

HOW DOES CONSUMERS' AWARENESS OF GREENWASHING INFLUENCES THEIR GREEN PURCHASING INTENTIONS?

Is this relationship moderated by the consumers' level
of environmentalism and by certain demographics?

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Introduction

This research examines consumers' awareness of greenwashing and its effect on their purchase intentions. Furthermore, it aims to uncover whether and if so, then how this relationship is moderated by certain demographic variables, such as age, gender, and income. Next to that, it looks into whether environmentalism is moderating the relationship.

As environmentalism is becoming more and more popular in the public's eye it is also being used by companies as a marketing tactic. There is nothing wrong with green marketing itself, if a product is truly sustainable and environmentally friendly. However green marketing goes hand in hand with greenwashing as prior work has uncovered. Greenwashing is not only harmful for the environment, but for consumers and for truly green companies as well. Greenwashing reduces consumers' trust and when they become aware of greenwashing practices it makes them skeptical towards green products. This issue is becoming more and more relevant and educating consumers on the topic as well as researching it is necessary.

There are already many connected papers on the topic of green washing and green purchasing intentions, but there are no stable findings, while one research proves the greenwashing's negative effect on green purchasing intentions, under different circumstances in another research the results are the opposite. The purpose of this research is enriching the existing literature on the topic of greenwashing, as previous papers presented contrasting results, and as long as this is the case there is room for research, as it helps to stabilize the findings and make general assumptions. Knowing more about greenwashing and how it affects consumers' decision making is vital information for companies, their stakeholders, governments and other policy makers as well, so grasping the true nature of this relationship is important. With this research I would like to contribute to existing literature in the following way: While prior work used age, gender income and nationality as control variables, it did not examine whether they moderate the relationship between awareness and purchasing intentions. This paper would help in defining the consumers' demographic profile that is most likely to be influenced by their awareness of greenwashing in their buying behavior. Researcher Imiru has suggested that "future research could look at how differently consumers' intentions to buy green products vary by demographic group." (6) A systematic review on greenwashing perceptions by Santos et al. and a review paper by Joshi et al. have suggested the same as a possible new research direction. (7,11) With this paper I aim to fill this gap. This paper would help in defining the consumers' demographic profile that is most likely to be influenced by their awareness of greenwashing in their buying behavior.

The research is built up the following way: in the first section prior work will be reviewed and the concepts used in this research will be thoroughly explained, this section also contains the hypotheses of this study. The second section focuses on methodology. A survey method was used to measure consumers' attitudes, the survey has been filled out by 101 respondents, their responses were analyzed in the software SPSS. The results of this survey are explained in Section III.

Literature review

The following section will briefly summarize all the concepts used in the research as well as provide useful background information. The topics of CSR, green marketing, and greenwashing, greenwashing awareness, green purchasing intentions will be covered as well as the values that will be used as moderators, such as environmentalism, age, gender and income. This section will also elaborate on the hypothesis development and raise the questions to which the empirical research aims to respond.

CSR - corporate social responsibility

Environmental problems are becoming more and more concerning these days. Many industries are overproducing, consumers are overconsuming, which results in a lot of waste. Our consumption is not sustainable. There are many environmental issues our planet is facing, this paper will focus on an issue concerning consumption.

As environmental issues grow, awareness of them grows simultaneously. The incentive to be environmentally friendly also appears in consumption. A systematic literature review on greenwashing by Vieira de Freitas Netto et al. has reported that environmentalism has a growing influence on society, this paper stated that "66% of global consumers are willing to pay more for environmentally friendly products." (3) This is a huge and rather influential number, no wonder companies are incorporating green and sustainable approaches in their strategies, as consumers are one of their main stakeholders. (3) This claim is supported by another publication, Carrigan et al. writes that "75% of consumers in one study claim they would switch brands and retailers to support a good cause linked to a product." (1) This again proves the importance of good company reputation and CSR.

Society and stakeholders, such as investors, governments and consumers are pushing companies and businesses to be more sustainable and follow good CSR guidelines. CSR stands for Corporate social responsibility and is defined as follows: "companies integrate social and environmental concerns in

their business operations and in their interaction with their stakeholders on a voluntary basis". (18) Investing in CSR is a strategic choice, from which the company itself, society, and the environment mutually benefit. It is beneficial for the company because good CSR better the company's image and its relationship with the stakeholders. Simultaneously, the company invests in the support of environmental or societal issues. (18) Recent research has proven that good CSR is a vital part of a company's success and consumers' decisions are often influenced by the image a company presents of itself. The increasing importance of environmentalism has led customers to pay a premium for environmentally friendly products. So good environmental values can actually increase sales and give the company a financial gain. (1)

There is a gap however between the actions of a company and its CSR campaigns. Part of the CSR strategy is marketing. And marketing is always tricky from this perspective, because the stakeholders might question if the intentions of the company are genuine and truly support a good cause or is it just a way to seem more desirable and increase profit. This is where green marketing and greenwashing comes into play. For many stakeholders it is rather difficult to differentiate between the two, and consumers or investors can be misled by fake green marketing claims.

