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# Green Purchase Behavior: The Effectiveness of Sociodemographic Variables for Explaining Green Purchases in Emerging Market

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**Abstract:** Environmental degradation is a serious problem in modern civilization as it causes changes in consumer behavior towards ecologically responsible purchasing. In order to understand the green product purchasing decision process, an extensive literature review on green purchasing behavior was conducted. The current study is an exploratory research and the purpose of this paper was to investigate how sociodemographic factors explain consumers' green purchase behavior. The differences between gender, age, education level, personal financial situation, and the number of children in the family were examined. To achieve the goal, we conducted a survey among 650 Polish consumers. Our findings suggest that all of the above-mentioned sociodemographic variables have an impact on awareness and purchasing behavior towards green products. Moreover, the results show that female consumers have more positive attitudes towards purchasing green products, than male consumers. Young consumers are skeptical about green products. A positive relationship was established between education and the acknowledgement of the dominance of one's own needs over the needs of the environment. The better the personal financial situation, the more people expressed their intention to buy green products. The paper shows the implications for marketing. In addition, our exploratory research shows future research directions based on findings from the point of view of green consumer behavior. The study is an in-depth analysis of the factors determining green purchasing behavior. It contributes to the current literature by strengthening the existing knowledge about the factors influencing green purchase behavior in developing countries.

**Keywords:** green product; consumer; green purchase behavior; sociodemographic variables; intentions of purchasing green products; green marketing

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## 1. Introduction

The concept that has changed the approach to marketing is the stakeholder theory, where purchasers are recognized as one of the most significant groups and positioned at the beginning of the development process in an enterprise as a strategic starting point. Contemporary concepts of business management increasingly take into account the ecological and social aspects of companies' operations. This is reflected in the development of the corporate social responsibility concept, which made businesses become interested in creating value for all stakeholder groups, including purchasers [1]. The theory of consumer behavior is one of the main theoretical approaches in marketing. Consumers' recognition of the importance of caring for the environment in the context of civilization threats is reflected in the change of values, attitudes, structure of needs, and the conditions and methods of satisfying them, as well as in transforming purchasing behavior.

Globalization processes, growing social inequality, and the industrialization of economies have raised awareness of the negative consequences of the social and economic growth on the contemporary civilization. One of the most significant issues includes environmental degradation, which is deeply rooted in the excessive exploitation of natural resources,

the application of improper production processes, and growing consumption [2]. Consumers are users of the environment and its quality is conditional on their behavior. Given such an understanding, green products represent a category of products that are growing in importance in the face of environmental degradation and the recognition of sustainable development [3]. A special role is served by purchase behavior, which entails choosing a product, manifesting thus a way in which consumers' needs are satisfied. The reorientation of purchasers' behavior from egocentrism to ecocentrism is connected with mounting concern about the environment and human beings and is gaining significance. This is associated with the emergence of a new awareness among purchasers, who—when making a purchase—more and more frequently pay attention to the environment, health, safety, higher quality, and needs of other people [4]. The green products market is perceived as a sector that has a huge potential of growth, generates economic benefits, and creates new jobs, as well as plays a key role in the process of transforming economies towards sustainable development [5]. An increasing awareness of changes in purchasers' preferences and the urgency of actions designed to resolve current environmental and social issues is becoming a driving factor behind the operations of all groups of stakeholders, who are forced to seek solutions to such issues with a view to safeguarding the interests of present and future generations.

Green products markets in developed countries are nowadays seen as fast-growing sectors. In developing countries, on the other hand, specifically in Central and Eastern Europe, the green products market has a tremendous potential, which is being exploited, unfortunately, only to a lesser extent, hence there is a pressing need for the identification of factors determining and limiting its growth. It must be emphasized that the market growth is conditional on changes taking place in purchasers' behavior, who—when making purchasing decisions—take into consideration criteria relating to environmental protection [6]. The behavior of purchasers on the green products market is evolving, which demonstrates a need for the thorough examination of aspects associated with sociodemographic factors that have a bearing on purchase behavior towards green products. Young et al. [7] pointed out that consumers who have chosen a sustainable lifestyle consider the purchasing process to be more and more complex. Some authors [8,9] identified a green purchase gap. These findings are decisive and prove the need for comprehensive research into purchasers' green behavior, which is of great relevance—in particular for emerging markets. This will make it possible to design products that are tailored to consumers' needs and will allow for communicating green attributes of products in an effective manner.

