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Review

Determinants That Influence Green Product Purchase Intention and Behavior: A Literature Review and Guiding Framework

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Abstract: Environmental deterioration brought about by consumers' non-feasible utilization pattern is putting a pressure on the environment and is obstructing sustainable development. To hinder this impact and stimulate a more sustainable economic growth, one solution is to lessen or move utilization patterns from conventional products to eco-friendly products. The authors conducted a review study of green purchase behavioral research across the 6-year period from 2015 to 2021, identifying 108 studies that met our inclusion criteria. The current review distinguishes different pervasive facilitators, motives, and obstacles influencing consumers' decision-making process towards environmentally friendly products, and it gives potential clarifications for contradictions found in green purchase behavior (GPB). The paper reveals the main determinants of consumer's GPB, and as a result of the review, 212 variables that affect green purchase intention (GPI) were identified. Moreover, 135 determinants that influence GPB were recorded. In this way, besides contributing to the literature, it will assist policymakers in formulating and employing strategies to persuade eco-friendly purchasing, and it will give an opportunity for marketers to generate proper marketing strategies for drawing in clients and guaranteeing ideal sales.

Keywords: attitude–behavior gap; behavior; eco-friendly products; green consumption; green product purchasing; intention

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Citation: Wijekoon, R.; Sabri, M.F. Determinants That Influence Green Product Purchase Intention and Behavior: A Literature Review and Guiding Framework. *Sustainability* **2021**, *13*, 6219. https://doi.org/10.3390/su13116219

Academic Editor: Wen-Hsien Tsai

Received: 11 May 2021
Accepted: 28 May 2021
Published: 31 May 2021

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.

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1. Introduction

In the course of the most recent decade, customer utilization of goods and services has expanded enormously around the world, prompting exhaustion of ecological resources and severe degradation of the environment [1]. Furthermore, Kates (2000) observed that overpopulation and extreme utilization are the major drivers of present environmental and ecological catastrophes [2]. Water and air pollution, global warming, decline in fauna and flora, eutrophication, acid rain, and ozone depletion have become significant ecological issues [3]. Moreover, overpopulation both in developed and developing countries has created huge pressure on the environment. These ecological pressures have forced some to re-evaluate and ponder the connection between the environment and human beings because the utilization of natural resources is essential to the advancement of the human civilization [4]. Hence, the concept of ecological conservation has risen step by step in people's minds.

Eco-innovation and eco-friendly consumption are the major areas that encourage sustainable development. Eco-innovation incorporates sustainable ecological practices at each phase of the formation of goods and services [5]. Green utilization is normally connected to ecologically mindful utilization, where customers consider the ecological impact of buying, utilizing, and discarding different items or utilizing different green services [6]. Therefore, green customers play a critical role in the green revolution because

eco-friendly utilization not only has positive impacts on the environment, the society and the economy but also is necessary for sustainable development [3]. When eco-friendly customers are conscious about environmental degradation and build up a more capable attitude towards ecological protection, their concern will affect their buying choices and will direct them to purchase green items that have a significant effect on the environment [7]. Moreover, ecofriendly purchasing is vital, as unplanned purchasing of goods can cause severe damage to the environment, and it was reported that consumer household purchases were responsible for 40% of environmental damage [8]. Therefore, consumers can play a vital role in the process of environmental degradation, and they can prevent or decrease it by purchasing green products. Moreover, although the number of individuals willing to purchase green products has increased in the last few years, there is little evidence to suggest that the purchase of green products has increased; despite environmental concern and positive attitudes of customers towards sustainability and green products, market share of green products remains limited to just 7–8% of the global market [9]. Hence, identification of the drivers that affect GPI and GPB are very important in order to increase green product purchasing and green consumerism. Therefore, a comprehensive literature review on GPI and GPB is essential for consumers, producers, policymakers as well as researchers, and increasing the trend of green purchasing can reduce environmental damage as well.

An eco-friendly product could be defined as "one constituted of materials and associated with production practices along its entire life cycle recognized for being socially and environmentally responsible" ([10], p. 203). For example, products include "household items manufactured with post-consumer plastics or paper, recyclable or reusable packaging, energy-efficient light bulbs, and detergent containing ingredients that are biodegradable, non-polluting and free of synthetic dyes or perfumes" ([11], p. 220). Dotson (2015) highlighted three explicit attributes for labelling an eco-friendly product: " (1) practices involved in its manufacturing and transportation do not bring significant negative environmental effects, (2) labor workers involved in its production and supply-chain are treated fairly, and (3) the product is recyclable at the end of its life cycle" ([12], p. 52). Developing consumer consciousness of the natural and societal effects related to item utilization encourages infiltration and market share expansion of eco-friendly labelled goods [8]. Nonetheless, a skepticism is developing among final consumers about the requested ecological and social credentials of eco-friendly labelled products. End consumers regularly depend on eco-labels to recognize eco-friendly items [13], and worries about the abuse of green-labels have been reported in sustainable markets [14]. The regular terms ordinarily utilized by companies to promote green products are "eco-friendly", "environmentally safe", "recyclable", "biodegradable", and "ozone friendly" ([15], p. 560).

Despite the fact that the number of individuals ready to buy green items has expanded over the most recent couple of years has opened the door for marketers endeavoring to get their products into the class of eco-friendly items where they can increment and augment product benefits while extending their market share; however, there is little proof to suggest that acquisition of eco-friendly items has expanded. One research study revealed that 70% of consumers think that it is the consumer's responsibility to adopt more eco-friendly behavior, but 52% also think producers and manufacturers must be more responsible [16]. This suggests that ecological concerns can play a secondary role in buying decisions and that price, information, labels, emotional characteristics, and store-related factors are only some examples of the external matters that may support or hinder a GPB [17]. Moreover, various research studies revealed conflicting causational effects of the same determinant of the final consumption behavior in relation to different types of products; for example, Wang and Wang (2016) observed a positive relationship for perceived behavioral control (PBC) on the GPI of food products [18], while Barbarossa et al. (2017) revealed a negative influence of PBC on green paper tissue purchase [19]. Therefore, there is a gap between customers' thinking and actual GPB, and studies frequently reveal an inconsistency between what customer's state and what they really do in terms of sustainable behavior [20]. This

phenomenon is well recognized in the past literature, and it is referred to as the "green attitude-behavior gap" [21], the "green intention-behavior gap" [22], or the "motivation-behavior gap" [23]. It means that consumers' positive attitudes towards eco-friendly items does not always convert into actual behavior. Therefore, it is necessary to study why green attitudes have less of an effect on consumers' GPB; there may be potential features—for example, cost and accessibility of the item and social impacts, among others—that address the inconsistency between customers' green attitudes and GPB. When these variables are resolved through appropriate studies, steps could be taken to address these issues and could inspire customers to show actual GPB.