Green marketing

Green marketing promotes eco-friendly lifestyle and eco-friendly purchasing decisions and emerged as a result of the growing environmental concerns among stakeholders. It has been defined by numerous scholars before, as with the rising level of environmental concern, green marketing is becoming a crucial part of strategy. It is also referred to as ecological or environmental marketing. (6) Companies engage in green marketing for numerous reasons, the societal pressure, the incentive to satisfy stakeholders, various governmental regulations, and strategic benefits (14) It is a holistic marketing concepts that aims to satisfy green consumer needs in sustainable manner, with minimizing harming the environment and at the same still staying profitable. (6) . "The holistic marketing concept advocates the philosophy that businesses must develop products and marketing strategies that not only address the needs of consumers but also protect those consumers' and society's long-term interests" (6) Green marketing is a tool of environmental sustainability. "Environmental sustainability is defined as a management strategy that focuses on developing strategies that both protect the environment and generate profits for the company." (6)

In recent years more and more companies have shown an initiative to take on this rather difficult but important social goal. Imiru has defined green marketing as marketing activities that include "manufacturing, differentiating, pricing, and promoting products and services that can meet

consumers' environmental needs" (6) It highlights the green characteristics of a product or a company. Green marketing advertises the sustainable way a product was produced, and all the environmental concerns that were considered during production. These could include products made from recycled materials, production without using e.g., child labor or any undercompensated form of labor, etc. Green marketing is a powerful strategic tool for companies, because as recent research has proven, a group of consumers are aware of and concerned about the environmental issues our society is facing and are willing to even pay more for a green product, than for a non-sustainable product.

A commonly used tool as a part of the green marketing strategy, is the use of eco-labels. Eco-labeled products are up to a certain environmental standard, that is universal and controlled by governments or other external organizations. These products or services are entitled to be labeled with a logo that proves they were manufactured in an environmentally friendly manner. (6) Research has proven that consumers are more trusting towards green labels than towards green claims and advertisements without them being backed up by an eco-label. (15) Trust is an essential part of green marketing and is needed for it to be successful. Many scholars highlighted that green marketing claims have to be reliable, accurate and true. (14) Moreover, enforceable green marketing laws should be a priority of governments. It is important to bind companies by standardized regulations and guidelines. It is also important to enclose information about the company's environmental performance in order to build stakeholders' trust. (12)

Greenwashing

However, environmental awareness and concerns provide an opportunity for non-green companies to exploit consumers' positive attitudes towards green products, in that case we are talking about greenwashing. Prior work defined greenwashing as positive environmental claims that are false, vague, or misleading. At first, greenwashing was defined as deliberate deception, but as it became more and more common, scientific literature concerning greenwashing also grew and the definition became more precise. Greenwashing also includes the selective disclosure of information, also known as only publicizing the positive and environmentally friendly attributes of a product or a service, while pretermittting all the ways the product or service harms the environment. (10) Moreover, greenwashing can appear in the form of a hidden trade-off, an ambiguous or vague statement or visual image, a stated fact that can be easily misinterpreted or a fact without proof. (10) Many consumers are unable to differentiate between greenwashed products and truly green products as the marketing campaigns sound similar. These advertisements make use of the consumers' lack of knowledge and information about certain terms, product characteristics and eco-labels. Consumers with high

concerns to the environment are more likely to be influenced by green marketing in their purchasing decisions, hence they are more likely to fall into the trap of greenwashing too. (15, 16)

Greenwashing is an umbrella term, as seen before, it can appear in various forms. De Jong et al differentiated between the types of greenwashing based on two features, namely an intrinsic feature and a communicative feature. The intrinsic feature regards the green claim's distance from truthfulness. (8) Examples for this are half-truths, hidden trade-offs (the features of the products are only partly green), irrelevance (when the advertised green activity does not actually reduce the product's or manufacturing process' harmfulness) 'the lesser of two evils' (when a company slightly improves their production process, but it is still far from environmentally friendly), or straight lies. (8) On the other hand, the communicative feature refers to the way these green claims are communicated to the public. It can include various techniques to confuse, misinform and mislead consumers. Examples of this include vagueness, stating facts without proof, or the use of fake or uncertified green labels. (8) De Jong et al. have done extensive literature research on the concept of greenwashing and have identified another difference maker in regards to the forms of greenwashing. All the above-mentioned examples could be classified as 'claim greenwashing', while the other approach is referred to as 'executional greenwashing'. The authors described executional greenwashing as a tactic "in which greenness is not explicitly claimed but suggested by peripheral cues such as imagery." (8)

As greenwashing can take on many forms, it also has various effects. The empirical research that has been done so far focuses on a macro- and a microlevel. Macro level studies concern the relationship of greenwashing and the organization's overall financial performance. It has been proven by some empirical research that there is a negative relationship between the two concepts. Regardless, many companies still engage in greenwashing practices. It is important to do more empirical research on the topic in order to reduce companies' participation in greenwashing. The other aspect is the micro level studies, which examine how consumers react to greenwashing and whether it has an influence on their buying behavior. (8) My research belongs to the second group and looks at greenwashing from a micro-level perspective.

