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THE EFFECTS OF GREEN PERCEIVED VALUE AND ALTRUISM ON GREEN CONSUMPTION – A STUDY ON GENERATIONS

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Dissertation presented as partial requirement for obtaining the Master's degree in Information Management

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ABSTRACT

Guaranteeing the future of the planet becomes ever more urgent as population increases and resources become scarce. Moving towards green consumption habits proposes one of the solutions, thus, understanding its drivers is crucial. The present research assesses the effects of green perceived value and altruism types on sustainable buying intentions, behaviour and willingness to pay and investigates differences between generations: Baby Boomers, Generation X and Millennials and Centennials. Findings suggest altruism, namely pure altruism, to be the main driver for sustainable buying intentions and behaviour and reveals that the generations furthest apart (Baby Boomers and Millennials and Centennials) present the main difference against Generation X.

KEYWORDS

Green consumption; Green Perceived Value; Altruism; Generations

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1. INTRODUCTION

Green is the new black. For the past years, the world has seen a growing interest in products that promote a sustainable living. Consumers take preference for products that are more beneficial for their health and, at the same time, less harmful to the planet (Forrester, 2021). Movements such as Zero Waste and Youth Climate Strike, who usually cast Millennials and Centennials as the leading generations for sustainability, have been gaining increased media attention (Trihartono, Viartasiwi, & Nisya, 2020.)

However, as studies show, conscious consumption is not only a concern of the younger generations, which are often referred to as victims of their ancestors' choices and wrong doings, but also something that weighs on older generations' minds (Coughlin, 2018). In fact, green policy and advocates have been increasing their worldwide popularity, as showed by the surprising victory of the Green Party during 2019 EU Elections (Keating, 2019), in which the majority of the elective body is usually older.

According to a survey conducted by Nielsen, "81% of global respondents feel strongly that companies should help improve the environment. This passion for corporate social responsibility is shared across gender lines and generations. Millennials, Gen Z and Gen X are the most supportive, but their older counterparts aren't far behind" (2018). One can, therefore, argue for a global demand for corporate responsibility and sustainability.

Moreover, it is easy to perceive Generations Y and Z as the consumers to watch out for as younger generations are not only the future consumers but also appear to be "the catalyst towards substantial changes in the global trend" (Bathmanathan & Rajadurai, 2017). However, environmental issues are a topic of the present as today's actions can either worsen or better the future of the planet. According to Statista (2021), around 74,5% of world population is over 15 years old and older generations hold higher spending power, greatly due to more years of work experience and income (Augustine, 2017). Therefore, as much as it is important to understand future generations behavioural patterns, it is also crucial to comprehend older generations' motivations and attitudes towards green consumption.

Bathmanathan et al. (2017) define generation as "as groups (…) of people that (1) are in the same age group; (2) have common personality and values; and (3) has no direct connection

with genealogy or lineage (…) individuals born and reared in the same historical era are shaped by common formative experiences hence develop a unique identity, values and personality traits which defers from the other generations or cohorts." For the purpose of this study, four generations will be considered: Baby Boomers (born between 1946 and 1964), Generation X (born between 1965 and 1984), Millennials, also known as Generation Y (born between 1985 and 1995) and, lastly, Centennials, also known as Generation Z (born between 1996 and 2000s). These last two will be researched jointly as Generation Z is still a relatively new generation and most of the individuals are still minors. This research intends to explore what role does green perceived value and altruism types play in driving sustainable buying intentions, behaviour and willingness to pay and if there are significant differences between each age group.

2. LITERATURE REVIEW

2.1. GREEN CONSUMPTION

Even though the term *"green"* in relation to sustainability and environmental issues seems to be gaining momentum in the latest years, with records dating back to 1989 when a group of environmental economists handed a report to the UK Government on sustainable development (Pearce, Markandya & Barbier, 1989). As time goes by and the world begins to take a greater concern on environmental issues, "*green"* becomes this overarching term that encompasses everything to do with environmental sustainability: green economy, green services, green housing, green products, green consumption etc. The latter, as Peattie (2010) describes, "is strongly influenced by consumer values, norms, and habits, yet is highly complex, diverse, and context dependent". Green consumption is not just attributed to environmental issues but is also connected to social and economic goals of sustainable development, as it overlaps with other concepts related to sustainable, conscious and ethical consumption (Peattie, 2010). A good example of said relationship is Fairtrade, which focus on guaranteeing an environmentally sustainable process from a supply chain and operations standpoint but also stands for making sure this process benefits producers and the communities involved (Krauss & Barrientos, 2021).

In sum, the United Nations, in their environment programme, defines sustainable consumption as follows: "the use of services and related products which respond to basic needs and bring a better quality of life while minimising the use of natural resources and toxic materials as well as the emission of waste and pollutants over the life cycle of the service or product so as not to jeopardise the needs of future generations" (IISD, 1994).

Below, we look closely at the definition of two of green consumption's main stakeholders: green products and consumers.

2.1.1. Green Products

Definitions for green products have been widely discussed and attributed with the following characteristics, but not limited to:

Table 1 - Green products' characteristics

Characteristics	References
Not harmful to one's health	(Elkington and Hailes, 1988) (Roy et al., 1996)
Non-polluting production/non-toxic materials	(Elkington and Hailes, 1988) (Simon, 1992)
Efficient use of energy and materials during production, use and disposal	(Elkington and Hailes, 1988) (Roy et al., 1996) (Simon, 1992) (Luttropp and Lagerstedt, 2006) (Ljungberg, 2007)
Avoid unnecessary waste either by minimal packing and/or longer useful life cycle	(Elkington and Hailes, 1988) (Simon, 1992; Schmidheiny, 1992) (Luttropp and Lagerstedt, 2006) (Ljungberg, 2007)
Promote a long-lasting life cycle, by designing products which can be reused, reconditioned and/or recycled	(Peattie, 1995) (Roy et al., 1996) (Luttropp and Lagerstedt, 2006)
Little to no impact on protected species and ecosystem	(Elkington and Hailes, 1988) (Simon, 1992)

In the study we adopt the definition from OECD (2009): "products which are produced without non-toxic chemicals or are recyclable, reusable, bio-degradable or having eco-friendly packaging and with low detrimental environmental impact at all stages of its life-cycle with the long term goal of preservation of natural environment" (Biswas & Roy, 2015).

2.1.2. Green Consumers

A great deal of research has been conducted to try and profile green consumers often based on sociodemographic factors such as gender, age, income (Diamantopoulos, Schlegelmilch, Sinkovics, & Bohlen, 2003), while others looked into psychological and societal/cultural factors such as colectivism and individualism (Laroche, Bergeron, & Barbaro-Forleo, 2001), social altruism (Straughan & Roberts, 1999), perceived consumer effectiveness (Roberts, 1996). Moreover, researchers have also investigated the link between environmentally friendly attitudes and behaviour: conscious consumption (Schlegelmilch, Bohlen, &

Diamantopoulos, 1996), environmental activism (Kilbourne & Pickett, 2008), recycling (Costa Pinto, Maurer Herter, Rossi, Meucci Nique, & Borges, 2019), environmental concern (Roberts, 1996). On the other hand, some argue that understanding green consumer's "environmental knowledge" and "values" proposes a more reliable explanation of these consumers' consumption behaviour (Pedro, Luzio, & Lemke, 2013). Therefore, the portrait of the green consumer has been, and continues to be, a complex endeavour as diferent motivations come to play when influencing sustainable behaviour. Peattie (2001) suggests three types of consumers who engage in sustainable consumption:

1. "grey consumers" who have little to no interest in the environment and yet buy "green" or engage in sustainable behaviour;
2. "consistent ecologists" whose environmental concern is at the core of their lifestyle, purchase and consumption decisions;
3. "'fit and forget' green consumers" who might every now and then engage in pro-environmental behaviour (e.g. recycle, purchase a green product over a "traditional" one, etc.).