Over the past few years, the number of eco-friendly purchasing studies have remarkably increased, attracting attention from both professionals and academics. Consequently, it is common to have a number of literature reviews that address these issues, and of the available reviews, some of them appear rather germane to the current review. In their study, ElHaffar et al. (2020) conducted a narrative literature review that systematically summarized all the methodologies, theories, and paradigms implemented in the green intention–behavior gap studies, and they assessed the influence of selected factors on intention–behavior inconsistencies [24], adopting the same categories that were used by Carrington et al. in 2016 [25]. Therefore, the study by ElHaffar et al. (2020) mainly focused on the methodologies, theories, and paradigms adopted for the study of the green intention–behavior gap rather than the determinants influencing GPI and GPB [24]. Moreover, based on the ideas of ElHaffar et al. (2020), available reviews of green intention–behavior gap studies are either outdated (Kollmuss and Agyeman (2002)) [26], limited to one specific sector (Antimova et al. (2012)) [27], or do not take methodology and paradigm into consideration (Butterfield and O'Fallon (2005); Joshi and Rahman (2015); Peattie (2010)) [8,28,29]. Furthermore, in the systematic review by Testa et al. (2020), they mainly focused on the publications in environmental, management, economics, decision, and social sciences as well as agriculture, biology, psychology, and energy that adopted a survey-based quantitative approach to examine the determinants of GPB [30], and they limited their review to the period of 2000 to 2018. Moreover, they excluded studies that examined green or organic food products. Therefore, several drivers in the field of green food consumption and newly added determinants to the GPI and GPB literature in the period of 2019 to 2021 were missed in the review by Testa et al. (2020) [30]; therefore, a research gap is created due to the conflicting causational effects of the same determinant on the final consumption behavior in relation to different kinds of products.

The prevailing GPB inconsistency and an absence of appropriate clarification thereof, alongside the lack of a review addressing this issue up to the year 2021, inspired the authors to review existing related literature on influencing factors in the context of customers' GPB. Therefore, the current study reviews the existing empirical literature on GPB and attempts to distinguish prevailing factors and motives manipulating customer attitude, GPI, and GPB. A review of existing empirical articles might allow the identification of multiple variables encouraging or obstructing the GPB of customers. Moreover, these motives and barriers might assist in clarifying the different causes behind the existing GPB inconsistency and the elements accountable for such conflicting behavior. Overall, the analyses presented herein may be built upon in future research to overcome the limitations of the presently existing green consumption determinants and to explore novel areas in the context of GPB.

The review is organized in five sections. First, the authors presented above a brief introduction to environmentally friendly products and green behaviors. Then, we offer the methodology of the systematic review. Third, we present an analysis of the results. Fourth, we discuss the results by outlining their theoretical implications and practical contributions. Fifth, we conclude the findings, discuss the limitations of the study, and propose avenues for future studies.

2. Materials and Methods

The objective of current literature review is twofold: first, to study the existing empirical studies and recognize the different elements influencing GPI and GPB, and second, to identify the reasons behind the detected intention–behavior gap with respect to green product buying on the basis of the factors distinguished.

The first stage of the research strategy involved selecting ideal keywords with which to search related research articles, and as a result of this, the selected key words were: "green purchasing", "green product buying", "sustainable purchasing", "organic purchasing", "ecofriendly purchasing", "pro-environmental purchasing", "eco-innovation adoption", "green product adoption", "ecofriendly product adoption", "green consumption", "sustainable consumption", and "eco-friendly consumption". Then, the peer-reviewed articles in English were downloaded, which were published in the SCOPUS database between January 2015 and January 2021. In this case, a systematic review allows authors to choose the most relevant, and high-quality articles according to how they fulfill the review objective, the aim being to minimize the risk of error [31]. Hence, the study for this article became desk research rather than a survey or any other mode of researching. As a result of the identification step, 8229 studies were given by the web search, and 5672 articles were removed due to their lack of relevance to the topic of the current review.

The second stage included characterizing the inclusion and exclusion criteria on which to base the final selection of the downloaded articles. These criteria are delineated in Table 1.

Table 1. Inclusion and exclusion criteria.

Characteristics	Inclusion Criteria	Exclusion Criteria
Temporal horizon	January 2015 to January 2021	All papers published before January 2015 and after January 2021
Type and design of research	Empirical (quantitative and qualitative)	Theoretical, conceptual
Quality criterion	Indexed, peer-reviewed academic journals	Books and professional journals
Language of publication	English	All other languages except English
Database	All articles from Elsevier, Emerald, Sage, Springer, Willey, and Taylor & Francis	All other articles except Elsevier, Emerald, Sage, Springer, Willey, and Taylor & Francis

In the screening step, 2151 rticles were removed due to their incompatibility with the inclusion criteria, and 406 articles were selected to the eligibility step. Since the inclusion and exclusion criteria were predefined, they served to identify, select, and critically analyze the existing studies inherently related to the review objectives [32]. In the eligibility step, the studies identified as potentially relevant were provisionally included and examined in depth. This approach is described as a structured design in which duplications are allowed [31]. Therefore, manual selection of the articles for the final review was done later. Final decisions to include or exclude were made only once the entire article had been read. As a result, 298 articles were excluded due to the irrelevance of the content of the studies.

Finally, 108 articles were selected, and Figure 1 sums up all stages related to the selection process.

A taxonomic synopsis of studies, target populations, sample sizes, and dependent variables stated are listed in Table A1 (see the Appendix A). All 108 articles were organized in chronological order. Only empirical studies were chosen due to their less vulnerability to bias. Furthermore, empirical studies offer a genuine portrayal of the customers in various cultures and contexts, for example, Europe, America, Asia, Australia, and Africa. Therefore, findings and recommendations of the review could be applicable worldwide.