De Jong et al. also suggest that greenwashing has a negative effect on consumers' purchasing intentions and buying behavior. This claim is backed up by many other scholars. For instance, Hameed et al. who conducted empirical research on greenwashing and how it influences green purchase behavior. The authors of this paper also included the concepts of green brand love, green brand image, and green brand loyalty as mediating effects. The conclusion of their research was that greenwashing indeed has a negative effect on green purchasing intentions. They wrote that "Greenwashing offers

short-term benefits to organizations that create consumers' skepticism and eventually negatively affect purchase intention". (5) Green skepticism was defined the following way by Urbanski et al. "Green skepticism is a distinctive phenomenon where a product's green claim and legitimacy is doubted by the consumers". (15) While greenwashing might bring financial gains to the company at the beginning while it goes unnoticed, eventually has more negative effects on the companies' financial performance and weakens the trust and brand-loyalty among consumers. (5)

Even though there is extensive research done on the topic already, there are some areas and concepts that have not been covered yet. Additionally it is important to provide more empirical research on firms' greenwashing behavior, because it drives policy makers to take more precise steps and regulations to control firms' greenwashing behavior. At the same time, it is important to show companies that greenwashing in the long run will ruin customer loyalty and eventually lower revenue.

Greenwashing in the fashion industry

Greenwashing is present all across the industries. Big fashion brands, electronic companies, furniture manufacturers and many other companies have been caught greenwashing in the past. However, when it comes to the fashion industry, many consumers see greenwashing and fast-fashion closely connected. Fast fashion has emerged only in the 21st century. Fast fashion companies produce widely available inexpensive clothing, trying to reduce production-costs by producing in countries with less environmental regulations, cheaper materials, lower wages to employees etc. "As a business model that relies on a resilient supply chain and low-cost control, it satisfies the short-cycle fashion needs of many consumers, thus is highly sought after by consumers and stimulates impulsive consumption behavior and waste" - writes Lu et al. (10) The fashion industry's waste production rate is ever increasing and fast fashion plays a big role in it, as it encourages disposable consumption culture. (10) Greenwashing is a common practice among fast-fashion brands, as they try to cover up the unsustainable nature of their business by fake green marketing campaigns. (10) The fashion industry has many brands engaging in greenwashing, and clothing items are a common need for all people, so purchasing clothing items is a regular activity. Also with clothing items in the production process there can be a big difference between sustainable and not sustainable processes. Which allows sustainable brands to use green marketing as a strategy, and not sustainable brands to engage in greenwashing at the same time. The research done by Lu et al. specifically focuses on greenwashing practices in the fast fashion industry. Their research proves that similarly to the other industries researched by other scholars, greenwashing perceptions also negatively influence buying behavior in the fashion industry.

Awareness of greenwashing

The independent variable of this research is greenwashing awareness, which measures the level of consumer awareness of greenwashing practices. By this, I hope to enrich the existing literature on the topic of greenwashing and consumer behavior. This term is important to look at because many consumers could get misled by companies simply by being unaware of their greenwashing practices. As many previous studies have suggested, educating consumers on greenwashing should be a priority of truly green companies. (15, 16) Making consumers be able to differentiate between greenwashed and truly green products, would give truly green companies a competitive advantage. Raising awareness of greenwashing should be a priority because it is not enough to be an environmentalist if consumers are unable to spot greenwashing. A study conducted by Santos et al. suggested that environmental awareness and awareness of greenwashing are not correlated. Consumers with strong environmental values are not better at spotting greenwashing practices than the ones who care less about the environment. (16) This claim was refuted by authors Sun and Shi, according to whom higher level of environmentalism leads to better capabilities of spotting misleading green advertisements. (12)

However, in the research led by Santos et al, the consumers who were educated about greenwashing and had sufficient information on the topic, became more resistant to the deceptions of companies. The authors defined this phenomenon as 'greenwash penalty'. (16) Greenwash penalty is a term referring to the change in consumers attitudes towards a brand that engaged in greenwashing practices. Greenwash penalty is the lack of willingness to pay more for products of that company after becoming aware of greenwashing. (16) The term also appeared in a research conducted by Schmuck et al. that stated "that consumers with high environmental involvement are more inclined to penalize brands that make poorer efforts toward being environmentally friendly". (12)

Consequently, consumers' awareness of greenwashing has a negative influence on their attitudes towards a given brand that claims to be green even though that has not been the case. As consumers' attitudes are influenced, it also shows in their purchasing intentions and buying behavior.