The research has attempted to gain an understanding of how sociodemographic factors impact purchase behaviors towards green products. Therefore further detailed comprehension of a correlation between sociodemographic features and purchase behavior is necessary in the context of green purchase behavior. Previous research into a consumers' decision-making process in relation to green products delivered various results, and some of them failed to reveal major differences. Chryssohoidis and Krystallis [10] argued that a tendency to buy green food is to a greater extent influenced by an individual lifestyle rather than by a sociodemographic profile. Some research [11–13] did not exhibit any major difference in behaviors displayed by women and men towards green products. Paco and Reis [14] pointed out that gender does not have any bearing on an approach to environmental declarations in advertisements. Hence there is a need for further study into, and examination of, these aspects. This research makes a contribution to current literature by enhancing the existing knowledge of factors that influence green purchase behavior in developing countries. In the literature, a lot of attention is paid to the concept of green consumption and little to green purchases. Scalcoa et al. [15] found that very few research studies have focused on the differentiation between an act of purchase and consumption of green products. This paper is an attempt to fill this gap by providing new evidence towards deepening our understanding of green purchasing behavior and green purchasing inconsistency. Green purchase behavior depends on various factors [16]. Rokka and Usitalo [17] claimed that even buyers with a very high level of environmental

knowledge and awareness did not always purchase environmentally friendly products. The perception of environmental problems and green products, as well as the assessment of product features, depends on sociodemographic factors [18]. By assessing the impact of sociodemographic characteristics on the approach to green purchasing, it is anticipated that companies can make progress in their marketing practice in terms of the effectiveness of their operations.

Findings contained in this research may have a bearing on future actions taken by companies. The differences in purchasers' behaviors in terms of their sociodemographic features not only heighten the need for a different approach to a product itself and to how a promotional message is developed, but also indicate a need for pursuing other price strategies and using other distribution channels. Knowledge of these relationships provides considerable help in positioning, market segmentation, and the development of marketing activities.

This study is an exploratory piece of research and the aim of this paper was to investigate how sociodemographic factors explain the consumers' approach to the concept of green purchasing.

## 2. Literature Review

### *2.1. Green Purchase Behavior*

Green consumers avoid products that inflict substantial damage on the environment during their manufacture, consumption, or disposal. Elkington [19] drew attention to the fact that the purchaser refrains from buying a product that consumes a disproportionately large amount of energy, leads to unnecessary wastage, is made of materials originating from endangered species, abuses animals, or even entails cruelty towards them. Roberts remarked that the purchaser of green products wants to buy and consume only such products that either exert the least possible impact on the environment or have no impact whatsoever [20]. Purchasers' behavior is driven not only by their wish to satisfy individual needs, but also concern about the interests of the entire society [21]. The purchaser of green products actively participates in the boycotts of manufacturers and retailers and signs petitions aimed at saving the planet. These types of green behavior may be correlated with each other and consequently, the effect might be that when purchasers have engaged in one type of green behavior, this could increase their tendency towards being engaged in others [22]. Biswas et al. [23] discovered strong correlations between behavior orientated towards recycling and the purchase of recycled or recyclable products. Also, in the case of certain types of green behavior, a so-called effect of economic and ecological combination can be observed, e.g., the purchase of a low energy-consuming product brings both environmental and economic benefits [24].

There is plenty of evidence that demonstrates that attitudes are strongly linked to green intentions and green purchases [7,25]. Consumers who maintained positive attitudes towards the environment more often bought ecological clothes [26]. Consumers must appreciate the environment first, before they decide to purchase environment-friendly products.

Harries et al. [27] provided evidence that environment-friendly behavior is determined by subjective norms. Park and Ha [28] observed that in the case of people who have purchased green products, it is clear that they are influenced by subjective norms to a greater extent than those who have never done it. Zukin and Maguire [29] found that social norms have a considerable impact on green consumption behavior.

The vast majority of existing research has proved that green products are more expensive than conventional ones. Many studies [30,31] have demonstrated that a high price has a negative impact on purchasing intentions and purchase behavior towards green products. Some authors [32,33] have highlighted the fact that the rejection of higher prices is the greatest barrier to purchasing green products. Limited financial resources of purchasers exacerbate the effect of high prices. Gam et al. [34] pointed out that purchasers are unwilling to pay more for green products. Low price sensitivity has a positive impact on purchasing green products [35]. High price sensitivity, on the other hand, affects such

purchases in a negative manner [36]. Informed purchasers who bought green products regularly displayed the greatest willingness to pay higher prices [37]. There are numerous studies that indicated barriers relating to green product marketing. Significant obstacles to purchasing environment-friendly products included, in particular, restricted access to and poor visibility of them. Tarkiainen and Sundqvist [38] acknowledged that the availability of green products affects both the purchasing intention and the purchase. Also, Young et al. [7] maintained that the limited availability of green products was negatively correlated with purchasing intention and thus with its purchase. Jarczok-Guzy [39] referred to the narrow scope of promotional activities. Some studies [40,41] have shown a relationship between knowledge and green purchase behavior. People with greater knowledge of environmental problems and methods of solving them were more likely to purchase green products [42,43].

Due to the complexity of research into purchase behavior towards green products, it has been suggested that other factors should be considered with a view to explaining cause and effect relationships. Authors [44–47] noticed that concern about the environment exerts a positive impact on attitudes towards green products, which subsequently influences purchasing intentions to buy them. Some research proved that there is a link between knowledge and green purchase behavior. People with greater knowledge of environmental problems and methods of eradicating them showed a stronger inclination towards purchasing green products [41–44]. There were also attempts to incorporate other factors such as habits, past experiences of the product [48], cynicism and skepticism [49]. Many studies [18,39,50] have indicated that sociodemographic factors, i.e., gender, age, educational background, personal circumstances and children in the household, affect green purchase behavior.