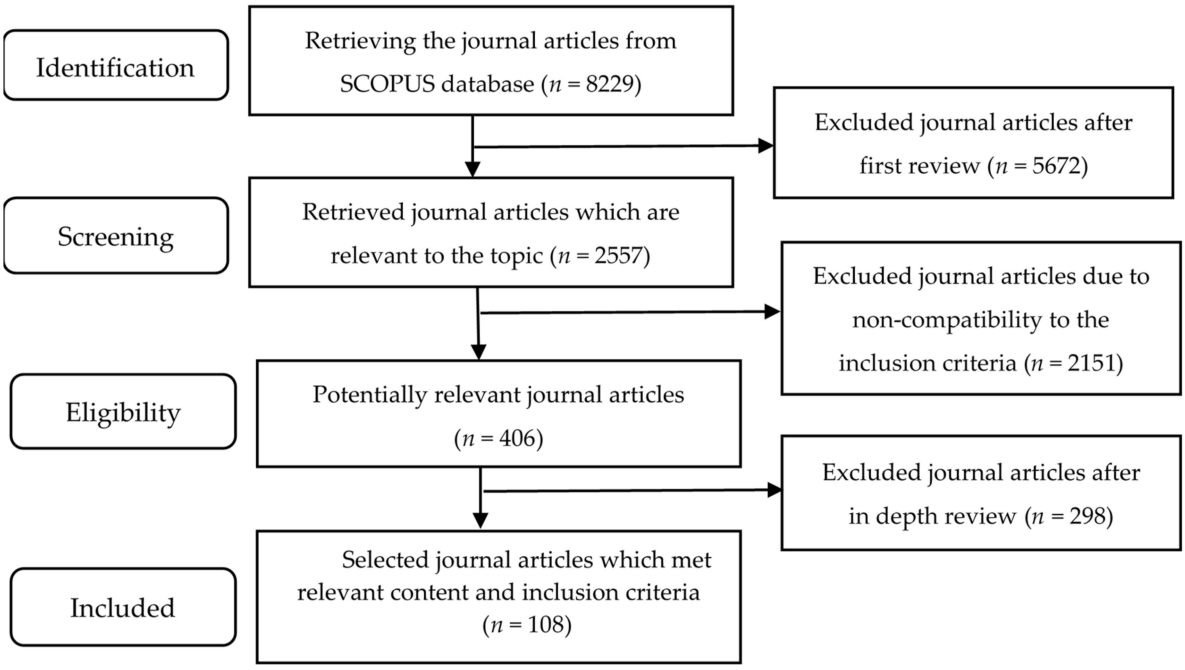

Figure 1. Flow diagram shows step wise selection of studies.

Within-study and between-study literature analysis were used in the current systematic literature review because both of these kinds of analyses are significant and must be used for all literature reviews [33]. The whole content of a specific study is examined in within-study literature reviews, for example, the title, literature, conceptual framework, methodology, results, discussions, implications, and future research directions. Alternatively, a comparison of vital information between two or more studies is done in between-study literature reviews, which can identify the similarities and differences between studies.

3. Results

A wide review of 108 studies on customer GPB revealed that the studies seemed to have different conceptualizations of GPB and that there were lot of inconsistencies in how that factor was expressed. GPB, green consumption, green product adoption, adoption of eco-friendly products, green consumerism, eco-innovativeness, ecologically responsible purchasing, sustainable consumer behavior, sustainable product purchase, organic product purchase, purchasing of energy-efficient products, pro-environmental purchasing behavior, and sustainable consumption were found as the key dependent variables.

An enormous number of variables influencing consumer GPI and GPB were found as explanatory variables, mediators, and moderators in different studies. A complete list of all determinants influencing GPI and actual GPB is presented in Tables 2 and 3. In the first column of the tables, the authors describe different variables influencing customer GPI/GPB, followed by the direction of the effect in the next column (+ or − or non-related). The last column displays the particular studies (as listed in Table A1 in Appendix A) that implemented the particular variable. According to the results, 212 explanatory variables (Table 2) that affect GPI/willingness to pay (WTP) were identified in the study.

Table 2. Factors affecting GPI/WTP.

Explanatory Variables	Direction	Studies
Action skills	+	33
Age	+	46,100
Age	NR	22,62,67
Altruistic values	+	19,48
Altruistic attribution	+	108
Alternative attractiveness	NR	86
Attitudes	+	5,8,10,11,16,19,21,22,27,28,30,31,35,36,40,45, 47,48,51,52,60,61,80,100
Attitudes: individual inconvenience	-	19
Attitudes	NR	9,38
Availability	+	14,40
Awareness	+	22,32,82
Behavioral approach system	+	62
Behavioral inhibition system	NR	62
Beliefs	+	8,51
Biospheric values	+	19,48
Coefficient of pleasure attenuation	-	89
Coefficient of pain buffering	+	89
Collectivism	+	16,28
Collectivism	NR	5
Collectivistic value	+	48
Cultural value	+	10
Compromise on taste	+	21
Concern	+	63,82,100
Consequence awareness	+	45
Conditional value	+	30,68
Consumer social responsibility	+	59
Consumers' spiritual orientation	+	18
Convenience	+	44
Convenience perception	NR	67
Cost consciousness	NR	58
Cost factors	NR	67
Death anxiety	+	36
Descriptive norms	NR	78
Development consciousness	+	58
Doctrine of the Mean	+	58
Domestic environment	+	82
Eco-label	+	10,22,28
Eco-label	NR	12
Eco-literacy	+	17
Eco-product innovation	+	108
Eco-process innovation	+	108
Economic risk	-	89
Education	+	22,46
Education	NR	62
Efficiency	+	59
Egoistic values	-	19
Elder in family	+	22
Electronic service quality	+	59
Emotional value	+	30,68,89
Energy efficiency behaviors	NR	100
Engaged consumption	+	82
Environmental commitment	+	65
Environmental consciousness	+	8
Environmental consciousness	-	92
Environmental concern	+	5,9,12,29,31,36,38,42,47,51
Environmental concern	NR	40

Table 2. *Cont.*

Explanatory Variables	Direction	Studies
Environmental quality	+	86
Environmental ethics	+	8
Environmental involvement	+	27
Environmental knowledge	+	12,19,21,22,32,38,47,48
Environmental responsibility	+	11
Environmental sustainability features	+	59
Epistemic value	+	68
E-service quality	+	59
Ethical obligation	+	35,63,94
Ethical self-identity	+	104
Expected social contribution	NR	69
Fashion consciousness	+	58
Financial risk	-	31
Food involvement	+	21
Frugality	-	91
Fulfilment	+	59
Functional values	+	30,89
Functional values	NR	68
Gain motivations	NR	83
Gender	+	46,100
Gender	NR	22,62,67
Government subsidies/ sales discounts	+	44
Green altruism	+	93
Green advertise	NR	47
Green advertising receptivity	+	66
Green advertising skepticism	-	27,96
Green benefits	+	92
Green brand equity	+	7,84
Green brand knowledge	+	14,69
Green brand positioning	+	14
Green brand switching	+	84
Green consumption values	+	62,67
Green habit	+	38
Green intrinsic motivation	+	93
Green involvement	NR	59
Green perceived value	+	59,89
Green perceived risk	-	88
Green perceived quality	+	88
Green products	+	35
Green self-identity	+	96
Green thinking	+	93
Green trust	+	7,27,59,88
Greenwashing	-	59
Green word of mouth	NR	59
Habits	+	40,67
Health consciousness	+	9,21
Health consciousness	NR	92
Health status	NR	22
Health value	+	68
Hedonic motivations	+	83
High-power state	+	55
Image barrier	-	99
Impacts from others	+	44
Income	+	46,100
Income	NR	22,62
Individual social responsibility	+	36
Information adoption	+	105