Green purchasing intention

Green purchasing intention is the dependent variable of this research and stands for the likelihood that a consumer will choose a green product because of his or her environmental views. It also defines the length a consumer is willing to go to buy from an environmentally friendly company. (4,17) This could be for example willingness to pay a higher price for an environmentally friendly product or

investing more time (such as buying groceries from a farmers market locally instead of supermarkets). Green purchasing intentions is a variable other researchers used to measure actual green buying behavior. (16) Lu et al. describe purchasing intention as “the subjective probability that a consumer will purchase a particular product”. (10) while green purchasing intentions is the probability a consumer would be willing to switch to a sustainable product or service. Green purchasing intentions and hence green purchasing behavior is influenced by greenwashing, as many studies have proven. There is extensive literature on how greenwashing negatively influences green purchasing intentions and buying behavior. (5, 10, 12, 13) In this research the relationship between greenwashing awareness and green purchasing intentions will be investigated, with a different set of subjects, to see whether it is aligned with the previous studies.

Hypothesis 1: awareness of greenwashing negatively affects green purchasing intentions.

Environmentalism as a moderating variable

Consumers' attitudes toward the environment is introduced as a moderator in this research, has been defined as “the environmentalist is an individual who cares about the environment and has intentions to consume products that have no or minimal negative impact on the environment.” by Urbanski et al. (15) Consumers who have strong environmental values, have the intention to behave in an environmentally friendly way, and portray these values in their attitudes, goals, and actions. Awareness and knowledge of environmental issues were also highlighted as important concepts by these authors. Environmentalism has been included in many researches as there is a rising environmental concern and environmental awareness in society. Other scholars have defined environmentalist consumers as “consumers who are highly concerned about the environment, have exceptional awareness of environmental problems, and perceive the necessity of protecting the environment” (12) Related concepts to environmentalism are environmental concern, environmental awareness and environmental knowledge. “Environmental concern is the level of worry about environmental issues and a sign of efforts to address these issues” (6) Consumers with higher environmental consciousness tend to translate their views into actions and favor sustainable products. (6) Numerous studies lead to the conclusion that environmentalist consumers are more affected by green claims (6, 12, 13) However while environmentalism does play a role in consumer behavior, as it was proven by previous research, it is not the only factor in consumers' decision making.

Researchers have also talked about the green attitude-behavior gap, which refers to the discrepancy between consumers' positive attitude towards green products and their actual buying behavior. (7) Even though many consumers seem to care about the environment and hold strong green values, this

does not necessarily translate into actions. (7) Another controversy in previous literature is the question whether environmentalism influences awareness of greenwashing. While authors Sun and Shi states “consumers with a higher sense of environmental responsibility are more likely to detect companies’ greenwashing behavior” (13) another research by Santos et al. argues consumers that score high on environmentalism, are not more capable to spot greenwashing practices than the ones who score low. (16) This research aims to add to the existing literature and examine whether this is the case with a new sample.

Hypothesis II.: The stronger the environmental values a consumer has, the greater the negative effect of consumers’ greenwashing awareness on their green purchasing intentions.

Age as a moderating variable

Existing literature suggests that younger consumers are more likely to be led by their environmental views in their decision making process than older generations. (6) Additionally, they are more mindful of the current environmental issues than older people. (16)

Research conducted by Urbanski and Haque tried to uncover whether consumers are able to differentiate between greenwashed and truly green products. Their study suggested that high environmentalists, while claiming to be skeptical towards green advertisements, are still more likely to fall into the trap of greenwashing. The same research provided statistical proof that younger people have less trust towards green advertisements than the older generations. Based on the responses the research participants gave, older people are more likely to trust false green advertisements and purchase from these companies despite identifying as an environmentalist. Moreover, older people are less likely to believe that greenwashing is problematic. (15)

However age as a variable was not used in many researches before, it was only included as a control variable. Previous research did not give it significance or questioned whether it might influence the relationship between awareness of greenwashing and green purchasing intentions. I believe it is an interesting approach to take and examine whether it has a moderating effect on that relationship, as age seems to play a role in the level of environmental awareness and green trust. Younger people tend to be more environmentally conscious and this shows also in their actions. At the same they are also more skeptical about green claims and lay less trust in green marketing. For these reasons I

believe that younger people are more aware of the phenomenon of greenwashing and are less likely to be deceived by it.

Hypothesis III.: The relationship between awareness of greenwashing and green buying behavior is moderated by the age of respondents. In the case of younger generations the effect of awareness of greenwashing on green purchasing intentions is stronger.

Gender as a moderating variable

Gender as a moderating variable has not been researched yet, but I believe that it is an interesting aspect to consider. Past researches argued that in many cases females are doing the shopping, and there are always more female respondents than males in questionnaires concerning consumption. (8, 14, 16) I expect the same in this research.