### *2.2. Gender*

The purchaser's gender has a bearing on his or her purchasing decisions towards green products [51,52]. Fisher and Arnold [53] demonstrated that women are more sensitive about environmental issues than men. As far as the environment is concerned, women are more prosocial, altruistic, and empathetic than men [54]. They care about ethics to a larger extent, which translates into a specific attitude towards environmental protection [55]. Women are more interested in health and living in a safe environment, whereas men exhibit a tendency to perceive the environment as resources that can be exploited [56]. Compared to men, women are more prone to buying green products [57]. They purchase green products more often than men [58]. Irianto [59] confirmed positive attitudes and positive purchasing intentions of women towards green food. Research that covered consumers from Slovenia showed that women expressed deeper concern about the environment and had greater awareness of eco-products than men, despite the fact that there were no differences between women and men as regards green purchase intentions [60]. Women who received higher education show stronger inclinations towards green purchases [61]. Women also take a more positive attitude towards advertisements that deploy arguments relating to the environment [62]. They are more prone to take other pro-ecological actions such as recycling and energy saving [51]. The share of Macedonian women in the green segment is high [63]. In one particular study, women declared stronger intentions of staying at a green hotel, recommending it to other consumers and showed a greater tendency to pay a higher price [64]. Men, on the other hand, had greater and better knowledge of ecological matters than women [65,66].

We predicted the following hypothesis:

**Hypothesis 1 (H1).** *Gender has an impact on the attitudes towards green purchase.*

### *2.3. Age*

The average age of a green consumer is lower than that of a typical consumer [67,68]. Akehurst et al. [69] discovered that younger people were more sensitive to issues concern-

ing sustainable development. A positive attitude towards purchasing green products and paying higher prices does not translate into higher frequency of purchases [70]. Current research demonstrates more and more clearly that the green consumer is slightly older [71,72]. Green consumers usually represent a group of people aged from 30 to 44 [73]. Macedonian research showed a very low share of purchasers from the youngest age group in the green segment. The group aged 15 to 24 was the largest in the segment of brown customers [63]. Some research [74–76] demonstrated that age does not affect green behaviors. We proposed the following hypotheses:

**Hypothesis 2a (H2a).** *Age has an impact on the attitudes towards green purchase.*

**Hypothesis 2b (H2b).** *The older age of consumers, the greater social pressure for purchasing green products.*

**Hypothesis 2c (H2c).** *The older consumers are, the more of them express green purchase intentions.*

**Hypothesis 2d (H2d).** *The younger respondents were, the more purchasers of green products.*

### *2.4. Educational Background*

People who received higher education are more prone to buy green products than those with a lower level of education [77–79]. Lithuanian research proved that well-educated consumers are able to discern environmental issues and are more sensitive to them [80]. Also Sidique et al. [81] claimed that there is a positive relationship between education and green behavior. The level of education is usually connected with higher knowledge, which consequently translates into purchase behaviors. In general, higher education is conducive to the greater knowledge of social processes, a more reasonable approach to resource consumption and management in the household, purchasing decisions that give priority to environment-friendly products, as well as it helps perceive environmental degradation and threats to the environment and accept additional costs that must be borne to resolve environmental issues. Empirical findings made by Nguyen et al. [82] demonstrated that in the case of high-knowledge consumers, greenwashing has a more negative impact on green purchase intentions than for low-knowledge consumers. Bulgarian research [83] showed that environmental knowledge produces positive effects on concern about the environment and predispositions towards ecological consumption. Yin et al. [84] did not establish any clear relationship between the level of education (also age) and the purchase of green products. Thus, this study predicted the following hypothesis:

**Hypothesis 3 (H3).** *Education has an impact on the consumers' green purchase intentions.*

### *2.5. Personal Financial Situation*

Many studies have shown that green product purchasing is positively correlated with purchasers' income [85,86]. People who earn high incomes show deeper concern for the environment and buy more green products [87]. The purchasers of green food have larger incomes than nonbuyers [88]. Roitner-Schobesberger et al. [79] pointed out that income is a variable that seems to have a bearing mainly on the quantity of green products bought, and not on overall readiness for purchase. According to Awad [89], income has been always perceived as a variable that positively affects green product purchasing due to the fact that such products are more expensive. High-income consumers can afford to pay higher prices for green products. Purchasers' environmental awareness is growing, which is the reason why consumers representing the medium-income group express their intention to purchase green products [90]. Research conducted by Banyte et al. [80], which covered medium-income women, demonstrated positive intentions of buying green products. We established the following hypotheses:

**Hypothesis 4a (H4a).** *The better personal financial situation, the greater consumers' willingness to pay more for green products.*

**Hypothesis 4b (H4b).** *The personal financial situation has an impact on the evaluation of respondent's knowledge.*

### *2.6. Children*

Children who live in the household have been considered to be a significant factor that exerts positive effects both on consumers' attitudes towards green products and purchase behaviors [91,92]. Care about the health and safety of family appears to be a relevant factor behind purchasing green products [93]. Mothers give attention to their children's health and proper growth, therefore they have stringent requirements for the products they choose. Makatouni [94] referred to parents' tendencies towards assigning higher priority to green products, which stems from the fact that they are concerned about children's health and quality-related benefits. Children's age can be considered to be a key factor. The older children living in the household, the lesser tendency to buy green products can be observed [95]. Concern for the environment and attitudes towards recycling have a considerable impact on purchasing clothes for children made from ecological cotton, even though mothers of children going to the kindergarten are not prone to paying more money for green products for children [34]. An alternative lifestyle of mothers has a bearing on the greater frequency of green product purchases [96]. These studies imply the following hypotheses:

**Hypothesis 5 (H5).** *The number of children has an impact on the frequency of green product purchasing.*

## 3. Methods

The data were collected with the help of a questionnaire-based online survey. Before starting the quantitative study, a pilot study was carried out among 30 consumers, which allowed the elimination of inaccuracies related to the formulation of the respondents' views and opinions. Due to the lack of data in determining the sampling frame and the inability to draw a research sample, an approach was used by means of the purposeful sample selection method. In order to achieve the objectives of the study, the sample was constructed in terms of selected characteristics. The controlled variables included the province of residence, age of the respondents, and gender. The structure of this sample corresponded to the proportions of the population structure in Poland by province of residence. The distribution of the sample in terms of the age was very similar to the structure of the nationwide population that has access to the Internet. With regard to the gender, it was assumed that 70% would be women and 30% men. Women are more often responsible for purchasing food, cosmetics, cleaning products, clothes, toys for children for the household. Zasuwa [97] by using a random selection of households, confirmed the same gender proportions of those responsible for purchases.

Out of 827 questionnaires, a sample of 650 consumers who met the assumptions of the sample selection was used for the analysis. The target population of the study were consumers who declared their interest in purchasing green products. Thus, the research involved 650 Polish purchasers interested in purchasing green products. The study was conducted on individual consumers from the age of 18, as it was assumed that they were buyers who were independent in making purchasing decisions and had income.

The sample displayed the following sociodemographic characteristics: gender, age, education, place of residence, financial situation, and the number of children (Table 1). The sample was selected by means of a quota and purposive sampling method. The internet survey method was applied. Comparative experimental studies showed that the differences, apart from the question of the population, in the results of traditional studies carried out by means of direct or telephone interviews or by means of an internet survey

were negligible [98]. In online surveys, compared to the telephone interview, the respondents slightly less frequently chose positive variants of answers and more often indicated the answers from the entire range of scales [99]. The benefits of online marketing research in terms of speed of data collection and relatively low cost were great and exceeded the limitations of this research [100]. The research covered green convenience products. Due to the stage of development of the Polish market of green products, the statements referred to the category of green products. In other questions in the questionnaire, green products have been divided into organic food and environmentally friendly nonfood products.

The research was carried out between 7 December 2018 and 7 January 2019. Fifty variables were distinguished and presented to research participants. A seven-point Likert scale was used to measure the variables. A web interviewing method was employed. Quantitative variables were analyzed with the ANOVA Kruskal–Wallis test. As for gender, the Mann–Whitney U test was applied, which is considered the most effective tool of all nonparametric equivalents of two-sample independent t-tests [101]. For qualitative features, Pearson's Chi-square test for independence was used to examine relationships. The results included only those statements that proved to be statistically significant ($p < 0.05$—there is a statistically significant relationship, $p < 0.01$—there is a highly statistically significant relationship, $p < 0.001$—there is a very highly statistically significant relationship).

**Table 1.** Sociodemographic profile of the sample ($n = 650$).

| Characteristics | Items | Percentage |
|---|---|---|
| Gender | Female | 70% |
| | Male | 30% |
| Age | 18–24 | 13% |
| | 25–35 | 30% |
| | 36–45 | 28% |
| | 46–55 | 17% |
| | 55 and more | 12% |
| Financial situation | Very good | 15% |
| | Good | 49% |
| | Average | 35% |
| | Bad | 2% |
| Education level | Higher | 61% |
| | Secondary | 31% |
| | Vocational and less | 8% |
| Place of living | Village | 31% |
| | Town up to 40 thousand | 19% |
| | Town from 40 thousand to 100 thousand | 13% |
| | City from 100 thousand to 500 thousand | 12% |
| | City above 500 thousand inhabitants | 25% |
| Number of children | 0 | 23% |
| | 1 | 1% |
| | 2 | 10% |
| | 3–4 | 47% |
| | 5 and more | 19% |

## 4. Results

Research has shown that green products were bought by the majority of respondents relatively rarely and accidentally. The purchase of organic food with a frequency of 2–3 times a month was declared by 20% of the respondents, less than 2–3 times a month as many as 48% of the respondents, while the purchase once or several times a week was declared by 22% of the respondents. Green nonfood products were purchased much less frequently and with a very low frequency. Purchases with a frequency more than once a

month were declared by only 8% of respondents. Among these products, the respondents most often mentioned LED bulbs, green cosmetics, and eco-friendly detergents.

The results of the Mann–Whitney's U test showed that women had more positive attitudes towards green product purchases than men. They were prone to paying a higher price. They recognized, to a greater extent, joint responsibility for environmental protection. Women knew more about green products. Lack of time and difficulty in finding a product in the shop were perceived by men—and only to a lesser extent by women—as a barrier to purchase (Table 2). The hypothesis H1 was confirmed.