Thus, on one side of the spectrum we find, those who have either purchased a green product for environmental and/or ethical reasons or those whose circumstances promoted their green behaviour (i.e., government subsidiaries, promotion deals at supermarkets, etc.).

In sum, in between shades of green and grey, we find distinct types of consumers, whose motivations to choose and consume green may vary from more to less ecological reasons.

2.2. GREEN PERCEIVED VALUE AND VALUE DIMENSIONS

Green perceived value (GPV) has been defined as "a consumer's overall appraisal of the net benefit of a product or service between what is received and what is given based on the consumer's environmental desires, sustainable expectations, and green needs" (Chen & Chang, 2012). Research has found GPV to be a powerful driver of consumers' green behaviour as people become more conscious of the impact their decisions and actions have in the future of the environment (Sangroya & Nayak, 2017).

Additionally, Sangroya and Nayak (2017) suggest that perceived value is multidimensional construct of second order with a list of dimensions being associated with it. Theory of consumption values (TCV) (Sheth et al.,1991) is a framework that has been successfully

tested on several consumption scenarios. Drawing from TCV, we investigated the following dimensions as drivers of GPV: *functional*, *social*, *conditional*, and *epistemic* values (Lin & Huang, 2012).

2.2.1. Functional Value

The *functional value* is related to the physical performance of a product/service, usually regarding one's perception over price and quality (Lin & Huang, 2012).

Perceived quality has been proved to influence purchasing intention (Tseng and Hung, 2013; Ritter et al., 2015), while other authors have considered that pricing has actually a stronger influence on sustainable consumption (Lin & Huang, 2012). All in all, one could conclude consumers aim to achieve maximum benefits at the minimum possible cost (Sangroya and Jogendra, 2017). Additionally, quality is frequently questioned when it comes to green products as they are often seen as being less effective than "conventional" ones (Ritter et al., 2015), which ultimately hinders the green choice. Green products are also perceived as more expensive and on the premium side, as they are usually produced from bio, "free-form", natural and local sources, which do not allow for mass production, greatly increasing the costs of the products and its prices (Roberts, 1996).

According to Maniatis (2016), "The key influencers of consumers' selection of a green product are purchase price benefits, operating price benefits (like, reduced electricity bills), green promotions, green features of the product, and environmental awareness related to the particular product". In his study, the author states that consumers are willing to pay a premium price for a green product as long as they understand clearly what the economic and ecological benefits are of said product or service (Maniatis, 2016). Therefore, one can argue, if a green product can provide additional functional benefits such as saving energy, gas emissions and more long-lasting offers, the consumer will more likely see its appeal, ultimately increasing their purchase intention and willingness to pay.

A study on green consumption and elderly consumers (Hur, Yoo, & Hur, 2007) found that to increase "elderly consumers' satisfaction toward purchasing products, emphasis on the quality, as well as price value should be made in order to reach this specific age group". On the other hand, younger generations "don't just prioritize their purchase decision on product

and price but also to the investment it brings to the future" (Bathmanathan & Rajadurai, 2017).

2.2.2. Social Value

Social value is about the perceived utility of a product/service derived from association with social groups (Lin & Huang, 2012). This is to say that our consumption behaviours do not solely derive from economic/functional motives but also from social influences such as the communities we are part of a well as social norms and rituals. Research has showed that social influence is indeed a powerful driver of pro-environmental behaviour: alerting hotel guests that by reducing plate size and instead making smaller trips to the buffet, decreased food waste by 25% (Kallbekken & Sælen, 2013); telling online shoppers that others were buying eco-friendly products resulted in a 65% increase in people making at least one sustainable purchase (Demarque, Charalambides, Hilton, & Waroquier, 2015); by letting university students and staff know that other people also commuting had switched their cars for more environmentally-friendly modes of transportation, led them to decrease private vehicle use by five times (Kormos, Gifford, & Brown, 2015).

Additionally, White, Habib and Hardisty (2019) further looked at social influence as a promoter for green behaviour, splitting it into three different dimensions: *social norms*, *social identities,* and *social desirability*.

Social norms can play a determinant role in the promotion of sustainable consumption. In their research, the authors explain how societal values - such as frowning upon littering and promoting recycling - can dictate what is deemed as socially appropriate ultimately regulating individual behaviour (White et al., 2019).

Social identity relates to our sense of self as part of a group. According to White et al. (2019), if one is a part of a group where pro-environmental behaviour is common practice, one is more likely to engage in sustainable actions.

Lastly, *social desirability*, in this case, refers to the engaging in environmentally-friendly actions as a way to gain social status (White et al., 2019). Sustainable consumption is often highly regarded as a selfless act which aims to contribute to the future of the planet and society as a whole (Ritter et al., 2015). This badge of eco-friendliness becomes, therefore, a

social benefit to be worn by those who consume green. In this case, consumers consider buying green for the added value of the product or service in the public realm (Lin & Huang, 2012). By attributing a positive symbolic value to green consumption, those who comply with such behaviour are then conferred with a higher social status, thus, one could argue that social desirability refers to the influence of seeking social acceptance. This last remark corroborates with research on competitive altruism (Hardy and Van Vugt, 2006).

Bathmanathan et al. (2017) described Baby Boomers' generation as a group who is less individualistic and rather more collectivist but, at the same time, as people who have their spending habits and little to no desire to change them for the sake of society, thus, perhaps making social influence less of a driver older generations' green living. On the other hand, they also identified generation Y as a cohort who "is constantly seeking attention and is more likely to be involved in processes that arouses its desires" (Bathmanathan et al., 2017). As green consumption gains momentum, social pressure and desirability could then be a powerful encouragement to purchase/consume green products, especially for the latter group of people (Sheth et al., 1991; Ritter et al., 2015; White, Habib, & Hardisty, 2019).

2.2.3. Conditional Value

Conditional value also regards perceived utility of a product, though in relation to a specific situation and/or context (Lin & Huang, 2012). The conditional value can be affected by the physical (accessibility/availability of green products), economic (whether the product is on sale, consumer's pocket size), social (laws and regulations) and environmental conditions (government incentives and subsidies) (Sangroya and Jogendra, 2017). In other words, depending on the context or scenario one finds themselves in, it can affect and change customer choice. According to Lin and Huang's (2012) research, the conditional value resulted in a positive influence in green consumption, with physical availability and environmental contingencies proven to enhance the value of green products. In addition, White et. al (2019) also argued that habit formation tools such as *making it easy* - i.e., to remove some of the barriers for green behaviour/consumption (for example, being time-consuming and the level of difficulty)-, and *incentives*, such as discounts, offers or statal subsidies, play a key role in encouraging sustainability. Contextual changes, such as placing recycling bins in strategic and

nearby areas or setting up government incentives for those who purchase electric cars, improve the likelihood of engaging with conscious behaviour (White et al., 2019).

2.2.4. Epistemic Value

The *epistemic value* measures how much curiosity and novelty-seeking as well as the urge to seek knowledge influences consumers (Lin & Huang, 2012).

Research from 2008 identified lack of awareness as one of the five barriers to greening, alongside negative perceptions, distrust, higher prices and low availability (Bonini & Oppenheim, 2008). According to this study, "More than one-third of consumers we surveyed say they would like to take action against climate change but do not know what to do" (Bonini & Oppenheim, 2008). As Ohtomo and Hirose (2007) stated, "Lack of information to consumers about green products often results in an attitude-behaviour gap between their environmental concern and actual buying behaviour thus hindering the market share for green products".