In previous studies gender was not considered significant, or to have any effect on the relationship between awareness to greenwashing and green purchasing intentions. Only one research differentiated between male and female respondents. This research was conducted by Zhang et al. and studied the relationship between greenwashing perception and green purchasing intentions. Zhang's research investigated whether this relationship is moderated by green concern and mediated by green word of mouth (WOM). A survey method was used in this study, and the questionnaire was filled out by 553 respondents, from which, 55.3 percent were males and 44.7 percent females. The results of this survey have proven that there is indeed a negative relationship between greenwashing perceptions and green purchasing intentions, the same conclusion other scholars have arrived at. (5, 10, 12, 13) Furthermore, based on the survey results, they concluded that green concern further strengthens this negative relationship, additionally, green WOM is indeed a mediator of it. Greenwashing perceptions negatively influences green WOM, which in return further strengthens the negative relationship between the two variables. In this mediated relationship, gender comes into the picture. It was observed how gender affects the strength of the indirect influence green WOM has on green purchasing intentions. Female respondents' greenwashing perceptions and consequently their green purchasing intentions were significantly more impacted by the indirect mediating effect of green WOM than in case of male respondents. This was tested by a regression analysis. The research states "gender is significantly negatively related with green WOM ($b = -0.137$, $p < 0.01$), showing females are more likely to communicate green WOM" (17)

Hypothesis IV.: Among females the effect of awareness of greenwashing on green purchasing intentions is stronger.

Income as a moderating variable

Income as a moderating variable has not been included in previous studies, however two researchers Imiru and Joshi et al. mentioned it would be an interesting approach to take in future research. (6, 7) While it has not been researched yet as a moderator, there is plenty of information about how income influences purchasing decisions. Santos et al. stated that “Research has shown that middle- and upper-income consumer segments have higher purchase intentions towards green products” (16) Which makes sense, considering that green products tend to be more expensive, and lower- income consumers might not be able to afford these products, even if they wish to because of their environmental views.

Additionally, price plays a much bigger role in purchasing decisions in case of lower income consumers. Consumers that have a lower income, but high environmental values still purchase green products, and that means a higher level of commitment to their environmental views.

This research wants to answer the question whether income moderates the relationship between awareness of greenwashing and green purchase intentions.

Hypothesis V.: Low income consumers are less likely to be influenced by their awareness of greenwashing in their purchasing intentions.

Methods

In the following part the data collection process, measurements, research instruments and methodology will be described in detail. As in many previously conducted research the unit of analysis is the consumer. To collect data on the consumer-level, a survey was designed and distributed. Using surveys to measure consumer perceptions is a popular way of conducting quantitative research in the field. Surveys are fairly easy to analyze and still provide rich data and great insights. The survey method is usually used when the researchers have already developed hypotheses during the literature review and the research has set concepts it aims to further examine. Which applies to the case of this study.

This study focuses on greenwashing perceptions in the fashion industry, which does not limit the population, considering almost all people have purchased clothing items in their life. A fair share of previous studies limited the sample by different criteria, for example, based on people's awareness, environmental values or income level. However, this is not the case in this study, as it aims to examine the differences between demographic groups. For this reason, there was no previous knowledge needed to fill out the survey.

The sampling method of the research was a convenience sample. To collect the responses an online survey was distributed on mainly social media platforms. This is a time and resource effective approach. To get the highest number of respondents the survey was designed to be short and easy to follow. It consisted of 20 in most cases multiple choice, but sometimes short answer questions. The first 5 solely focused on the demographic data of the respondents. Table 1 contains these questions.

1	How old are you?
2	What is your gender?
3	Where are you from?
4	What is your highest level of education?
5	What is your monthly income?

The next section captures the following concepts: 'level of environmentalism', 'awareness of greenwashing' and 'green purchasing intentions'. To measure these concepts a likert scale was utilized, which is a commonly used measurement method in qualitative research, as it clearly captures the distinctive values. The previous studies had also made use of likert scales. Furthermore, the concepts of this research have been already researched by numerous scholars, which makes them easier to measure. When constructing the survey, I relied on previous work and made use of the questions that have been already proven to be good measurements of these variables. The questionnaire was built up from different surveys. The statements concerning greenwashing awareness and green purchasing intentions were from the study by Urbanski et al. (15), while for the level of environmentalism from Junger et al. (8). The reason for this is that there were no surveys, measuring all these elements at the same time and without relating them to a fictional product or a specific setting that only applies to that research. Also, slight alterations to the phrasing of the statements were made, but the content was kept the same.

Table 2 contains the statements concerning environmentalism (6-10), greenwashing awareness (11-15) and green purchasing intentions (16-20).

6	I see myself as an environmentally friendly person.
7	I consider the environment an important topic to think about
8	I think there is too much fuss about the environment.
9	I prefer environmentally friendly products.
10	I prefer companies that produce in an environmentally friendly manner.
11	I am familiar with the term 'greenwashing.'
12	I can name some companies that partook in greenwashing in the recent years.
13	I trust green labels and green product claims.
14	I do not question green labels and green product claims.
15	I think greenwashing is a common practice in the fashion industry.
16	I think green products are relevant to my shopping needs.
17	When purchasing clothing items, I often look for green alternatives.
18	I will consider purchasing green clothing items as they should be less harmful to the environment in the coming years.
19	I only purchase green products from brands I trust are truly green.
20	Most of the clothes I buy are from a sustainable store or secondhand.