**Table 2.** Results of Mann–Whitney's U test—gender and average score.

| Statements/Gender | Women | Men | *p*-Value |
|---|---|---|---|
| I am sure that when I buy green products, I contribute to environmental protection | 5.26 | 4.87 | 0.005955 ** |
| I am sure that when I buy green products, these are higher-quality goods | 5.28 | 4.82 | 0.000468 *** |
| I am sure that when I buy green products, I help protect my health | 5.69 | 5.29 | 0.002469 ** |
| Purchasing green products gives a greater sense of security | 5.47 | 5.04 | 0.000840 *** |
| I am ready to pay a higher price for a green product | 4.47 | 4.19 | 0.048583 * |
| The promotion of green products is insufficient | 5.32 | 4.99 | 0.012032 * |
| I know how to tell the difference between green products and other products | 4.73 | 4.46 | 0.027172 * |
| I accept joint responsibility for environmental degradation | 4.92 | 4.41 | 0.000135 *** |
| I am going to buy green products within the next three months | 3.90 | 3.50 | 0.025022 * |
| I am sure that while doing the shopping I will buy a green product, even if it is more expensive | 4.21 | 3.80 | 0.014444 * |
| I am prone to switch to a green version of a product, but only if the price and quality are similar | 5.68 | 5.29 | 0.001904 ** |
| I do not buy green products because prices are too high | 4.94 | 4.72 | 0.042690 * |
| I do not buy green products because it is difficult to find them | 3.80 | 4.16 | 0.022335 * |
| I do not buy green products because I do not have time | 2.73 | 3.09 | 0.011701 * |

* $p < 0.05$—there is a statistically significant relationship, ** $p < 0.01$—there is a highly statistically significant relationship, *** $p < 0.001$—there is a very highly statistically significant relationship.

The Kruskal–Wallis ANOVA test demonstrated that young people, specifically aged between 18 and 24, cared the least about being perceived as an environment-friendly person. This group was the most skeptical about green products and their impact on environmental protection. Young respondents were more dissatisfied with the promotion of green products than other groups. The research indicated that the older age, the greater pressure is placed by friends and family members for purchasing green products. The youngest respondents did not understand ecological symbols and marking on packaging, and they did not buy due to limited availability and no income. Habits are barriers, particularly for the youngest respondents (Table 3).

Respondents aged 55-plus appreciated the higher quality of green products and had confidence in them. Older respondents perceived the purchase of green products as a sign of prestige and a higher social status. The older respondents were, the more often they bought products from a reliable source, but without certificates. Respondents aged 46-plus produced green products by themselves. High prices were considered by respondents above 55 years old as a considerable barrier.

The older consumers were, the more of them expressed intentions of purchasing green products within the next three months and buying green products at higher prices. Therefore, the hypotheses H2a–c were accepted. The greatest readiness for paying a higher price was expressed by people aged between 36 and 55. Age exerted an impact on whether a green product was purchased or not ($p < \alpha$, $p = 0.01237$ *), the period of purchasing green products ($p < \alpha$, $p = 0.00057$ ***), a subjective evaluation of knowledge ($p < \alpha$, $p = 0.02292$ *), and the frequency of green product purchasing ($p < \alpha$, $p = 0.00567$ **).

**Table 3.** Results of ANOVA Kruskal–Wallis Test—age and average score.

| Statements/Age | 18–24 | 25–35 | 36–45 | 46–55 | 55 and More | *p*-Value |
|---|---|---|---|---|---|---|
| I want to be perceived as a person who is concerned about environmental protection | 3.99 | 4.34 | 4.22 | 4.69 | 4.53 | 0.0245 * |
| I am sure that when I am buying green products I contribute to environmental protection | 5.00 | 4.91 | 5.27 | 5.24 | 5.47 | 0.0213 * |
| I am ready to pay a higher price for a green product | 4.00 | 4.26 | 4.63 | 4.56 | 4.32 | 0.0424 ** |
| Members of my family pay attention to green product purchases | 2.86 | 3.44 | 3.63 | 3.97 | 4.31 | 0.0000 *** |
| My friends believe that everybody should choose green products | 3.01 | 3.54 | 3.73 | 4.08 | 4.34 | 0.0000 *** |
| I understand ecological signs and symbols on product packaging | 3.67 | 4.15 | 4.41 | 4.14 | 4.03 | 0.0200 * |
| I accept joint responsibility for environmental degradation | 4.46 | 4.80 | 5.07 | 4.70 | 4.40 | 0.0200 * |
| It happens very often that I buy green products from a reliable source, but without certificates | 3.74 | 4.05 | 4.32 | 4.47 | 4.73 | 0.0280 * |
| I often produce green products by myself in my household | 3.84 | 3.55 | 3.64 | 4.10 | 4.32 | 0.0279 * |
| I am going to buy green products within the next three months | 3.15 | 3.52 | 4.09 | 3.97 | 4.12 | 0.0090 ** |
| I am sure that while doing the shopping I will buy a green product, even if it is more expensive | 3.38 | 3.90 | 4.47 | 4.14 | 4.35 | 0.0003 *** |
| I do not buy green products because prices are too high | 5.18 | 5.05 | 4.83 | 4.82 | 4.30 | 0.0127 * |

* $p < 0.05$—there is a statistically significant relationship, ** $p < 0.01$—there is a highly statistically significant relationship, *** $p < 0.001$—there is a very highly statistically significant relationship.

