515	7.011	.009	.029	7.011	.751
	Lower-bound	45.515	1.000	45.515	7.011	.009	.029	7.011	.751
Error (Green_Product_Price)	Sphericity Assumed	1499.695	231	6.492					
	Greenhouse-Geisser	1499.695	231.000	6.492					
	Huynh-Feldt	1499.695	231.000	6.492					
	Lower-bound	1499.695	231.000	6.492					

a. Computed using alpha = .05

Tests of Between-Subjects Effects

Measure: Green_Product_Preference
Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
Intercept	20050.270	1	20050.270	2767.211	.000	.923	2767.211	1.000
Status_Dummy	22.802	1	22.802	3.147	.077	.013	3.147	.423
Error	1673.747	231	7.246					

a. Computed using alpha = .05

ANOVA 2 (motive: control, status) x 2 (green product's price: less expensive, temporarily less expensive) with repeated measures on the last factor:

Within-Subjects Factors

Measure: Green_Product_Preference

Green_Product_Price	Dependent Variable
1	Green_LessExpensive_Average
2	Green_TemporarilyLessExpensive_Average

Tests of Within-Subjects Effects

Measure: Green_Product_Preference

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
Green_Product_Price	Sphericity Assumed	17.735	1	17.735	3.471	.064	.015	3.471	.458
	Greenhouse-Geisser	17.735	1.000	17.735	3.471	.064	.015	3.471	.458
	Huynh-Feldt	17.735	1.000	17.735	3.471	.064	.015	3.471	.458
	Lower-bound	17.735	1.000	17.735	3.471	.064	.015	3.471	.458
Green_Product_Price * Status_Dummy	Sphericity Assumed	1.503	1	1.503	.294	.588	.001	.294	.084
	Greenhouse-Geisser	1.503	1.000	1.503	.294	.588	.001	.294	.084
	Huynh-Feldt	1.503	1.000	1.503	.294	.588	.001	.294	.084
	Lower-bound	1.503	1.000	1.503	.294	.588	.001	.294	.084
Error (Green_Product_Price)	Sphericity Assumed	1180.334	231	5.110					
	Greenhouse-Geisser	1180.334	231.000	5.110					
	Huynh-Feldt	1180.334	231.000	5.110					
	Lower-bound	1180.334	231.000	5.110					

a. Computed using alpha = .05

Tests of Between-Subjects Effects

Measure: Green_Product_Preference
Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
Intercept	22763.294	1	22763.294	2948.422	.000	.927	2948.422	1.000
Status_Dummy	.556	1	.556	.072	.789	.000	.072	.058
Error	1783.436	231	7.721					

a. Computed using alpha = .05

Independent Sample T-test

Group Statistics

	Status_Dummy	N	Mean	Std. Deviation	Std. Error Mean
Green_MoreExpensive_Average	0	121	5.4050	3.00992	.27363
	1	112	6.4732	2.66428	.25175
Green_LessExpensive_Average	0	121	6.7769	2.71259	.24660
	1	112	6.8214	2.65498	.25087
Green_TemporarilyLessExpensive_Average	0	121	7.2810	2.21443	.20131
	1	112	7.0982	2.52897	.23896

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Green_MoreExpensive_Average	Equal variances assumed	6.583	.011	-2.860	231	.005	-1.06826	.37358	-1.80431	-.33220
	Equal variances not assumed			-2.873	230.549	.004	-1.06826	.37182	-1.80086	-.33565
Green_LessExpensive_Average	Equal variances assumed	.006	.941	-.127	231	.899	-.04457	.35207	-.73825	.64911
	Equal variances not assumed			-.127	230.273	.899	-.04457	.35178	-.73768	.64855
Green_TemporarilyLessExpensive_Average	Equal variances assumed	2.399	.123	.588	231	.557	.18278	.31086	-.42971	.79527
	Equal variances not assumed			.585	221.339	.559	.18278	.31246	-.43300	.79855

Paired Sample T-test (Status Group)

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Green_MoreExpensive_Average	6.4732	112	2.66428	.25175
	Green_LessExpensive_Average	6.8214	112	2.65498	.25087
Pair 2	Green_MoreExpensive_Average	6.4732	112	2.66428	.25175
	Green_TemporarilyLessExpensive_Average	7.0982	112	2.52897	.23896
Pair 3	Green_LessExpensive_Average	6.8214	112	2.65498	.25087
	Green_TemporarilyLessExpensive_Average	7.0982	112	2.52897	.23896

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	Green_MoreExpensive_Average - Green_LessExpensive_Average	-.34821	3.30904	.31267	-.96780	.27137	-1.114	111	.268
Pair 2	Green_MoreExpensive_Average - Green_TemporarilyLessExpensive_Average	-.62500	3.82765	.36168	-1.34169	.09169	-1.728	111	.087
Pair 3	Green_LessExpensive_Average - Green_TemporarilyLessExpensive_Average	-.27679	3.20250	.30261	-.87642	.32285	-.915	111	.362

Paired Sample T-test (Status Group)

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Green_MoreExpensive_Average	5.4050	121	3.00992	.27363
	Green_LessExpensive_Average	6.7769	121	2.71259	.24660
Pair 2	Green_MoreExpensive_Average	5.4050	121	3.00992	.27363
	Green_TemporarilyLessExpensive_Average	7.2810	121	2.21443	.20131
Pair 3	Green_LessExpensive_Average	6.7769	121	2.71259	.24660
	Green_TemporarilyLessExpensive_Average	7.2810	121	2.21443	.20131

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	Green_MoreExpensive_Average - Green_LessExpensive_Average	-1.37190	3.64493	.33136	-2.02797	-.71584	-4.140	120	.000
Pair 2	Green_MoreExpensive_Average - Green_TemporarilyLessExpensive_Average	-1.87603	3.38273	.30752	-2.48490	-1.26716	-6.101	120	.000
Pair 3	Green_LessExpensive_Average - Green_TemporarilyLessExpensive_Average	-.50413	3.19146	.29013	-1.07857	.07031	-1.738	120	.085