A study conducted in Hong Kong on the influence of knowledge (Lee, 2010) assessed the impact of local environmental awareness (one's perception of one's impact in the environment), concrete environmental knowledge (general knowledge on ecological issues) and local environmental involvement (this foresees a more active participation in sustainable practices) on young people's green purchase behaviour. The author found that after peer influence, local environment involvement was the second most important predictor of green purchase in this community (Lee, 2010). In conclusion, those who lack environmental knowledge and are unaware of how to contribute to a sustainable future, are less likely to engage with green practices. Being curious and wanting to learn more, shows a sign of increased interest in these issues which that along shows a greater level of engagement and intent than those who do not care or do not know, making it more difficult to plant the seed of sustainability. It becomes, therefore, vital to provide and seek information on these topics.

In addition to curiosity and knowledge, *epistemic value* also relates to novelty seeking or even trend seeking. The fact that something is trendy can be a powerful tool to promote experimentation, which then, provided one's experience with the product/service is a positive one, can lead to customer loyalty. What's more, to be fashionable is something which confers one with some sort of status, therefore if green products are seen as unique and modern that

could, in the end, lead people into engaging in such behaviour (Griskevicius, Tybur, & Van den Bergh, 2010).

Younger generations have been described as “the catalyst towards substantial changes in the global trend” (Bathmanathan & Rajadurai, 2017). They are both trend setters and trend seekers. Also, being born in the digital era, where information is more abundant and readily available than ever before, they are said to be a consumer group who tends to do a lot of research and gather information before making a decision (Bathmanathan & Rajadurai, 2017).

Considering all of the above, we propose the following hypotheses regarding GPV and its dimensions:

H1: Green perceived value positively influences sustainable buying intentions.

H1a: Functional value positively influences green perceived value.

H1b: Social value positively influences green perceived value.

H1c: Conditional value positively influences green perceived value.

H1d: Epistemic value positively influences green perceived value.

2.3. ALTRUISM TYPES

As Hardy and Van Vugt (2006) stated, altruism refers to "the intention to benefit others at a cost to oneself". Altruism as driver of eco-friendly behaviour has been tested in the form of pure and competitive altruism (Costa Pinto, Maurer Herter, Rossi, Meucci Nique, & Borges, 2019). In other words, whether such behaviour results from one's moral conduct (pure altruism) or to be worn as a 'do-gooder' social badge (competitive altruism). Therefore, the main difference between the two types of altruism are the motivations behind it. Pure altruism refers to one's self-sacrifice to benefit others, with no ulterior motives other than the greater good – it comes from a place of reciprocity and cooperation (Costa Pinto et al., 2019). On the other hand, competitive altruism relates to the attempt of individuals to overmatch each other in terms of generosity, thus referring to status and reputation (Roberts, 1998; Hardy and Van Vugt, 2006).

Sustainable consumption is very appealing for both forms of selflessness. As Griskevicius et al. (2010) stated, "Such (green) goods enable people to appear pro-social rather than pro-self". In other words, green consumers are seen as more altruistic as they seek a group identity that is rooted in altruistic goals. Costa Pinto et al., 2019 applied the two types of altruism to two different sustainable behaviour – recycling and green buying - in order to evaluate which form of altruism would more positively contribute to which behaviour. Results showed that pure altruism has a stronger influence on recycling, while both competitive and pure altruism showcased a stronger motive for green buying (Costa Pinto et al., 2019). Having this in mind, one could then conclude that recycling perhaps has become a mainstream sustainable behaviour with low exposure in the social realm, therefore not distinguished enough to upgrade one's social status, hence its relation to pure altruism. Whereas green buying is usually more visible, for example purchasing and driving an electric car, sticking to a specific diet. Therefore, some form of public display of one's eco-friendly behaviour and/or lifestyle functions as a self-promoting billboard for pro-environmentalism, resulting in a status-enhancing benefit (Griskevicius et al., 2010).

As stated previously, Baby Boomers are said to be less individualist and more collectivists but at the same have little desire to sacrifice and change habits for the sake of society (Bathmanathan & Rajadurai, 2017). Likewise, the younger generation seeks attention and is more likely to engage in experiences that are in line with their desires, at the same time when

deciding to purchase a product, they prioritise the investment it may bring to the future. Considering the above, both forms of altruism can play an important role for the groups.

Drawing from the review above, we hypothesize as follows:

H2a: Pure altruism positively influences sustainable buying intentions.

H2b: Pure altruism positively influences sustainable buying behaviour.

H2c: Competitive altruism positively influences sustainable buying behaviour.

H3a: Sustainable buying intention positively influences sustainable buying behaviour.

H3b: Sustainable buying intention positively influences willingness to pay.

H4: Sustainable buying behaviour positively influences willingness to pay.

3. METHODOLOGY

3.1. METHODS

The present study aims to investigate the influence of green perceived value and altruism types on sustainable buying intentions, behaviour and willingness to pay for green products/services. To test the hypothesis, a survey was conducted and then tested using Partial Least Squares Structural Equations Modeling (PLS-SEM) using the Smart PLS software. The questionnaire collected answers from people who have already purchased/consumed/subscribed a green product or service. The questionnaire items were measured using a nine-point scale ranging from (1) strongly disagree to (9) strongly agree (please see full survey in Appendix).

The questions were draw from a previously tested survey from Lin and Huang's research (2012) on consumption values and sustainable buying intentions and behaviour as well as from Panda et al., (2020) research. In order to test Pure and Competitive altruism, the constructs were an adaptation from items proposed in Costa Pinto et al (2019) research.

3.2. PARTICIPANTS

The survey resulted in three hundred and seventy-four (280 female and 94 male) answers from consumers from 3 different generations resulting in the following split:

- Baby Boomers (127)
- Generation X (144)
- Generation Y+Z (103)

In terms of demographics, 280 of the respondents are female and 94 are male. The main education level was mostly undergraduate degree – BA; BSc - (58%), mostly employed (76%), with an income level between 1000€-1500€ (31%) and between 1500€-2000€ (23%), living in the Great Lisbon area (71%).

When we look closely at the respondents from the three different generations, we identify the following demographic characteristics:

Baby Boomers (ages between 78 and 56 years old) respondents were mainly female with 99 replies and 28 from male respondents. The majority have an undergraduate degree (66%),

the followed by a high school diploma (21%). Most are either employed (64%) or retired (32%). This is also the generation with the higher number of respondents indicating higher income levels, with the majority declaring a monthly income between 1500€-2000€ (39%), then 1000€-1500 (21%) and 2000€-3000€ (17%).

Generation X (ages between 55 – 36 years old) respondents were mainly female with 113 replies and 31 from male respondents. The majority have an undergraduate (62%), then graduate degree – MA; MSc - (17%) or a high school diploma (17%). Most are employed (94%). This generation seems to be the most diverse in terms of monthly income, with 47% of the respondents declaring an income between 1000€-1500€, then 19% indicated an income below 1000€, 16% 1500€-2000€ and 12% 2000€-3000€.

Generation Z (ages between 35 – 18 years old) respondents were mainly female with 68 replies and 35 from male respondents. Most are either employed (64%) or students (34%). This seems to be the most educated with 44% respondents having an undergraduate degree and 39% graduate degree. On the other hand, this is the generation with the lowest income levels, with 24% respondents indicating a monthly income below 1000€, 20% between 1000€-1500€ and 15% between 1500€-2000€.

Please see **Table 2** for full sample characteristics.