Table 2. *Cont.*

Explanatory Variables	Direction	Studies
Informational interpersonal influences	+	13
Informational utility	+	27
Information availability	+	63
Information quality	+	59
Injunctive norms	+	78
Instrumental value	+	52
Internal locus of control	+	57,60
Inward environmental attitude	+	29
Knowledge	+	48
Label cognition	+	45
Label reference willingness	+	45
Leadership	+	58
Lifestyle of health and sustainability (LOHAS lifestyle)	+	80
Long-term orientation	+	28
Long-term orientation	+/-	16
Long-term orientation	NR	47
Low-power state	+	55
Man-nature orientation	+	28
Marital status	+	62
Media influence	+	29
Message credibility	-	96
Mobilization	+	82
Mooring factor	+	86
Motivation to save	-	91
Natural environmental orientation	+	38
Negative emotions	-	94
Negative emotions	NR	51
Neophobia	-	21
Normative interpersonal influences	+	13
Normative motivations	+	83
Online green product review	+	61
Online interpersonal influence	+	37
Openness to change	+	104
Origin	+/-	103
Outward environmental attitude	NR	29
Package appearance	+	44
Perceived behavioral control	+	8, 28,35,46,49,60,61,63,80
Perceived behavioral control	NR	31,45,63
Perceived ease of use	NR	100
Perceived consumer effectiveness	+	5,18,29,63,67
Perceived consumer effectiveness	NR	14,46
Perceived customer social responsibility	+	17
Perceived environmental problem seriousness	-	11
Perceived expected outcomes	+	78
Perceived fear	+	76
Perceived functional risk	-	92
Perceived greenwashing	-	87
Perceived inconvenience	-	16
Perceived individual benefits	+	17
Perceived moral obligation	+	21
Perceived quality	+	92
Perceived risk	NR	67
Perceived sense of responsibility	+	31
Perceived value	+	11
Perceived usefulness	+	42,100

Table 2. *Cont.*

Explanatory Variables	Direction	Studies
Perceived website literacy	+	87
Perception of barriers	-	65
Perception of eco-products	+	31,65
Performance risk	NR	31
Personal norms	+	45,63
Personal trust	+	66
Personal responsibly	+	57
Positive emotions	+	51
Price consciousness	-	46
Price	+	31,59,103
Price	NR	47,67
Privacy	+	44
Privacy & cyber concerns	-	100
Pro-environmental attitudes	+	57
Pro-environmental behavior	+	36
Product knowledge	+	46
Product sustainability	+	96
Protective capability	+	44
Psychological risk	NR	31
Quality	+	47,96
Receiver's green expertise	+	13
Readiness to be green	+	35
Regional differences	+	22
Reliability	+	59
Religious values	+	38
Responsibility attribution	+	45
Reusability	+	44
Risk barrier	-	99
Self-acceptance	+	69
Self-efficacy	+	78
Self-enhancement	NR	5
Self-identity	+	60,68
Self-identity	NR	104
Self-image congruence	+	61
Self-reference	+	76
Self-transcendence	+	5
Sender's green expertise	+	13
Social advocacy and promotion	+	44
Social consciousness	NR	98
Social impacts	NR	9
Social impression	+	8
Social media marketing	+	37,46,54
Social norms	+	100
Social norms	NR	63
Social value	+	30,68,89
Social value	NR	35
Status consciousness	NR	92
Status quo of environmental pollution	+	44
Strict regulative environment	+	86
Subjective norms	+	5,8,9,16,21,28,35,45,46,80
Subjective norms	NR	31,47,60,61
Supportive normative environment	+	86
Sustainability risk on social media	NR	54
Sustainability trust on social media	+	54
System trust	+	66

Table 2. *Cont.*

Explanatory Variables	Direction	Studies
Technology anxiety	-	100
Terminal value	+	52
Tie strength	+	13
Time risk	-	89
Tradition barrier	-	99
Trust	+	67
Trust	-	100
Usage barrier	-	99
User-friendliness	+	59
Value barrier	-	99
Value consciousness	+	92
Willingness to seek sustainability-related information	+	54

Abbreviation: NR, non-related.

Table 3. Factors affecting GPB.

Explanatory variables	Direction	Studies
Altruistic values/Altruism	+	19,34,49,50
Appreciation of environmental outcomes	+	106
Attitudes	+	1,2,3,4,11,19,21,23,24,27,29,38,43,47,53,70, 74,77,80,95,101,106
Attitudes	NR	98
Age	+	19,90
Age	NR	1,21
Argument quality	+	33
Ascription responsibility	+	106
Awareness	+	21
Awareness	NR	1,15,23,34,70,101
Awareness-product packaging	NR	23
Awareness-media attention	+/-	23
Beliefs	+	15,49,50
Biospheric values	+	19
Brand credibility	+	79
Cleaner production practices	+	102
Collectivism	NR	26
Commitment	+	15
Concern	+	29,63
Confidence	+	20
Consumer-social venture identification	+	56
Compensatory health beliefs	+	75
Convenience level	+	20
Corporate environmental strategy	NR	25
Eco-labelling	+	3,53
Economic availability-availability of money	+	23
Economic availability-perceived price of green products	-	23
Economic availability-willingness to pay price premium	-	23
Education	+	21,90
Egoistic values	-	19
Emotional affinity towards nature	+	77
Engagement empowerment	NR	64
Energy label	+	41

Table 3. *Cont.*

Explanatory variables	Direction	Studies
Environmental commitment	+	65
Environmental consciousness	+	4,38,47,72
Environmental involvement	+	4,27,53
Environmental responsibility	+	11,43
Ethical obligation / ideologies	+	63
Exposure to environmental messages through the media	+	3
External regulation	+	98
Extrinsic motivation	+	98
Family size	-	33
Financial risk	NR	79
Gain motivations	NR	83
Gender	+	1,90
Gender	NR	21,33
Government green initiatives	+	106
Green advertise	+	53,72
Green advertise	NR	47
Green brand image	+	107
Green brand love	+	107
Green brand loyalty	+	85,107
Green consumption values	+	77
Green advertising skepticism	-	27
Green brand equity	+	79
Green culture	+	70,101
Green habit	+	38
Green psychological climate	+	25
Green trust	+	27
Green trust	NR	74
Green value	+	74,106
Greenwashing	-	107
Habit	+/-	23
Health consciousness	+	21
Health consciousness	NR	33,92
Hedonic value	+	49
Identity attractiveness	+	56
Income	+	21,33,90
Information availability	+	27,63
Informational interpersonal influences	+	13
Information seeking	NR	33
Integrated regulation	+	99
Intention	+	13,19,21,25,26,29,38,47,65,80,83
Intention	+/-	23
Interpersonal influence	+	34,73
Intrinsic motivation	NR	98
Intrinsic religious orientation	+	2
Introjected regulation	NR	98
Involvement in eco-friendly food	+	64
Inward environmental attitude	+	29
Knowledge	+	3,15,19,20,21,24,38,43,73,74,106
LOHAS lifestyle	+	80
Long-term orientation	+	26
Long-term orientation	NR	47