The older respondents were, the more purchasers of green products could be seen, and the younger they were, the more nonbuyers. The hypothesis H2d was not confirmed.

There were very few respondents who bought green food regularly, i.e., once or several times a week (in total, 22%). Nearly one-fifth of respondents (19%) aged between 46 and 55 bought green food once a week, whereas the others from this age group purchased such products less frequently, i.e., the frequency of 13–15%. Only 7% of people aged between 18 and 24 purchased green food once a week. By contrast, the group of respondents aged between 36 and 45 encompassed the biggest number of people who considered their knowledge to be very good (8%).

The ANOVA Kruskal–Wallis test demonstrated a relationship that was statistically significant only between education and the acknowledgement of the dominance of one's own needs over the needs of the environment ($p < \alpha$, $p = 0.0092$ **). Educated people believed, to a lesser extent than the others, that their needs were more relevant than the needs of the environment. On the other hand, the analysis of Pearson's Chi-square test for independence showed that education had a bearing on the evaluation of one's knowledge ($p < \alpha$, $p = 0.01259$ *). The higher education, the better respondents evaluated their knowledge. The intentions of buying a green product driven by education proved to be a variable that was statistically insignificant. Hence the hypothesis 3 was rejected.

The research demonstrated that the better personal financial situation, the more people expressed their intentions of purchasing green products. A tendency towards paying higher prices and a conviction about the prestige of green product purchasing were reinforced by better personal circumstances. Contrary to other groups under research, people whose personal circumstances are good did not consider high prices, the limited availability of green products, and difficulty in finding them to be such significant obstacles. Thus, the hypothesis H4a was accepted. Also an adequate income level was not treated by them as a precondition for behavior to exist (Table 4). The Kruskal–Wallis ANOVA test also showed that the better personal financial situation was, the higher perceived consumer effectiveness could be seen. Nevertheless, as regards respondents declaring poor personal financial situation, the evaluation of their own effectiveness varied considerably from one person to another. A tendency towards paying higher prices and a conviction about the prestige of green product purchasing were reinforced by better personal financial situation. Furthermore, the better personal financial situation was, the smaller that barrier was. The analysis of Pearson's Chi-square test for independence demonstrated that personal financial situation had a bearing on the evaluation of one's knowledge ($p < \alpha$, $p = 0.0162$ **) and income on green products ($p < \alpha$, $p = 0.0000$ ***). The hypothesis H4b was accepted.

The better the personal financial situation was, the more people considered their knowledge to be very good. And conversely, the worse personal financial situation was, the more respondents perceived their knowledge as very poor. Moreover, a certain relation can be observed, that is to say, the better personal circumstances, the smaller was the group of consumers covered by the research, whose consumer expenditure on the purchase of green products was lower than 5%, and consequently, the larger was the group whose spending on green products totals between 6% and 20%.

The number of children was of considerable relevance. The more children in the family, the more frequently, at least once a month, green products were purchased (except for large families). Average respondent scores indicated that where a family consisted of more than two children, this was a decisive factor behind purchasing green products from reliable sources, yet without certificates, and producing own products. The more children, the greater time barrier was seen (Table 5). The analysis of Pearson's Chi-square test for independence demonstrated that the number of children had an impact on the frequency of purchasing green products ($p < \alpha$, $p = 0.01290$ *), expenditure on green products ($p < \alpha$, $p = 0.01715$ *), and the period of purchasing green products ($p < \alpha$, $p = 0.00341$ **). The hypothesis H5 was confirmed. The higher number of children, the more people bought green products at least once a month (except for the group of people having above five children).

**Table 4.** Results of ANOVA Kruskal–Wallis test—personal circumstances and average score.

| Statements/ Personal Financial Situation | Bad | Average | Good | Very Good | *p*-Value |
|---|---|---|---|---|---|
| I have a big influence on what I buy | 4.91 | 5.43 | 5.72 | 5.81 | 0.0462 * |
| I am ready to pay a higher price for a green product | 2.91 | 4.07 | 4.51 | 4.88 | 0.0000 *** |
| Green product purchasing is a sign of prestige and a higher social status | 3.82 | 4.21 | 3.92 | 3.38 | 0.0056 ** |
| I am sure that while doing the shopping I will buy a green product, even if it is more expensive | 2.45 | 3.92 | 4.19 | 4.33 | 0.0078 ** |
| I do not buy because prices are too high | 5.64 | 5.27 | 4.86 | 3.92 | 0.0000 *** |
| I do not buy because there's limited availability of products | 5.27 | 4.32 | 4.38 | 3.62 | 0.0007 *** |
| I do not buy because it is difficult to find them | 4.45 | 4.02 | 4.03 | 3.14 | 0.0002 *** |
| Your income must be high enough to buy green products | 5.45 | 5.41 | 4.90 | 4.47 | 0.0000 *** |

* $p < 0.05$—there is a statistically significant relationship, ** $p < 0.01$—there is a highly statistically significant relationship, *** $p < 0.001$—there is a very highly statistically significant relationship.