Table 2 - Sample characteristics (*n*=374)

		Total Sample	Baby Boomers	Generation X	Generation Y
Measure	**Value**	**%**	**%**	**%**	**%**
Gender	Male	25%	22%	22%	44%
	Female	75%	78%	78%	66%
Age	18-24	13%			47%
	25-35	15%			53%
	36-44	15%		40%	
	45-55	23%		60%	
	56-64	24%	72%		
	65+	10%	28%		
Education	PhD	2%	1%	5%	
	Masters	21%	12%	17%	39%
	Bachelor's	58%	66%	62%	44%
	Middle or High School Diploma	19%	21%	17%	17%
Professional status	Employed	76%	64%	94%	64%
	Unemployed	4%	4%	5%	2%
	Retired	11%	32%		
	Student	10%		1%	34%
Monthly income	No income	11%	2%	3%	32%
	< 1000€	18%	12%	19%	24%
	between 1000€ and 1500€	31%	21%	47%	20%
	between 1500€ and 2000€	23%	39%	16%	15%
	between 2000€ and 3000€	12%	17%	12%	6%
	between 3000€ and 5000€	3%	7%	1%	2%
	> 5000€	2%	2%	2%	1%

4. RESULTS AND DISCUSSION

4.1. ASSESSMENT OF MEASUREMENT MODEL

The measurement model was evaluated by assessing reliability, convergent and discriminant validity, as Hair, Hult, Ringle& Sarstedt (2016) propose. To calculate the constructs' reliability and convergent validity, we observed the composite reliability and the Average Variance Extracted (AVE) values. According to Hair et al (2016), values between 0.6 and 0.7 or above are acceptable for the first, whereas, for the second indicator, the criterion states that loadings need to be 0.5 or higher – both criteria are met (please see **Table 3**).

Table 3 - Composite reliability and average variance extracted results

Constructs	Composite Reliability	Average Variance Extracted (AVE)
Functional value	0.719	0.583
Social value	0.850	0.739
Conditional value	0.849	0.738
Epistemic value	0.808	0.679
Pure altruims	0.838	0.634
Competitive altruism	0.917	0.847
Sustainable buying intentions	0.815	0.536
Sustainable buying behaviour	0.869	0.624
Willingness to pay	0.917	0.847

In respect to discriminant validity, the indicators used were the Fornell-Larcker criterion, cross loadings and Heterotrait-Monotrait Ratio (HTMT). To meet the first, the square root of each the constructs' AVE is higher than the correlation between the other constructs (Fornell and Larcker, 1981) – please see **Table 4**. The second criteria states loadings should score higher within their parent construct (Henseler, Ringle and Sarstedt, 2014) – please see **Table 5**. The latter, indicates that HTMT values should be lower than 0.9 (Henseler, et al., 2014)– please see **Table 6**. All criteria are met, with the exception of SV (1.060) value in the HTMT test, which is slightly above the threshold.

Table 4 - Fornel-Larcker criterion

	CA	CV	EPV	FV	PA	SBB	SBI	SV	WTP
CA	**0.921**								
CV	0.303	**0.859**							
EPV	0.445	0.420	**0.824**						
FV	0.197	0.313	0.156	**0.763**					
PA	0.077	0.011	0.192	0.140	**0.796**				
SBB	0.005	-0.121	0.039	-0.050	0.484	**0.790**			
SBI	-0.072	-0.008	0.098	0.070	0.503	0.597	**0.732**		
SV	0.766	0.312	0.415	0.207	0.148	-0.001	0.000	**0.860**	
WTP	-0.008	-0.119	0.028	-0.038	0.473	0.727	0.648	-0.028	**0.920**

Note: CA, competitive altruism; CV, conditional value; EV, epistemic value; FV, functional value; PA, pure altruism; SBB, sustainable buying behaviour; SBI, sustainable buying intentions; SV, social value; WTP, willingness-to-pay.

Table 5 - Loadings and cross-loadings

	CA	CV	EPV	FV	PA	SBB	SBI	SV	WTP
CA_1	**0.884**	0.264	0.400	0.190	0.052	0.003	-0.064	0.753	0.003
CA_2	**0.956**	0.292	0.421	0.178	0.083	0.005	-0.069	0.685	-0.015
CV_1	0.221	**0.861**	0.346	0.305	0.024	-0.126	0.005	0.270	-0.135
CV_2	0.300	**0.858**	0.375	0.234	-0.006	-0.083	-0.019	0.266	-0.070
EP V_1	0.194	0.373	**0.782**	0.138	0.180	0.072	0.168	0.170	0.100
EP V_2	0.509	0.326	**0.864**	0.122	0.142	0.001	0.011	0.484	-0.038
FV_1	0.261	0.319	0.163	**0.952**	0.079	-0.082	-0.012	0.229	-0.076
FV_2	-0.106	0.103	0.041	**0.509**	0.226	0.071	0.256	0.015	0.092
PA_1	0.123	0.118	0.166	0.186	**0.769**	0.280	0.294	0.177	0.299
PA_2	0.150	0.007	0.245	0.144	**0.735**	0.284	0.339	0.178	0.293
PA_3	-0.025	-0.052	0.096	0.055	**0.878**	0.521	0.512	0.052	0.485
SBB_1	-0.029	-0.129	0.043	-0.079	0.393	**0.818**	0.511	-0.038	0.602
SBB_2	-0.018	-0.027	0.035	-0.015	0.462	**0.843**	0.522	-0.007	0.592
SBB_3	0.022	-0.175	0.033	-0.106	0.336	**0.767**	0.408	-0.014	0.601
SBB_4	0.048	-0.054	0.010	0.049	0.329	**0.726**	0.439	0.065	0.497
SBI_1	-0.083	0.201	0.111	0.146	0.177	0.071	**0.452**	0.011	0.144
SBI_2	-0.053	0.097	0.138	0.067	0.297	0.376	**0.719**	0.011	0.449
SBI_3	0.000	-0.082	0.030	0.040	0.364	0.511	**0.804**	0.031	0.530
SBI_4	-0.100	-0.056	0.069	0.040	0.531	0.579	**0.883**	-0.035	0.608
SV_1	0.682	0.291	0.377	0.221	0.161	0.049	0.063	**0.876**	0.021
SV_2	0.634	0.242	0.336	0.130	0.089	-0.057	-0.069	**0.843**	-0.075
WTP_1	-0.006	-0.157	-0.009	-0.060	0.391	0.665	0.521	-0.059	**0.912**
WTP_2	-0.009	-0.067	0.058	-0.011	0.476	0.673	0.665	0.004	**0.928**

Note: CA, competitive altruism; CV, conditional value; EV, epistemic value; FV, functional value; PA, pure altruism; SBB, sustainable buying behaviour; SBI, sustainable buying intentions; SV, social value; WTP, willingness-to-pay.

Table 6 - Heterotrait-Monotrait Ratio (HTMT)

	CA	CV	EPV	FV	PA	SBB	SBI	SV	WTP
CA									
CV	0.412								
EPV	0.640	0.723							
FV	0.430	0.558	0.403						
PA	0.156	0.113	0.344	0.413					
SBB	0.046	0.170	0.108	0.200	0.589				
SBI	0.109	0.215	0.214	0.410	0.608	0.703			
SV	1.060	0.480	0.673	0.346	0.244	0.096	0.101		
WTP	0.011	0.167	0.125	0.194	0.578	0.898	0.755	0.097	

Note: CA, competitive altruism; CV, conditional value; EV, epistemic value; FV, functional value; PA, pure altruism; SBB, sustainable buying behaviour; SBI, sustainable buying intentions; SV, social value; WTP, willingness-to-pay.