For these variables a value, I used a 7-point likert scale, the values ranging from strongly disagree to strongly agree. The following answer options were included: 1) strongly disagree 2) disagree 3) somewhat disagree 4) neutral 5) somewhat agree 6) agree 7) strongly agree. The respondents were asked to indicate their opinions on a 7-point scale, and the meaning of the numeric values had been explained in a brief introduction at the beginning of the questionnaire.

Question 11) and 12) have not been included in any previous research, however I found it relevant to answer my research question. I included them because to truly measure awareness of greenwashing, it is important to include an option that stands for the group of research participants who have not heard about the concept before. Question 11) and 12) was a yes/no question, while the rest followed the 7-point likert scale. In calculations no meant 0, while yes was counted as 7, so the magnitude of these two questions match the rest.

Statements 19) and 20) were not included in previous research, however I believe they are good indicators of green purchasing intentions.

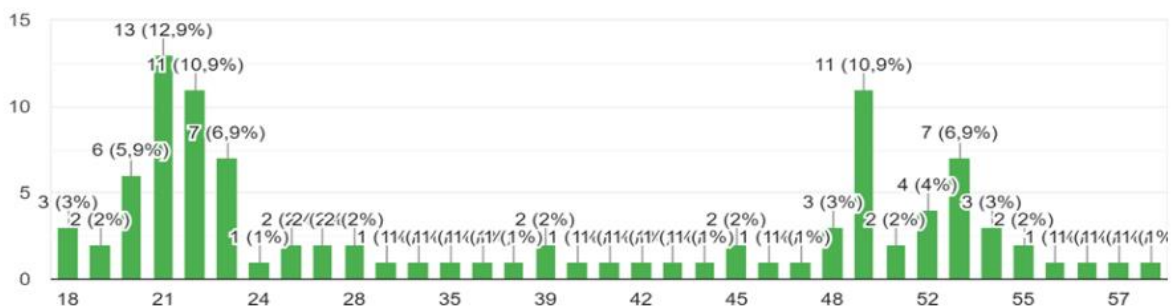
Results & Discussion

Statistical analysis

The survey was filled out by 101 participants, from which all replies were considered valid, as each participant gave a reply to each and every question. Out of all respondents, 59 were female, 38 male, 2 non-binary and 2 respondents preferred not to share their gender. The sample was female dominated, which was already suggested by some of the previous research. Because of this gender is not divided enough to make conclusions based on it, for that we would need more male respondents.

	young	old
number of respondents	52	49
mean	22.42	49.16
median	22	49
mode	21	49
standard deviation	3.256	5.297
variance	10.602	28.056

Another variable included was age, and participants were divided into two age groups. 52 respondents belonged to the younger group, they were 35 years old or younger, while the older group had 49 individuals that are older than 35 years old. For age it was easy to make the division, as there was a peak in the younger group around the age 18-28 and in the older group around 48-58 and there were not that many respondents in between. This is because when I first distributed the survey online I got responses only from my age group, as those are the people I am in regular contact with online. However with only those results age could not have been a differentiator, hence some of my peers and I shared the survey in our parents' circle. This is convenient for this research, as it provides a good base to look at the results from a generational perspective and compare attitudes based on age groups.



Looking at nationality, two groups were made based on the survey replies: Hungarian and international, as the respondents' 57.4 % were Hungarian (58 individuals). As for the second group many nationalities were present, but none of them had enough respondents to make any higher-level categories. The data collected from this survey is only sufficient to look at the differences between Hungarian and non-Hungarian individuals.

For education the survey resulted in rich data. There was a group of participants representing every educational level, most of the respondents are currently doing their bachelor's degrees, while the second largest group have already obtained their master's degree. I believe this division is correlated with the age groups and in the younger age group participants were predominantly 18-23 years old, which is the usual age to do bachelor's.

Income levels were also varied across the sample, the largest group of participants (39.6 %) made between 500 and 1500 euros a month.

To further look at descriptives, greenwashing awareness, green purchasing intentions and environmentalism were examined. These variables were constructed based on the replies respondents gave on their level of agreement with various statements. These were captured by a 7-point Likert scale. The way of measuring these variables was already discussed before at the beginning of the methods section. To provide some insights into the descriptive statistics of these values, take a look at the following table:

	environmentalism	green purchasing intentions	greenwashing awareness
number of respondents	101	101	101
mean	5.15	4.46	3.98
median	5.2	4.4	3.8
mode	5	3.8	3.8
standard deviation	0.62	1.012	1.59
variance	0.385	1.024	2.52

The mean of greenwashing awareness was the lowest across the three variables. An interesting value to look at is standard deviation and variance. The variable Environmentalism has relatively low standard deviation and variance, so the individual scores lay closer to the sample mean. However, in case of Greenwashing awareness and Green purchasing intentions, there is a large discrepancy between the individual scores, especially concerning greenwashing awareness. This is an important aspect to consider, because a large spread in data raises numerous implications. A high variance leads to larger confidence intervals, which makes the data set less suitable to estimate accurately population parameters. It is more difficult to identify patterns in the data, and so it lowers the

reliability of the correlations in the findings. In result the findings will be less accurate and generalizable.