**Table 5.** Results of ANOVA Kruskal-Wallis test—number of children under 16 Years old and average score.

| Statements/Number of Children Under 16 Years Old | 0 | 1 | 2 | 3–4 | 5 and More | *p*-Value |
|---|---|---|---|---|---|---|
| My needs are more important than the needs of the environment | 3.34 | 3.47 | 3.27 | 3.13 | 5.50 | 0.0432 * |
| Members of my family pay attention to green product purchases | 3.51 | 3.36 | 4.23 | 4.22 | 3.00 | 0.0003 *** |
| It happens very often that I buy green products from a reliable source, but without certificates | 4.12 | 4.14 | 4.60 | 5.04 | 4.75 | 0.0311 * |
| I often produce green products by myself in my household | 3.66 | 3.70 | 4.16 | 5.00 | 4.00 | 0.0133 * |
| I am going to buy green products within the next three months | 3.63 | 3.75 | 4.54 | 3.26 | 3.25 | 0.0012 ** |
| I am sure that while doing the shopping I will buy a green product, even if it is more expensive | 3.88 | 4.20 | 4.73 | 4.09 | 3.75 | 0.0020 ** |
| I do not buy because I do not have time | 2.75 | 2.87 | 2.88 | 3.61 | 5.00 | 0.0353 * |

## 5. Discussion

The conducted analysis showed that green purchasing behavior was conditioned by sociodemographic factors. However, not all the hypotheses were confirmed by the research results. A summary of the results of the hypothesis verification is presented in Table 6.

**Table 6.** Hypotheses results for the research.

| Hypothesis | Result |
|---|---|
| H1 | accepted |
| H2a | accepted |
| H2b | accepted |
| H2c | accepted |
| H2d | rejected |
| H3 | rejected |
| H4a | accepted |
| H4b | accepted |
| H5 | accepted |

Women displayed more positive attitudes towards the environment and green products than men, which is concurrent with the results of research conducted by Paço et al. [72]. Relatively young women who have children and whose personal circumstances are good can be considered to be the most promising consumers. Contrary to the other groups, they were more engaged in behaviors towards purchasing environment-friendly products, which is concurrent with the Lithuanian research that identified the green consumer as an affluent and well-educated woman aged between 30 and 44 [80]. As shown by the research, femininity is closely correlated with environmental protection [102]. The research by Bojanowska and Kulisz [103] proved that gender correlates with questions about the visibility of pro-ecological activities of companies, including the idea of "zero-waste" in social media. The study showed that women are more aware of the existence of "zero waste" and environmental campaigns in social media. Moreover, women perceive "zero waste" as a lifestyle [103]. Other researchers established a relationship between the gender of a brand and an environmental image [104]. Our research shows a pessimistic picture of young people, who are typical hedonists, economically oriented towards purchasing, with very rudimentary knowledge. The study in question demonstrated that the youngest respondents were not particularly interested in purchasing green products, even though in numerous studies they have been pictured as better educated than older generations [105].

Mróz [106] discussed that the behavior of Polish consumers runs counter to the archetype of sustainable consumption. Escher and Petrykowska [107] suggested a positive attitude of young people to the idea of ecological consumption and green purchasing. Young consumers see the positive features of green products and see the positive impact of their production on the condition of the ecosystem, but this study confirmed that these positive attitudes do not always translate into actual purchasing decisions [107].

For young respondents, major barriers to green purchases included habits and low income. Central and Eastern European states, including Poland, are countries where a socialist regime existed for many years and green education was never the focus of attention. Dočekalová and Straková [102] acknowledged that Czech and Slovakian consumers know very little about eco-labelling. They were not able to distinguish real eco-labels from quasi-labels. The research [108] also indicated that consumers' knowledge of green products was poor and that they were unwilling to spend too much money on them.

Bryła [18] showed that the sociodemographic factors of Polish consumers had the impact on the assessment of the authenticity of green products. According to this study, women are more likely to use quality marks and taste characteristics for this assessment, while men rely more on packaging for their assessments. Respondents with higher education indicated a natural taste and retailer type when assessing the authenticity of green products, while less educated consumers rely more on quality product and packaging. By contrast, higher-income respondents pay more attention to merchandising, while lower-income respondents judge the authenticity of green products using quality product and labels [18]. Also Żakowska-Biemans [50] noticed that sociodemographic features influenced the perception of barriers to purchasing green products. Higher educated consumers see accessibility factors less as barriers for buying green products.

Consumers whose personal circumstances are better show greater inclination towards buying green products, which stems from the fact that they can afford to purchase green products at higher prices and in greater quantity. On the other hand, the research [39] showed that the green purchaser in the Polish market is not only a middle-aged, well-educated person, but has an average income, and is aware of the quality of these products and the conditions associated with their production. Witek [6] suggested that the awareness of organic food was greater than that of other green products.