4.2. ASSESSMENT OF STRUCTURAL MODEL

Having validated the measurement model, we proceed with testing the structural model. We looked at the variance inflation factors (VIF), which are below the recommended threshold of five (Ringle et al., 2016), hence we can conclude multi-collinearity is not an issue. In addition, the model was also assessed by looking at the significance of path coefficients and the R^2 values of the dependent constructs in the path model, which were calculated after running the bootstrapping method with 5000 subsamples.

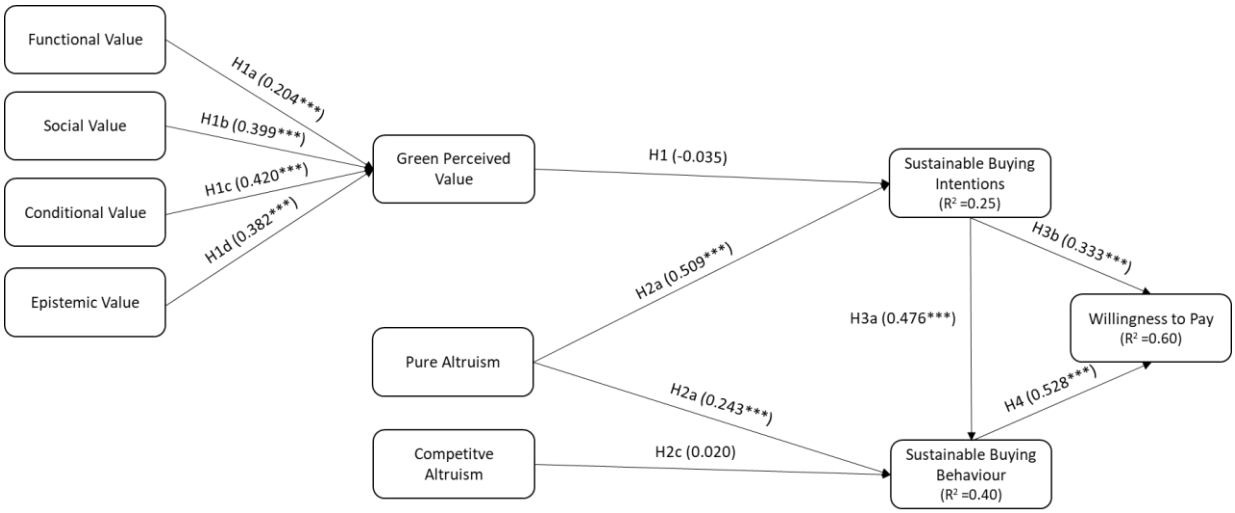
The results show that the conceptual model explains 60% of the variation in willingness to pay, 40% in sustainable buying behaviour and 25% in sustainable buying intentions (**Figure 1**). Thus, one can argue that the predictors in our model (green perceived value, pure and competitive altruism) explain 60% of variation in willingness to pay and 40% in sustainable buying intentions and 25% in sustainable buying intentions, our three target variables.

Table 7 presents the path coefficients and *p*-values for the research's hypothesis. Our results validated green perceived value as a second order construct which is positively influenced by the functional value (β=0.204***), social value (β=0.399***), conditional value (β=0.420***) and epistemic value (β=0.382***). Therefore, we consider H1a, H1b, H1c, H1d supported. However, our model showed a non-significant relationship between green perceived value and sustainable buying intentions, rejecting H1.

On the other hand, our study confirmed that pure altruism positively correlates with both sustainable buying intentions (β=0.509***) and sustainable buying behaviour (β=0.243***). We, then, conclude that sustainable buying intentions and behaviour will increase when consumers privilege pure altruism motivations, supporting H2a and H2b. As for competitive altruism, we found its relationship to sustainable buying behaviour not significant (β=0.020), therefore, not supporting H2c.

H3 and H4 are also supported.

Figure 1 - PLS-SEM analysis of the research model



Note: *p-value < 0.1; **p-value < 0.05; ***p-value < 0.01

Table 7 - Hypothesis' path coefficients and p-values

Hypotheses	Path coefficient	p-value	Supported
H1 - Green perceived value -> Sustainable Buying Intentions	-0.035	0.458	No
H1a - Functional value -> Green perceived value	0.204	0.000	Yes
H1b - Social value -> Green perceived value	0.399	0.000	Yes
H1d - Conditional value -> Green perceived value	0.420	0.000	Yes
H1d - Epistemic value -> Green perceived value	0.382	0.000	Yes
H2a - Pure altruism -> Sustainable buying intentions	0.509	0.000	Yes
H2b - Pure altruism -> Sustainable buying behaviour	0.243	0.000	Yes
H2c - Competitive altruism -> Sustainable buying behaviour	0.020	0.657	No
H3a - Sustainable buying intentions -> Sustainable buying behaviour	0.476	0.000	Yes
H3b - Sustainable buying intentions -> Willingness to pay	0.333	0.000	Yes
H4 - Sustainable buying behaviour -> Willingness to pay	0.528	0.000	Yes

Afterwards, the multi-group analysis is conducted to investigate whether significant differences can be found between the three generational groups (Henseler, Ringleand, & Sinkovics, 2009).

Table 8 summarizes the path coefficients and *p*-values for the relationships in the model as well significant differences between all three age groups. Even though we did not find many significant differences, we still reached a few interesting findings.

Results show significant differences between Baby Boomers and Generation X in the relationship between sustainable buying intentions (SBI) and willingness to pay (WTP). This means the older generation converts more SBI in WTP (β=0.486***) then the generation that followed.

Furthermore, the study also finds a significant difference between Generation Y and Z and Generation X in the relationship between pure altruism (PA) and sustainable buying intentions, and the relationship between sustainable buying intentions (SBI) and willingness to pay (WTP). Consequently, one can conclude the youngest generation (Y and Z) converts more PA in SBI (β=0.662***) and more SBI in WTP (β=0.372***) than the generation that came before them.

Finally, no significant differences were found between the two age groups furthest apart - Baby Boomers and Generations Y and Z.

Table 8 - Multi-group analysis results and significant generational differences

Hypotheses	Full Sample	Baby Boomers	Generation X	Generation Y+Z	Significant difference		
					Baby Boomers vs Generation X	Baby Boomers vs Generation Y+Z	Generation X vs Generation Y+Z
H1 - Green perceived value -> Sustainable Buying Intentions	-0.035	0.007	-0.083	-0.029			
H1a - Functional value -> Green perceived value	0.204***	0.187***	0.211***	0.181			
H1b - Social value -> Green perceived value	0.399***	0.404***	0.360***	0.445***			
H1d - Conditional value -> Green perceived value	0.420***	0.401***	0.419***	0.408***			
H1d - Epistemic value -> Green perceived value	0.382***	0.397***	0.383***	0.382***			
H2a - Pure altruism -> Sustainable buying intentions	0.509***	0.496***	0.387***	0.662***			✓
H2b - Pure altruism -> Sustainable buying behaviour	0.243***	0.174**	0.359***	0.296***			
H2c - Competitive altruism -> Sustainable buying behaviour	0.020	0.107*	-0.037	-0.069			
H3a - Sustainable buying intentions -> Sustainable buying behaviour	0.476***	0.557***	0.376***	0.421***			
H3b - Sustainable buying intentions -> Willingness to pay	0.333***	0.486***	0.184**	0.372***	✓		✓
H4 - Sustainable buying behaviour -> Willingness to pay	0.528***	0.419***	0.588***	0.560***			

Note: *p-value < 0.1; **p-value < 0.05; ***p-value < 0.01

5. CONCLUSIONS

5.1. THEORETICAL IMPLICATIONS

The ecological footprint of global consumption has largely outweighed the planet's total capacity (Calderon-Monge, Pastor-Sanz & Garcia, 2020). As population increases and resources become scarce it is urgent to promote sustainable behaviour. According to Minton and Rose (1997), green consumers are aware of the environmental problems we face and are willing to reallocate their resources towards a more environmentally friendly conduct. Thus, understanding the drivers of green behaviour is paramount, hence the purpose of this study.