Table 3. *Cont.*

Explanatory variables	Direction	Studies
Marital status	NR	90
Market offerings	+	33
Market services	-	33
Masculinity	NR	26
Media influence	+	29
Media exposure	NR	73
Motivation of the organization	+/-	23
Moral responsibilities	+	15
Natural environmental orientation	+	38
Normative interpersonal influences	+	13
Normative motivations	NR	83
Nostalgia	-	71,81
Number of children	+	90
Number of family members	NR	90
Occupation	NR	33
Outward environmental attitude	NR	29
Packaging	+	1,33
Packaging design	NR	1
Packaging functionality	+	1
Packaging sustainability	+	1
Past orientation	+	81
Perceived behavioral control	+	15,63,80,95,106
Perceived behavioral control	NR	70
Perceived behavioral control	+/NR	101
Perceived consumer effectiveness	+	4,29,43,63,106
Perceived control	+/-	1
Perceived environmental responsibility	+	75
Perceived environmental problem seriousness	-	11
Perceived marketplace influence	+	43
Performance risk	-	79
Perception	+	11,65
Perception of barriers	-	24,65
Personal norms	+	24,46,63
Personal norms	NR	72
Personal benefits-health	+	23
Personal benefits-self-image	+	23
Personal benefits-local community	+	23
Perceived personal importance	NR	23
Physical availability-availability of green products	+/-	23
Physical availability-availability of shopping time	NR	23
Physical availability-willingness to spend shopping time	+/-	23
Power distance	+	26
Price	+/-	1
Price	+	53
Price	-	20,102
Price	NR	33,47
Product appearance	+	23
Product taste	+	23
Product taste	NR	33
Product quality	+/-	23
Product quality	+	1
Product quality	NR	33
Purchase empowerment	+	64
Purchasing green products	+/-	23

Table 3. *Cont.*

Explanatory variables	Direction	Studies
Quality	+	47,102
Receiver's green expertise	+	13
Recycling packaging	+	1,102
Recycling participation	+	3
Religious values	+	38
Shopping experience	NR	33
Self-expressive benefits	+	95
Self-identity	+	15,24
Sender's green expertise	+	13
Social consciousness	NR	97
Social connectedness	+	81
Social influence	+	3
Social prestige	+	33
Social norms	+	106
Spirituality	+	43
Subjective norms	+	1,15,20,21,80,95
Subjective norms	NR	24,47,63
Subjective norm-opinion leaders	-	23
Subjective norm-word of mouth	+/-	23
Tie strength	+	13
Trust	NR	73
Trust- perceived effectiveness	+/-	23
Uncertainty avoidance	+	26
Warm glow	NR	24,95
Willingness to behave	+	63
Willingness to pay	+	11,104
Willingness to pay	NR	92

Abbreviation: NR, non-related.

Moreover, 135 explanatory variables (Table 3) that affect GPB were also recorded.

The various research projects conducted on customer GPI and GPB have analyzed this topic from a wide variety of focal points; therefore, the authors clustered the determinants that might or might not influence GPI and GPB into five distinct groups based on the previous literature: individual, non-individual, situational, product attributes, and demographic factors. Tables 2 and 3 provide an overview of these GPI and GPB determinants and their empirical support across studies.

3.1. Individual Factors

This group incorporates factors explicitly linked to an individual decision maker. These factors are for the most part a consequence of individual life experiences, and they influence a decision-making process of an individual. This review comprises the following individual variables.

Individual factors include 83 variables under the 10 subcategories that are associated with GPI and GPB (Table 4).

3.2. Non-Individual Factors

This group contains determinants that especially affect the non-individual decision-making process or the group of people who are involved in making a decision. These factors are usually a result of the effect of a group of people or several individuals and the factors that influence the decision-making process of the people. The current study incorporates the following non-individual factors.

Table 4. Grouped individual factors that affect GPI and GPB.

Major Factor	Subfactor (Level 1)	Subfactor (Level 2)
1. Individual factors	1.1. Attitudes	-
	1.2. Emotions	1.2.1. Emotional value 1.2.2. Warm glow
	1.3. Motivation	1.3.1. Outcome expectancy 1.3.2. Health concerns
	1.4. Perceived factors	1.4.1. Environmental involvement 1.4.2. Uncertainty avoidance 1.4.3. Perceived behavioral control (PBC) 1.4.4. Perceived environmental responsibility 1.4.5. Perceived seriousness 1.4.6. Self-image 1.4.7. Perceived value 1.4.8. Perceived environmental knowledge 1.4.9. Perceived product knowledge 1.4.10. Perceived consumer effectiveness 1.4.11. Perceived risk 1.4.12. Perceived self-identity 1.4.13. Perceived price 1.4.14. Product knowledge 1.4.15. Action skill 1.4.16. Internal locus of control 1.4.17. External locus of control 1.4.18. Perceived barriers 1.4.19. Green positioning 1.4.20. Green perceived value
	1.5. Psychographic factors	1.5.1. Self-transcendence
	1.6. Purchasing intention/WTP	-
	1.7. Sociocultural factors	1.7.1. Media 1.7.2. Masculinity 1.7.3. Power distance 1.7.4. Informational utility 1.7.5. Green advertising skepticism 1.7.6. Collectivism 1.7.7. Green advertising 1.7.8. Social media 1.7.9. Sustainability trust 1.7.10. Sustainability risk 1.7.11. Online product review 1.7.12. Information availability
		1.8.1. Man-nature orientation (MNO) 1.8.2. Long term orientation (LTO) 1.8.3. Egoistic values 1.8.4. Altruistic values 1.8.5. Biospheric values 1.8.6. Self-efficacy 1.8.7. Beliefs 1.8.8. Green consumption values 1.8.9. Expectations 1.8.10. Perceptions 1.8.11. Environmental (green) self-identity 1.8.12. Eco-literacy 1.8.13. Functional value 1.8.14. Conditional value 1.8.15. Social value 1.8.16. Ethical obligation 1.8.17. Death anxiety

Table 4. *Cont.*

Major Factor	Subfactor (Level 1)	Subfactor (Level 2)
	1.8. Values and personal norms	1.8.18. Natural environmental orientation 1.8.19. Willingness to be environmentally friendly 1.8.20. Price consciousness 1.8.21. Hedonic value 1.8.22. Pro-environmental belief 1.8.23. Customer engagement 1.8.24. Terminal value 1.8.25. Customer citizenship behavior 1.8.26. Personal responsibility 1.8.27. Environmental awareness 1.8.28. Physical health concern 1.8.29. Past experience 1.8.30. E-service quality 1.8.31. Consumer social responsibility 1.8.32. Locus of control (LOC) 1.8.33. Behavioral approach system (BAS) 1.8.34. Behavioral inhibition system (BIS) 1.8.35. Involvement 1.8.36. Recycling participation 1.8.37. Energy awareness 1.8.38. Food neophobia 1.8.39. Epistemic value 1.8.40. Health value 1.8.41. Nostalgia 1.8.42. Lifestyle of health and sustainability (LOHAS lifestyle) 1.8.43. Coefficient of pleasure attenuation (α) 1.8.44. Coefficient of pain buffering (β) 1.8.45.Frugality
	1.9. Trust	-
	1.10. Religious factors	-

Under non-individual factors, five variables were categorized (Table 5)

Table 5. Grouped non-individual factors that affect GPI and GPB.