These errors could be eliminated by increasing the sample size. That could positively influence the statistical power of the analysis, and then more relationships would be statistically significant, hence could be observed and could lead to spotting patterns and making generalizations. The relatively small sample size is one of the limitations of this study and future research could focus on these effects and relationships, in a larger sample.

Correlation Analysis

To analyze the results SPSS software was used. Primarily, the relationships between variables were looked at. A bivariate correlation analysis gave the following results:

	greenwashing awareness	green purchasing intentions	environmentalism	age	gender	nationality	education	income
greenwashing awareness	1	.450***	.137	-.269***	.106	.389***	-.177	-.045
green purchasing intentions	.450***	1	.399***	-.169	-.144	.198*	-.174	-.231**
environmentalism	.137	.339***	1	.145	-.013	-.089	-.065	.132
age	-.269**	-.169	.145	1	-.040	-.676***	.498***	.531***
gender	.106	-.144	-.013	-.040	1	.112	.029	.268***
nationality	.389**	.198*	-.089	-.676***	.112	1	-.404***	-.374***
education	-.177	-.174	-.065	.498***	.029	-.404***	1	.409***
income	-.045	-.231**	.132	.531***	.268***	-.374***	.409	1

Not all relationships included in the hypotheses were significant. The correlation analysis showed a positive correlation ($r = 0.450$, $p < 0.001$) in the relationship between awareness of greenwashing and green purchasing intentions. This is the main relationship this research aimed to examine, and the correlation analysis showed a very interesting result as it is not aligned with previous research or Hypothesis I.

Awareness of greenwashing also had a significant negative correlation with age and a positive with nationality. The correlation between awareness of greenwashing and age indicates that the younger the individuals are, the more aware they will be of greenwashing. In the case of nationality the correlation analysis suggests that internationals are more aware of greenwashing practices than Hungarians. The same applies to the relationship between environmentalism and green purchasing intentions, a positive correlation suggests that internationals are more likely to intend purchasing green products. However, this could be simply the result of the age effect, as age and nationality are

strongly correlated. Meaning that in the sample most of the Hungarians belong to the older generation. Income is also negatively correlated with green purchasing intentions, suggesting that people that make less money are more willing to buy green products. Which again, could be a result of an age effect, as age and income has a strong positive correlation, meaning older people have a higher income, but they might be less aware and willing to purchase green products.

Regression Analysis

Greenwashing awareness and green purchasing intentions

Variables	Model 1		Model 2		Model 3	
	Standardized Beta	Standard Error	Standardized Beta2	Standard Error3	Standardized Beta3	Standard Error4
Nationality	0.141	0.226	-0.015	0.224	-0.023	0.252
Education	-0.113	0.073	-0.105	0.067	0.030	0.070
Greenwashing awareness			0.411***	0.065	-0.767	0.660
Age					0.314	0.586
Gender					-0.065	0.554
Income					-0.370	0.302
Environmentalism					-0.070	0.488
Moderator: Age					-0.367	0.152
Moderator: Gender					-0.173	0.135
Moderator: Income					0.296	0.081
Moderator: Environmentalism					1.319	0.124

First I examined the relationship between the dependent (green purchasing intentions) and independent (greenwashing awareness) variables, while controlling for nationality and education. The other demographic variables are used as moderators and will be looked at later. In the table below Model I contains only the control variables, Model II the control variables and the independent variable, while model III includes all the variables used in the research.

Through the regression analysis it has been shown that greenwashing awareness has a significant positive impact on green purchasing intentions, when only controlling for nationality and education. Meaning that the higher awareness an individual has of greenwashing, the more likely they will hold green purchasing intentions. However, when all variables are included, in Model 3, the relationship does not seem to be significant anymore. This refutes Hypothesis I, as Hypothesis I predicted that greenwashing awareness would have a negative effect on green purchasing intentions. In Model 3, when controlling for all variables, awareness of greenwashing does have a negative effect on green purchasing intentions, as predicted, but the relationship cannot be considered significant.

To inspect the relationship between greenwashing awareness and green purchasing intentions other variables and their effect were taken into consideration as well. The following part will discuss the sub-questions of the research and look at the moderators.

The moderating effect of Environmentalism

First of all, environmentalism was looked at to see if people’s level of environmental concern affects the strength of the relationship of greenwashing awareness and green purchasing intentions. The moderating effect of environmentalism was calculated as follows: the values of environmentalism were multiplied by the values of greenwashing awareness, and this newly computed value was placed in a regression analysis model alongside with the independent variable: greenwashing awareness and the dependent variable: green purchasing intentions.