In line with previous research (Sangroya & Nayak, 2017), our results validated green perceived value as a second order construct, with conditional value, social value and epistemic value being the three dimensions with the highest regression rates. However, the model did not confirm the relationship between green perceived value and sustainable buying intentions. This was proven true to all three generations: Baby Boomers, Generation X and Generation Y+Z. A reason for this might be due to what some have called consumer cynicism in relation to environmentally friendly behaviour (Lee, Roux, Cherrier, & Cova, 2011; J. Wang, Shen, & Chu, 2021). In other words, there is a miss-match between consumers' positive attitudes towards green products and consumption which fails to translate into actual intentions to conduct environmentally friendly behaviour.

As for the influence of altruism types on sustainable buying intentions and sustainable buying behaviour, the research model shows a non-significant relationship between competitive altruism and sustainable buying behaviour but a significant influence of pure altruism with sustainable buying intentions and sustainable buying behaviour. Our findings on altruism and its relationship to green buying corroborate with previous research, which also found pure altruism to be a powerful driver of sustainable consumption (de Morais, Pinto & Cruz-Jesus, 2021). In fact, as per our research model, pure altruism proved to be the main driver of sustainable buying intentions and sustainable buying behaviour. Consequently, we found our hypothesis on pure altruism supported for all three generations.

As for the non-significant relationship between competitive altruism and sustainable buying behaviour, this outcome raises doubts about consumers' confidence in green products and

consumption as a mean to boost one's social status. As Elliott (2013) explains, status in relation to green behaviour depends on people's ability to make it visible in the public space. Perhaps, as brands push for the communication of their eco-labels and claims, and accessibility to green products and green consumption becomes more common (Wojnarowska, Sołtysik, & Prusak, 2021), it decreases environmentally friendly consumption's appeal as a social enhancing practice.

In fact, competitive altruism proved to be significant only for Baby Boomers (though a not significant difference between the remaining generations), indicating that for this group competitive altruism is a driver for sustainable buying behaviour. For the youngest generation, who have been described as people who are eager to stand out and have strong desire for uniqueness and experiences (Bathmanathan, et al., 2017), it might be that green consumption has become more mundane and there are better status enhancing ways to showcase one's greener side. For example, when young people, who sometimes are even too young to even vote, take the streets and social media to challenge power dynamics and promote a better future (O'Brien, Selboe, & Hayward, 2018).

In addition, this research also investigated the relationship between sustainable buying intentions and sustainable buying behaviour. This is important because, as previous research shows, the greater the level of one's concern regarding the environment, the more likely one is to engage with green behaviour, such as purchasing a recyclable and/or recycled product, searching for information on environmentally friendly products and to recycle (Minton & Rose, 1997). As Paço, Shiel and Alves (2019) stated "As consumers become aware of how their consumption influences the environment, there is some evidence to suggest that they do try and change their attitudes and behaviours for the benefit of future generations". So, as people become conscious of the impact of their actions and develop a concern for green issues, they are more likely to increase their intent in engaging in sustainable behaviour. This consciousness then results in sustainable behaviour which ranges from taking a preference for green options such as biodegradable, fair trade and locally sourced, free-from goods but also decisions such as restricting oneself from purchasing from companies that do not comply with the green agenda and instead support those who do and/or push for parties and policies that take into consideration the preservation of the planet.

On the other hand, researchers also found that even though many consumers voice their concern with the environment, only few are willing to act and commit to sustainable behaviour it if it means to sacrifice one's personal lifestyle (Laroche, Tomiuk, Bergeron, & Barbaro-Forleo, 2009). In other words, though they express sustainable buying intentions it might not reflect into actual behaviour and purchase. Our results showed a significant relationship between sustainable buying intentions and sustainable buying behaviour. We have found that both sustainable buying intentions and behaviour influence willingness to pay for green products. Thus, supporting our hypotheses.

Finally, as for our multi-group analysis, even though we did not find these three groups to be completely different from each other, we did find a few significant differences between them. The research shows that Baby Boomers convert more sustainable buying intention in willingness to pay than Generation X. A reason for this might be due to income reasons. As Bathmanathan et al. (2017) state, this "this cohort (Baby Boomers) is believed to have greater spending power and higher disposable income". This scenario is applicable to our sample, as 65% of our Baby Boomer participants sit on higher levels of income (1500€ to > 5000€). Comparatively, 69% of the Generation X participants land on lower tiers of income (<1000€ to 1500€). One could conclude, without the spending capacity, consumers might intend to purchase but intent alone might not be sufficient in guaranteeing the purchase.

Moreover, Millennials and Generation Z were found to convert more pure altruism into sustainable buying intentions in comparison with Generation X. If you take into account recent movements and events, we have seen great interest and activism coming from the younger members of society: from the young Swede, Greta Thumberg, with the Youth Climate Strike, to the New York representative, Alexandria Ocasio-Cortez, one of the main promoters of the "Green New Deal" (Winston, 2019). As younger generations' actual future and the future of the planet are tightly bounded, they appear to be changing the collective conscience from self-centred to society and group centred (Diddi, Bloodhart, Bajtelsmit & McShane, 2019). One can therefore argue for a growing genuine concern on environmental issues from the younger generations.

Additionally, results also showed that Generation Y and Z convert more sustainable buying intentions in willingness to pay than Generation X. This is an interesting finding as this

population reports the lowest incomes. It seems that this group really sees green as the way forward, confirming previous research that argued that what drives younger generations' purchase decision is not just product and pricing but mostly they weigh in the investment it brings to the future (Bathmanathan, et al., 2017).

In sum, our study corroborates current studies on altruism as a powerful driver of sustainable consumption. Additionally, it enriches current research by proving significant differences between them in the conversion of intention to willingness to pay and the conversion of pure altruism in sustainable buying intentions.

5.2. Social and Practical Implications

In addition to the theoretical contribution, this research piece identifies social and practical implications on sustainable consumption.

The results of this study prove that pure altruism is a powerful weapon to increase green purchase intention and behaviour and that people are willing to be more sustainably conscious for the sake of the environment. As green consumerism rises to the top of consumers' agenda, government and business must follow.

Firstly, government has an extremely important role in educating citizens and regulating businesses. Thus, it is crucial for policymakers to understand consumers' drivers to sustainable behaviour so that they can promote it and raise people's concern and knowledge on how to guarantee a sustainable future for everyone.

Also, consumers are demanding businesses to play their part in protecting the environment and are calling for corporate social responsibility (Nielsen, 2018). From a business and marketing standpoint, if one wishes to be relevant in the future, they need to understand consumers' purchasing intentions. In addition, businesses and marketeers have an important role in "promoting availability, accessibility and information about green products" (Wang, Sun, Wang & Wu, 2020). In order to do so, it is important to comprehend the motors for different groups' attitudes towards green consumption, so they can effectively communicate to their target audiences.

Our findings add to current research by highlighting two powerful generations: Baby Boomers and Millennials and Centennials. This does not mean, however, to complete disregard

Generation X as green consumers, but rather it offers insight on how to efficiently target the right consumers. This can prove beneficial to the stakeholders mentioned above: the government and the market.