Major Factor	Subfactor
2. Non-individual factors	2.1. Subjective norms or social norms (SN) 2.2. Green word-of-mouth (gWOM) 2.3. Interpersonal influence 2.4. Electronic word-of-mouth (eWOM) 2.5. Doctrine of the Mean

3.3. Situational Factors

Variables that represent situational factors either encourage or discourage eco-friendly purchase decisions of the customers. The identified situational factor is presented below.

Under situational factors, only one variable was recorded (Table 6).

Table 6. Grouped situational factor that affects GPI and GPB.

Major Factor	Subfactor
3. Situational factors	3.1. Green involvement

3.4. Product Attributes

Eleven variables were identified under the product attribute factor (Table 7).

Table 7. Grouped product attribute factors that affect GPI and GPB.

Major Factor	Subfactor
4. Product attribute factors	4.1. Price 4.2. Brand image 4.3. Eco-labelling 4.4. Availability of a product 4.5. Socio-structural conditions 4.6. Level of trust in labelling 4.7. Green product packaging 4.8. Energy efficiency labels 4.9. Brand experience 4.10. Greenwashing 4.11. Cost factor

3.5. Demographics

Four variables were identified under the demographic characteristics (Table 8).

Table 8. Grouped demographic factors that affect GPI and GPB.

Major Factor	Subfactor
5. Demographic factors	1.11. Gender 1.12. Age 1.13. Income 1.14. Education

Under demographic characteristics, four variables that affect GPI and GPB were identified.

When considering the number of green studies conducted, they have grown from 2015 onwards, but a slight drop was observed in 2017. The number of studies is starting to increase again, with a steep increase after 2019, and six studies were found that were published only in the first month of 2021 (see the Figure 2). Furthermore, a majority of the early studies used face-to-face interviews to collect their data, but later, especially after 2019, online platforms, for example, Google forms, social media, etc., were used. Most probably it was due to the COVID-19 global pandemic and the technological adaptations of the younger generation.

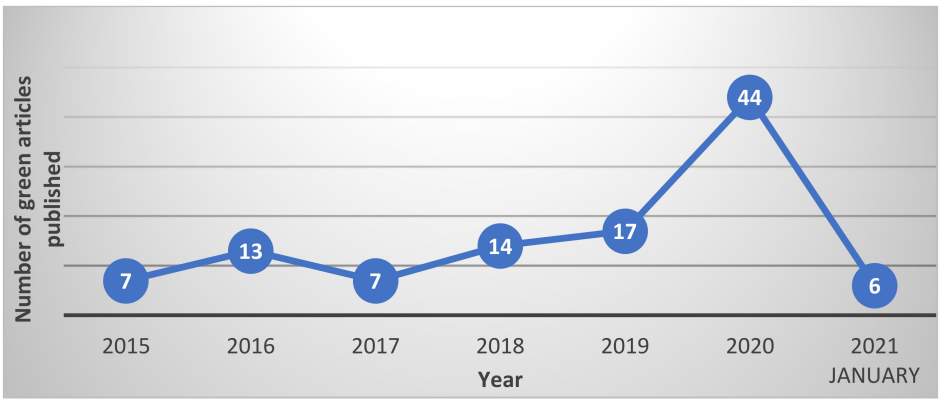

Figure 2. Number of green studies conducted per year.

Most of the studies conducted in the Asian continent used TPB as their basic theory in their conceptual frameworks, and therefore most of them frequently used the TPB variables, for example, attitudes, SN, PBC, and intention. The majority of the Asian countries have collectivistic societies, and therefore, social norms play a more vital role in GPI and GPB than in individualistic Western countries. Some of the Asian countries,

for example, China, India, Malaysia etc., commonly used religious values as explanatory variables in their studies, and it may be due to the effect of their religions, such as Buddhism, Hinduism, Islamic, etc. Moreover, they more commonly used sociodemographic factors as determinants of GPI and GPB than Western countries. The regions of Europe, USA, Australia, and Canada pay more attention to quality and health parameters of green products than Asian countries; thus, quality and health-related factors are found frequently in their studies, for example, health consciousness, nutritional values, product quality, more than the price of the green products. However, specific trends of using green variables were not identified in GPB studies in the African and South American regions.

Although the quantity of articles that investigate ecologically friendly purchasing behaviors of consumers is increasing, 58.3% of these studies are based on the data from five Asian countries: China (20), India (18), Malaysia (10), Pakistan (9), and Taiwan (6) (Table 4). From the perspective of the distribution of the research region, developing countries are paying increasing attention to eco-friendly behaviors. Some studies examined the data from more than one country; 8.2% of papers claimed to have analyzed data from two countries, one article gathered information from three countries, and one study compared all European Union (EU) countries except Luxembourg. Four cross-cultural studies between developing countries and developed countries, one cross-cultural studies between two developing countries, and three cross-cultural studies between two developed countries were reported. The remaining publications were focused on one country only. Moreover, the 108 selected studies were conducted in 52 countries, and 73% of studies were reports on the Asian continent, followed by Europe (6.3%). Therefore, the literature is dominated by Asian samples (see the Figure 3). These trends could be construed as an indication of the shift towards developing countries placing more priority on eco-friendly purchase in comparison with their Western counterparts.

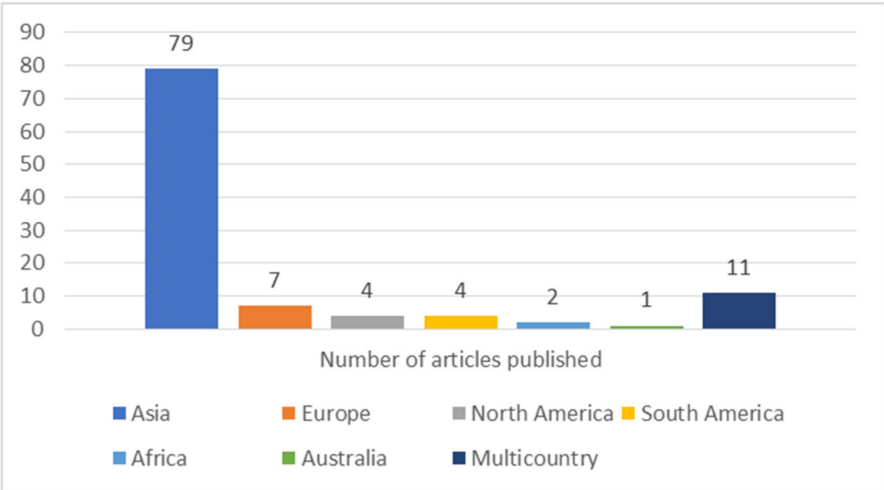

Figure 3. Number of green studies conducted in different continents.

There are significant differences in culture among different countries, especially between the Eastern and Western countries, but these numbers indicate that scholars have very limitedly accounted for the cultural differences linked to these green behaviors. Moreover, the level of GPB differs in different countries, and the level of GPB did not significantly depend on economic development. Thus, income is not the main factor determining GPI and GPB.

A summary of the all 108 selected articles are given in the Table 9.

Table 9. Summary of the studies.