## 6. Conclusions

Shabbir et al. [109] proved that different approaches to green marketing have the positive and significant impact on consumer behavior towards the environment. Our research suggests differentiating marketing activities, taking into account the sociodemographic characteristics of consumers. The most promising segment of consumers are young women with a good financial situation and children. Bojanowska and Kulisz [103] confirmed that women are more inclined to pay attention to the "zero waste" message.

Hence, as far as marketing is concerned, companies should direct greater focus towards the environmental attributes of products, particularly in sectors related specifically to female activity. Creating a more feminine personality of a brand and using font styles and colors on packaging and in advertisements that are more feminine than masculine, brings beneficial effects. However, pursuing this strategy carries certain risks, since green product purchases may be regarded as an activity that is typical of females [104,110].

Marketing strategies should target young consumers. Younger generations are more critical of activities performed by companies and have greater knowledge of environmental protection. They also demonstrate great capability of influencing other family members' purchasing decisions. Moreover, they have possessed the skills of using modern media. This is a buyer segment that will have substantial purchasing power in the future. Moreover, they have a promising potential due to the early formation of ecological habits and ecological knowledge.

These arguments imply that young consumers constitute a significant group of customers that deserve special attention, nevertheless this poses challenges to green marketing. Young consumers are more likely than older generations to accept new and innovative products. Young consumers often indulge in consumption, deriving pleasure and satisfaction from it, treating it as entertainment, despite the fact that they are critical of the world around them. Research [111] has shown that the majority of young people describe their attitude as positive in relation to environmental issues, virtualization, innovation. Hence, it is significant to pay attention to modernity, national origin of products, environmental protection and taste in shaping the marketing strategy. Our research showed that young consumers expected direct benefits for themselves while minimizing costs. It is crucial to make this group aware of benefits for the environment, which result from a purchase. This approach can increase the acceptance of higher prices. Companies have to introduce innovative products that will combine ecological characteristics with functional features.

When addressing marketing messages to young consumers, it is important to reduce the distance to green products. A significant issue in constructing the marketing message of an environmentally friendly product for this group is the credibility of the message. The increasing activity of the media and other entities in this market will increase the environmental awareness of this segment. An important area of managers' activity is reducing the conflict between hedonistic, economic motivation and environmental motivation among the young generation.

Bryła [18] showed that younger participants considered scarcity and quality signs to be indicators of authenticity, while older respondents were guided by the brand and type of seller. If companies successfully convince young consumers of the attributes of green products in their marketing communication strategy, it will remove the barriers to their purchase.

Our study suggested that for low-income buyers, the attention should be paid to the performance of an green product. Rational elements should emphasize the way of solving or mitigating the conflict between environmental motivation and economic, utilitarian one. On the other hand, the emotional part of the message may refer to lower-order needs, i.e., physiological and safety. In this group of needs, security is particularly strong, which can be used in a marketing message.

As regards the green purchases business, companies should attach importance to the segment that includes working-age people who have considerable purchasing power; are more and more demanding consumers; pay attention to the quality of the product, specifically health-related benefits; and look critically at companies and their activities, which is the reason why they require a proper approach to the product strategy and communication.

The results provide companies with a clearer perspective for the better market segmentation, product positioning, and the development of marketing mix instruments. A greater understanding of green consumer segments will make it possible to design an effective promotional campaign, which will have a bearing on purchase behaviors towards green products in the future.

## 7. Limitations and Future Research

Despite a dynamic growth of the green products market, the share of green products in the Polish market is modest. The level of knowledge of Polish consumers about green products is still low, which affects the perception of an green product. The greatest awareness is about organic food, which is mainly associated with health benefits, less often with environmental benefits. However, knowledge about green cosmetics, cleaning products, and other ecological goods is very poor. Hence, a decision has been made to carry out research into purchasers' attitudes towards the entire category of green products. Future research should aim to test various types of green products, i.e., organic food, green cosmetics, green detergents, recycled products, green toys, green cars, etc. This research was based on consumer declarations, which may result in respondents giving socially acceptable responses since environmental care is considered a moral obligation. The deliberate selection of the sample and the research method used make it impossible to generalize the results to the entire population.

Our study was exploratory in nature and the choice of factors included in the conceptual framework may not be insightful. The research did not fully identify the key factors and did not test the relationship between these factors and the demographic factors. Future research should include the factor analysis, which will identify significant other factors and expand knowledge about green purchase behavior. Many of the factors that were referred to in the study could be measured using a multi-item scale, which was not applied in the current exploratory study. Future research should consider testing some of the proposed hypotheses using latent variables with multi-item scales to provide more insight on the relationships between the demographic variables and factors considered in the study.

The research indicates new space in which new sociodemographic variables can be included, such as a social status, profession, and marital status, which makes it possible to contribute to the development of effective marketing activities. The intentions of purchasing green products are correlated with the intentions of consuming them, which must be researched in the future.

Some authors [112,113] have implied that psychographic and cultural variables should be taken into account with a view to obtaining a better insight into green purchase behavior. What seems to be interesting is an idea of conducting comparative studies including other emerging markets, which may facilitate a deeper understanding of sociodemographic factors in the context of developing green products on an emerging market.

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