Variables	Model 1		Model 2	
	Standardized Beta	Standard Error	Standardized Beta2	Standard Error3
Nationality	0.048	0.208	0.052	0.206
Education	-0.068	0.063	-0.029	0.064
Greenwashing awareness	0.380***	0.061	-1.424	0.622
Environmentalism	0.287	0.144	-0.226	0.472
Moderator: Environmentalism			1.955	0.119

In this analysis only Model 1 has a significant variable, namely greenwashing awareness with a standardized coefficient of .380. However in the case of Model 2, when environmentalism moderates its relationship with the dependent variable (green purchasing intentions), the effect of greenwashing awareness, while negative, does not reach the threshold of significance. In the sample environmentalism does not influence the strength or the direction of the relationship between dependent and independent variables on a significant level. Even though the direction of the relationship of greenwashing awareness and green purchasing intentions changed when introducing environmentalism as a moderator, the result cannot be considered significant. With this, Hypothesis II is refuted as well, no significant effect was found. Environmentalist values do not have a generalizable effect.

Gender as a moderator

Variables	Model 1		Model 2	
	Standardized Beta	Standard Error	Standardized Beta2	Standard Error3
Nationality	-0.033	0.213	-0.037	0.214
Education	-0.085	0.064	-0.065	0.066
Greenwashing awareness	0.435***	0.062	0.527***	0.084
Gender	-0.290***	0.184	-0.056	0.501
Moderator: Gender			-0.273	0.118

There is an inverse relationship between gender and green purchasing intentions, which we can see in Model 1. Meaning that males are less likely to hold green purchasing intentions than females. For the variable gender dummy variables were used (0 for female, 1 for male, and I excluded non-binary, and the ones that preferred not to say). This effect however becomes insignificant when including another variable, the moderating effect of gender. In both models, greenwashing awareness has a positive effect on green purchasing intentions. In case of Model 1, this effect is weaker, as the negative and significant effect of gender is also included in that model. Regardless of the slight negative influence that gender has as a moderator, based on significance, the findings and Hypothesis III are refuted as well.

Age and income as moderators

Variables	Model 1		Model 2	
	Standardized Beta	Standard Error	Standardized Beta2	Standard Error3
Nationality	-0.025	0.263	-0.028	0.260
Education	-0.096	0.070	-0.076	0.070
Greenwashing awareness	0.437***	0.063	0.566***	0.079
Age	-0.021	0.263	0.361	0.529
Moderator: Age			-0.408	0.122

Variables	Model 1		Model 2	
	Standardized Beta	Standard Error	Standardized Beta2	Standard Error3
Nationality	-0.081	0.219	-0.077	0.219
Education	-0.031	0.068	-0.017	0.069
Greenwashing awareness	0.465***	0.062	0.558***	0.090
Income	-0.227	0.099	-0.030	0.238
Moderator: Income			-0.233	0.057

Table 4 checks the moderating effect of age, and in both models, the only variable that has a significant effect on green purchasing intentions is awareness of greenwashing. Based on this Hypothesis IV. is rejected, age does not have a significant impact on the strength or the direction of the relationship if greenwashing awareness and green purchasing intentions.

The same applies to income as a moderating variable. The p-value is larger than the threshold, hence there is not enough evidence to conclude that income impacts the relationship between awareness of greenwashing and green purchasing intentions.

Conclusion

All hypotheses have been tested, and none of them were proven to be correct. No relationships were significant enough to make conclusions based on them. When controlling for all variables even the main effect was insignificant. The most interesting finding of this study is the rejection of hypothesis I, considering it goes against the majority of previous literature. This research, while refuting all of its

hypotheses, demonstrates that demographics has no significant effect on the way greenwashing awareness influences green purchasing intentions. However, there is an inconsistency across studies, the majority of previous literature suggests greenwashing awareness lowers green purchasing intentions, others - and this research shows the opposite. This research suggests that this cannot be explained by moderating demographic variables, nevertheless it is important to keep conducting research on the topic to find what causes the inconsistency.

To address the limitations of the study let me begin with the sample size. In this research the sample size was limited, and the given responses by a small group of participants might not be representative of the population, hence there is not enough proof to make generalizations. Additionally, the study presented conflicting results compared to the previous literature, which again reinforced my previous statement that based on this study we cannot make any conclusions. It is a possibility for future research, to consider other factors mediating or moderating the relationship of greenwashing awareness and green purchasing intentions, that could explain this inconsistency in the findings. Even though this study showed that demographic variables or environmentalism does not moderate the impact of greenwashing awareness on green purchasing intentions, the possibility should not be excluded just yet. It could be re-examined again in a different setting, with a larger sample size. This research did not look into how nationality affects the relationship (as there was no nationality apart from Hungarian with a representative number of participants, which could be another interesting thing to consider in the future. Taking into consideration other factors, such as attitudes, personality traits, cultural background is also a direction future research could take. As for methodology, this research utilized a survey method, which can be also considered a limitation, in the sense that it does not allow participants to elaborate on their opinions or ask questions if something is unclear. Hence future research could also consider taking a qualitative approach and collecting data from focus group discussions.

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