No.	Feature		Studies	Total
1	Country	China	21,37,38,40,41,51,52,53,54,55,58,66,69,71,86,89,91,93,94, 108	20
		India	3,4,5,6,17,18, 22,26, 31,32, 39,43,46,72,78,80, 98,99	18
		Malaysia	10,14,20,29,43,45,47,68,70,75	10
		Pakistan	48,57,73,81,83,84,85,88,107	9
		Taiwan	8,13,15,34,50,76	6
		USA	23,27,35	3
		Vietnam	16,19,56	3
		Brazil	82,90,102	3
		South Korea	23,49,59	3
		Turkey	12,36,79	3
		Iran	9,30	2
		Germany	67,96	2
		Australia	24	1
		France	42	1
		Japan	104	1
		Italy	40	1
		Switzerland	41	1
		Indonesia	33	1
		Portugal	1	1
		Mexico	2	1
		Hong Kong	11	1
		Algeria	42	1
		Qatar	106	1
		Jordan	44	1
		Belgium	39	1
		Canada	87	1
		Ghana	74	1
		USA and Japan	25,100	2
		USA and India	95	1
		UK and Italy	103	1
		UK and China	92	1
		USA and South Korea	77	1
		Spain and Brazil	97	1
		Spain and Italy	105	1
		Nigeria and Malaysia	101	1
		Turkey, Finland, and Pakistan	7	1
		EU countries (27)	20	1
2	Continent	Asia	3,4,5,6,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,26,28,29,30,31,32,33, 34,36,37,38,39,40,41,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58, 59,66,68,69,70,71,72,73,75,76,78,79,80,81,83,84,85,86,88,89,91, 94,95,97, 98, 99, 104, 106, 107,108	79
		Europe	1,39,40,41,42,67,96	7
		North America	23,27,35,87	4
		South America	2,82,90,102	4
		Africa	42,74	2
		Australia	24	1
		Multicountry	7,20,25,77,92,95,97, 100, 101, 103,105	11

Table 9. *Cont.*

No.		Feature	Studies	Total
3	Product	Green products in general	2,3,4,5,6,7,8,9,10,11,12,14,16,17,18,19,20,23,25,26,27,28,29,32,34,35, 36,37,38,43,46,48,51,52,53,54,55,58,59,60,61,62,63,65,66,68,69,70, 71,73,74,77,78,79,80,81,84,85,87,88,91, 101, 102, 106, 107,108	66
		Organic food and beverage	13,15,21,30,33,39,40,56,57,64,90, 97, 98, 103,104	15
		Electric appliances	24,41,45,83,89,93	6
		Organic products	47,76,82,94,95,96	6
		Green cosmetic products	49,50,72,75, 99,105	6
		Smart home objects	42,100	2
		Sustainable packaging	1,44	2
		Green furniture	22	1
		Electric or green cars	86	1
		Remanufactured products	92	1
		Green residential building	31	1
		All-purpose green adhesives	67	1
4	Theory	Theory of Planned Behavior (TPB)	8,9,10,15,16,20,24,28,31,40,46,60,61,63,65,74,75,76,77,80,95	21
		Theory of Reasoned Action (TRA)	7,44	2
		Stimulus Organism Response (SOR) Model	59	1
		Reciprocal Determinism Theory (RDT)	3	1
		Value Belief Norm Theory (VBNT)	49	1
		Responsible Environmental Behavior (REB) Theory	57	1
		Theory of Consumption Values (TCV)	62	1
		Value Attitude Behavior (VAB) Model	52	1
		Stimulus Organism Behavior Consequence (SOBC) Paradigm	104	1
		Signaling Theory (ST)	66	1
		Institutional Theory (IT)	78	1
		Goal Framing Theory (GFT)	83	1
		Push-Pull-Mooring Theory (PPMT)	86	1
		Self Determination Theory (SDT)	98	1
		Innovation Resistance Theory (IRT)	99	1
		Rasch Model (RM)	103	1
		TPB + Norm Activation Model (NAM)	45	1
		TRA + Cognitive Hierarchy Model	38	1
		VBNT + Elaboration Likelihood Model (ELM)	50	1
		TRA + TPB + VBNT	48	1
		TPB + Technology Acceptance Model (TAM) + Technology Acceptance Framework (TAF)	100	1
		TPB + VBNT + Cognition Affection Behavioral Theory (CABT)	106	1
		Own framework	1,2,4,5,6,11,12,13,14,17,18,19,21,22,23,25,26,27,29,30,32,33,34,35,36, 37,39,41,42,43,44,51,53,54,55,56,58,64,67,68,69,70,72,73,79, 81,82,84,85,87,88,89,90,91,92,93,94,96, 97, 101, 102, 105, 107,108	64

The Theory of Planned Behavior (TPB) was the most frequently employed theory by researchers to explain GPI and GPB (19.1%), followed by the Theory of Reasoned Action (TRA), and the Stimulus Organism Response (SOR) Model. Further, three studies applied two theories, and three studies used three theories together to construct their research framework. However, the majority of the studies were not dependent on other theories (60%, Table 4).

In terms of types of green products, green products in general (61.1%), organic food and beverages (13.8%), organic products (5.5%), energy efficient electric appliances (5.5%), and green cosmetic products (5.5%) were examined most often, while smart home objects, sustainable packaging, green furniture, electric or green cars, remanufactured products, and green residential building attracted the least attention by the researchers (see Table 4).

4. Discussion

This is the only study to date that has reviewed attitude–behavior inconsistency in the context of eco-friendly purchasing along with several behaviors, attitudes, motives, and barriers influencing GPB for the period of 2015–2021. The current review has identified several motives and barriers influencing eco-friendly purchases, and it suggests potential clarifications for the noticed inconsistency in GPB. Moreover, it gives a complete assessment of the existing literature because it depended on the results of numerous research studies carried out earlier. It offers significant factors that could be viewed as explanatory variables, mediating variables, and moderating variables for future research to use to explore their impact on GPI and GPB (dependent variables). Surprisingly, the authors did not find any review article that completely addressed the attitude–behavior gap in the context of GPB for the period of 2015 to present, though there are empirical research studies that emphasized different dimensions of eco-friendly consumption. The way different variables in this article were distinguished was carried out based on the results of numerous research studies conducted in diverse cultures and contexts, and the suitability of these variables must be empirically studied in future studies. Authors might also suggest various models and frameworks depending on their own results, taking the outcomes of the current review as a base.