Millennials and Centennials were revealed to privilege pure altruism as a driver of sustainable buying intentions and afterwards converting the latter in willingness to pay, more so than their parent generation (Generation X). This is a relevant outcome as we are looking at the future consumers of the world. The younger generations indicate, therefore, a concern for the environment which both policymakers and businesses need to address and act on if they want to get their votes and get in their pockets. Moreover, Baby Boomers, which report higher spending capacity, were revealed to convert more sustainable buying intentions into willingness to pay, then their younger counterpart (Generation X). This proves that this generation is willing to "walk the talk". This is a useful insight as sometimes green might mean premium (Laroche, Bergeron, & Barbaro-Forleo, 2001) and as the older generation still makes up for a great majority of the population (Statista, 2021) this might result in a growing market share for green products.

6. LIMITATIONS AND RECOMMENDATIONS FOR FUTURE WORKS

There are some limitations to this research. Firstly, further research could benefit from a more diverse sample. This study was conducted in Portugal with 70% of the sample being from Lisbon, the capital, where information is more readily available, green products are more accessible and average income is greater in relation to the rest of the country. In fact, the great majority is also employed and 71% reports having incomes above the country's monthly minimum wage (665€). The sample is also highly educated as 58% have undergraduate studies and 23% post-graduate degrees.

Secondly, research would gain from adding environmental concern to the model to test whether people's expressions of concern for environmental issues increase sustainable behaviour and willingness to pay and if it functions as a stronger predictor for one generation over the other.

7. REFERENCES

Augustine, A. (2017). Fintech for Boomers: Follow the money. Retrieved from www.bbvaresearch.com

Bathmanathan, V., Rajadurai, J., & Rajadurai-, J. (2017). Generation Y-A study on sustainable consumption Sustainability View project Generation Y-A study on sustainable consumption. Retrieved from https://www.researchgate.net/publication/324719349

Biswas, A., & Roy, M. (2015). Green products: An exploratory study on the consumer behaviour in emerging economies of the East. Journal of Cleaner Production, 87(1), 463–468. https://doi.org/10.1016/j.jclepro.2014.09.075

Bonini, S., & Oppenheim, J. (2008). Cultivating the Green Consumer.

Calderon-Monge, E., Pastor-Sanz, I., & Garcia, F. J. S. (2020). Analysis of sustainable consumer behavior as a business opportunity. Journal of Business Research, 120, 74-81.

Chen, Y. S., & Chang, C. H. (2012). Enhance green purchase intentions: The roles of green perceived value, green perceived risk, and green trust. Management Decision, 50(3), 502–520. https://doi.org/10.1108/00251741211216250

Costa Pinto, D., Maurer Herter, M., Rossi, P., Meucci Nique, W., & Borges, A. (2019). Recycling cooperation and buying status: Effects of pure and competitive altruism on sustainable behaviours. European Journal of Marketing, 53(5), 944–971. https://doi.org/10.1108/EJM-09-2017-0557

Coughlin, J. (2018). Greener than you: boomers, gen X & millennials score themselves on the environment. Forbes. May, 5, 2018.

de Morais, L. H. L., Pinto, D. C., & Cruz-Jesus, F. (2021). Circular economy engagement: Altruism, status, and cultural orientation as drivers for sustainable consumption. Sustainable Production and Consumption, 27, 523-533.

Diamantopoulos, A., Schlegelmilch, B. B., Sinkovics, R. R., & Bohlen, G. M. (2003). Can socio-demographics still play a role in profiling green consumers? A review of the evidence and an empirical investigation. *Journal of Business Research*, *56*(6), 465–480. https://doi.org/10.1016/S0148-2963(01)00241-7

Diddi, S., Yan, R., Bloodhart, B. P., Bajtelsmit, V. L., & McShane, K. (2019). Exploring young adult consumers' sustainable clothing consumption intention-behavior gap: A Behavioral Reasoning Theory perspective. Sustainable Production and Consumption, 18, 200-209. https://doi.org/10.1016/j.spc.2019.02.009

Elkington, J., & Hailes, J. (1989). The green consumer guide (Australian ed. (rev. and adapted)). Penguin.

Elliott, R. (2013). The taste for green: The possibilities and dynamics of status differentiation through “green” consumption. Poetics, 41(3), 294–322. https://doi.org/10.1016/J.POETIC.2013.03.003

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39–50.

Forrester (2021). Empower consumers call for sustainability transformation. Forbes. January, 21, 2021.

Griskevicius, V., Tybur, J. M., & 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. https://doi.org/10.1037/a0017346

Hardy, C. L., & Van Vugt, M. (2006). Nice Guys Finish First: The Competitive Altruism Hypothesis. Personality and Social Psychology Bulletin, 32(10), 1402–1413. https://doi.org/10.1177/0146167206291006

Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). A primer on partial least squares structural equation modeling (PLS-SEM). Sage publications.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2014). A new criterion for assessing discriminant validity in variance-based structural equation modeling. Journal Of The Academy Of Marketing Science, 43(1), 115-135. https://doi.org/10.1007/s11747-014-0403-8

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modelling in international marketing. New challenges to International Marketing, 20, 277–319. http://dx.doi.org/10.1016/0167-8116(92)90003-4

IISD (1994). Oslo Roundtable on Sustainable Production and Consumption. Retrieved January 31, 2021, from https://enb.iisd.org/consume/oslo004.html

Keating, D. (2019). The EU Election's 'Green Wave' Is Set To Transform Energy Policy. Forbes. May, 27, 2019.

Kilbourne, W., & Pickett, G. (2008). How materialism affects environmental beliefs, concern, and environmentally responsible behaviour. Journal of Business Research, 61(9), 885–893. https://doi.org/10.1016/J.JBUSRES.2007.09.016

Krauss, J. E., & Barrientos, S. (2021). Fairtrade and beyond: Shifting dynamics in cocoa sustainability production networks. Geoforum, 120, 186–197. https://doi.org/10.1016/J.GEOFORUM.2021.02.002

Laroche, M., Bergeron, J., & Barbaro-Forleo, G. (2001). Targeting consumers who are willing to pay more for environmentally friendly products. Journal of Consumer Marketing, 18(6), 503–520. https://doi.org/10.1108/EUM0000000006155

Lee, K. (2010). The Green Purchase Behavior of Hong Kong Young Consumers: The Role of Peer Influence, Local Environmental Involvement, and Concrete Environmental Knowledge. Journal of International Consumer Marketing, 23(1), 21–44. https://doi.org/10.1080/08961530.2011.524575

Lee, M., Roux, D., Cherrier, H., & Cova, B. (2011). Anti-consumption and consumer resistance: concepts, concerns, conflicts and convergence. European Journal of Marketing, 45(11/12). https://doi.org/10.1108/EJM.2011.00745KAA.001

Lin, P. C., & Huang, Y. H. (2012). The influence factors on choice behavior regarding green products based on the theory of consumption values. Journal of Cleaner Production, 22(1), 11–18. https://doi.org/10.1016/j.jclepro.2011.10.002

Ljungberg, L. Y. (2007). Materials selection and design for development of sustainable products. Materials and Design, 28(2), 466-479. https://doi.org/10.1016/j.matdes.2005.09.006

Luttropp, C., & Lagerstedt, J. (2006). EcoDesign and the ten golden rules: Generic advice for merging environmental aspects into product development. Journal of Cleaner Production, 14(15-16), 1396-1408. https://doi:10.1016/j.jclepro.2005.11.022

Minton, A. P., & Rose, R. L. (1997). The effects of environmental concern on environmentally friendly consumer behavior: An exploratory study. Journal of Business research, 40(1), 37-48.

Nielsen (2018). Global Consumers Seek Companies That Care About Environmental Issues. Retrieved April 12, 2021, from https://www.nielsen.com/eu/en/insights/article/2018/global-consumers-seek-companies-that-care-about-environmental-issues/

O'Brien, K., Selboe, E., & Hayward, B. (2018). Exploring youth activism on climate change: Dutiful, disruptive, and dangerous dissent. Ecology and Society, 23(3). https://www.jstor.org/stable/26799169

Ohtomo, S., & Hirose, Y. (2007). The dual-process of reactive and intentional decision-making involved in eco-friendly behavior. Journal of Environmental Psychology, 27(2), 117–125. https://doi.org/10.1016/J.JENVP.2007.01.005

Paço, A. do, Shiel, C., & Alves, H. (2019). A new model for testing green consumer behaviour. Journal of Cleaner Production, 207, 998–1006. https://doi.org/10.1016/j.jclepro.2018.10.105

Panda, T. K., Kumar, A., Jakhar, S., Luthra, S., Garza-Reyes, J. A., Kazancoglu, I., & Nayak, S. S. (2020). Social and environmental sustainability model on consumers' altruism, green purchase intention, green brand loyalty and evangelism. Journal of Cleaner Production, 243, 118575. https://doi.org/10.1016/J.JCLEPRO.2019.118575

Pearce, D., Markandya, A., & Barbier, E. (2013). Blueprint 1: for a green economy. Routledge.

Peattie, K. (1995). Environmental marketing management: Meeting the green challenge. Financial Times Management.

Peattie, K. (2001). Golden goose or wild goose? The hunt for the green consumer. Business Strategy and the Environment, 10(4), 187–199. https://doi.org/10.1002/BSE.292

Peattie, K. (2010). Green Consumption: Behavior and Norms. Http://Dx.Doi.Org/10.1146/Annurev-Environ-032609-094328, 35, 195–228.

Pedro, J., Luzio, P., & Lemke, F. (2013). Exploring green consumers' product demands and consumption processes The case of Portuguese green consumers. https://doi.org/10.1108/09555341311314825

Ritter, Á. M., Borchardt, M., Vaccaro, G. L. R., Pereira, G. M., & Almeida, F. (2015). Motivations for promoting the consumption of green products in an emerging country: Exploring attitudes of Brazilian consumers. In Journal of Cleaner Production (Vol. 106, pp. 507–520). Elsevier Ltd. https://doi.org/10.1016/j.jclepro.2014.11.066

Roberts, J. A. (1996). Green consumers in the 1990s: Profile and implications for advertising. Journal of Business Research, 36(3), 217–231. https://doi.org/10.1016/0148-2963(95)00150-6

Roy, R., & Group, D. I. (1993). Case studies of creativity in innovative product development. Design studies, 14(4), 423-443.

Sangroya, D., & Nayak, J. K. (2017). Factors influencing buying behaviour of green energy consumer. Journal of Cleaner Production, 151, 393–405. https://doi.org/10.1016/j.jclepro.2017.03.010

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. https://doi.org/10.1108/03090569610118740

Sheth, Jagdish N., Bruce I. Newman, and Barbara L. Gross (1991), "Why We Buy What We Buy: A Theory of Consumption Values," Journal of Business Research, 22 (1), 159-170.

Simon, F. L. (1992). Marketing green products in the triad. Columbia Journal of World Business, 27(3-4), 268-285. Retrieved from www.scopus.com

Statista (2021). *Global population as of mid-2020, by age*. Retrieved April 12, 2021, from https://www.statista.com/statistics/829732/global-population-by-age/

Straughan, R. D., & Roberts, J. A. (1999). Environmental segmentation alternatives: a look at green consumer behaviour in the new millennium. *Journal of Consumer Marketing*, *16*(6), 558–575. https://doi.org/10.1108/07363769910297506

Trihartono, A., Viartasiwi, N., & Nisya, C. (2020, May). The giant step of tiny toes: youth impact on the securitization of climate change. In IOP Conference Series: Earth and Environmental Science (Vol. 485, No. 1, p. 012007). IOP Publishing.

Wang, B., Li, J., Sun, A., Wang, Y., & Wu, D. (2020). Residents' green purchasing intentions in a developing-country context: Integrating PLS-SEM and MGA methods. Sustainability, 12(1), 30.

Wang, J., Shen, M., & Chu, M. (2021). Why is green consumption easier said than done? Exploring the green consumption attitude-intention gap in China with behavioral reasoning theory. Cleaner and Responsible Consumption, 2, 100015. https://doi.org/10.1016/J.CLRC.2021.100015

White, K., Habib, R., & Hardisty, D. J. (2019). How to SHIFT Consumer Behaviors to be More Sustainable: A Literature Review and Guiding Framework. Journal of Marketing, 83(3), 22–49. https://doi.org/10.1177/0022242919825649

Wojnarowska, M., Sołtysik, M., & Prusak, A. (2021). Impact of eco-labelling on the implementation of sustainable production and consumption Keywords: Sustainable production Sustainable consumption Eco-labelling. Environmental Impact Assessment Review, 86, 106505. https://doi.org/10.1016/j.eiar.2020.106505

8. APPENDIX (OPTIONAL)

Construct	**Items**	**Scale**	**References**
Functional Value	When I purchase a green product, I look for: An economic product, even if it does not uphold to the highest standard of quality A good ratio between quality and price	from (1) strongly disagree to (9) strongly agree	Lin & Huang (2012)
Social Value	I buy green products because: They help me feel accepted I feel there is social pressure to do so	from (1) strongly disagree to (9) strongly agree	Lin & Huang (2012)
Conditional Value	I buy green products instead of traditional ones because: They are at a discont rate They are available	from (1) strongly disagree to (9) strongly agree	Lin & Huang (2012)
Epistemic Value	I buy green produtcts because: I like to try new things They are a trend	from (1) strongly disagree to (9) strongly agree	Lin & Huang (2012)
Pure Altruism	I buy green produtcts because: I feel like I am contributing to the future of the planet I feel it is what is morally correct They make me feel like I am a better person	from (1) strongly disagree to (9) strongly agree	Costa Pinto, Maurer Herter, Rossi, Meucci Nique, & Borges (2019)
Competitive Altruism	I buy green produtcts because: They make a good impression on others I feel it confers me with higher social status	from (1) strongly disagree to (9) strongly agree	Costa Pinto, Maurer Herter, Rossi, Meucci Nique, & Borges (2019)

Sustainable buying intentions	Considering buying a green produtct would be more recurrent if prices were more similar to traditional ones Considering buying a green produtct would be more recurrent if they were more available I am willing to stop purchasing products which cause damage to the environment I am willing to buy green products because I feel I am contributing to the future of the planet	from (1) strongly disagree to (9) strongly agree	Lin & Huang (2012) Panda, Kumar, Jakhar, Luthra, Garza-Reyes, Kazancoglu, Nayak, (2020)
Sustainable buying behaviour	I have switched traditional products for a greener version because it is more sustainable and environmentally friendly I make na effort to buy products made of recycled or recycable material When I have to choose between two identical products, I choose based on what is less damaging to the environment, even if more expensive I have avoided buying a product from a company whose actions are damaging to the environment	from (1) never to (9) always	Lin & Huang (2012) Panda, Kumar, Jakhar, Luthra, Garza-Reyes, Kazancoglu, Nayak, (2020)
Willingness to pay	I am willing to pay for a green product even if it is more expensive than a traditional one I intend to buy green in my future purchases	from (1) strongly agree to (9) strongly disagree	Panda, Kumar, Jakhar, Luthra, Garza-Reyes, Kazancoglu, Nayak, (2020)