Even though different determinants were identified by the previous review articles, from time to time huge differences were seen among the prominent drivers. For example, in Joshi and Rahman's (2015) review, environmental concern and knowledge as well as the product's functional and green attributes were identified as major drivers, whereas high price and inconvenience in purchasing the product were revealed as major barriers to consumer green purchase behavior [8]. Meanwhile, the results of the study by ElHaffar et al. (2020) showed that personal norms, perceived self-efficacy, and willingness to pay were the major factors directly affecting green behavior [24]. Moreover, perceived simplicity and benefit certainty were the factors that affected behavior indirectly by mediating intentions. Another review study performed by Testa et al. (2020) classified the green purchase antecedents into seven different groups, and 91 variables were identified [30]. However, no conclusions were drawn about the major positive and negative determinants of GPI and GPB. The current study identified 212 and 135 determinants that affect GPI and GPB, respectively, and attitudes, environmental concerns, environmental knowledge, PBC, subjective norms, perceived consumer effectiveness, and awareness emerged as major positive drivers of both GPI and GPB. Furthermore, green trust, health consciousness, and price were reported as major positive influencing factors of GPI, while intention, environmental involvement, and personal norms were considered as the major positive drivers of GPB, whereas egoistic values, green advertising skepticism, lack of environmental concern, perceived environmental problem seriousness, and perception of barriers were found as key barriers of performing both GPI and GPB. Moreover, financial risk, green washing, perceived risk, and price consciousness were observed as the vital negative factors on GPI, while the family size seemed to be a key obstacle to the purchase of green items. Furthermore, some of the determinants, for example, warm glow, neophobia, Doctrine of

the Mean, nostalgia, LOHAS lifestyle, mooring factor, coefficient of pain buffering, and coefficient of pleasure attenuation, were recorded for the very first time in a review, and all of them are contributed to reduction of the existing green gap. Moreover, by providing a clear overview of similarities and differences of the determinants of GPI and GPB according to different focuses and contexts, scholars could get useful information for designing robust and reliable empirical research, grounded on valid measurements and avoiding overlap with previous studies.

GPI or willingness states the customers' WTP eco-friendly products, which is an expression of the consumer's interest in benefitting the environment and their motivation for buying eco-friendly items [34]. In other words, customers do not just worry about the green quality of the product, but also about the ecological consequences connected with their buying decision for green items. Furthermore, Lai and Cheng (2016) revealed that customers' willingness is a more effective factor for purchasing eco-friendly goods than other behavioral factors [35].

The conceptual frameworks of GPI and GPB studies have identified directions in which future studies can enhance the literature on green behavioral antecedents relating to GPI and GPB. Some determinants of GPI and GPB have gained greater attention from the academics; for instance, attitudes, SN, and PBC have appeared in 42, 16, and 22 studies, respectively, while some variables have been utilized just once or twice, for example, warm glow, neophobia, doctrine of the mean, nostalgia, LOHAS lifestyle, mooring factor, coefficient of pain buffering, coefficient of pleasure attenuation, etc. This is not surprising, as TPB has been used as a base theoretical framework by 21 articles selected; thus, constructs comprised in TPB are frequently examined. Although replication-based research is essential, some of the hypothesized associations are now well-known and offer little additional insight. For example, social networking platforms have been built for enhancing social networking among consumers; therefore, it is self-evident that social factors (i.e., SN, WOM, social influence, etc.) might motivate consumers to choose eco-friendly products and services.

Attitudes, mainly towards the one's own health and environment, however, play an important role in encouraging WTP for green, which is compatible with a recent review of factors for GPI [36]. Similarly, environmental attitudes are able to predict eco-friendly customer behavior, for example, environmental consciousness, environmental concern, and environmental commitment. Concern for the environment was revealed to be linked with the consumer's ethical or moral obligations and/or personal norms [37]. It has been established that customers' personal norms or true moral obligations linked to ecological welfare could improve the attitude–behavior relationship. Conversely, customers who display positive attitudes towards eco-friendly products, but lack a feeling of solid personal commitment towards the improvement of the environment and society might not be willing to choose to purchase eco-friendly products, particularly when they have diverse options. Reference groups and subjective norms appeared as another significant driver of GPB, which shows mixed results on GPI and GPB (see the Tables 2 and 3). Subjective norms can influence GPB as they might force the consumer to act in a certain way [38]. Past research also revealed that social agents in close proximity, for example, parents and peers, might be identified role models for learning through observation, and also might be seen as a trustworthy information source concerning GPB [39,40]. This phenomenon could be explained with the help of Consumer Socialization Theory (CST), which describes the significant impact of social groups on GPB [41].

Most of the studies on customer-related elements that influence GPI and GPB have studied demographic characteristics and their effects, most regularly gender, age, income, and education. Most of the research that examined these variables revealed a noteworthy influence on GPI and GPB. This is compatible with the study by Diamantopoulos et al. study (2003) that observed that eco-friendly customers cannot be profiled by sociodemographic characteristics alone, but rather by their ecological concern and consciousness [42]. Moreover, this split holds true for gender, age, and education, irrespective of the economic

growth of the country in which the research was conducted; a considerably high portion of the research revealed income to have a more significant influence on GPI and GPB in developing and emerging countries. This is likely due to the fact that the percentage of disposable income spent on green is higher in developing and emerging countries, making eco-friendly products more of a premium product compared with advanced economies. Across the studies, other examined demographic factors included household or family size and occupation, but neither showed a significant relationship with GPB. Conversely, only occupation showed a positive effect on GPI in one study. While demographics do not essentially influence GPI and GPB, customer attitudes and values, mainly concerning their own health and the environment, almost always displayed a positive effect on GPI and GPB. In the context of eco-friendly product buying, this might mean that concentrating on specific socio-demographic variables might only play an auxiliary role in studies by academics or an auxiliary role in studies that target advertising for manufacturers.

Furthermore, research suggests that a product's green and functional features create an alternative category of motives that govern customers' GPB [43]. A product's nutritional value, good taste, health-related benefits, green certification, product appearance, and superior quality are the precise characteristics that influence the demand and consumption of eco-friendly food [44]. Additionally, perception of poor product quality has been recognized in numerous research studies as a significant obstacle that affects GPB [45]. Consequently, products with favorable ethical and functional characteristics and high quality act as strong motives for purchasing and are a compulsory prerequisite for converting positive attitudes into actual GPBs. Similarly, product attributes, for example, availability, packaging, brand image, and labelling of the eco-friendly products, are found to frequently result in an increased WTP, but some product-related drivers such as, cost factors and greenwashing play a significant role in reducing green product purchases. Therefore, inconvenience in purchasing and the limited availability of products widen the gap between positive intention and actual behavior towards GPB. When, the unavailability of a product integrates with poor brand image and high price, customers will not buy it, even though it is eco-friendly [46]. Furthermore, some research revealed that other product attributes, for example, price and product quality, were more significant than green packaging. Generally, customer attitudes and perceptions towards green packaging are broadly heterogeneous and range from positive to negative over all product evaluations. Generally, this literature synthesis proposes that guidance is needed for customers to recognize green packaging. Hence, we recommend that green companies that engage in green packaging must prominently label their product packages and that clear information on any ecological benefits should be provided. With proper communication, green packaging might pay off for both the environment and for companies in the eco-friendly products and packaging industries. Furthermore, it is significant to bear in mind that green packaging is not a main concern of customers.

Culture plays a significant role in sustainability because of its effect on customer attitudes and beliefs [47], yet several studies found inconsistent outcomes regarding the effect of cultural values on GPI and GPB. The current review identified several central green cultural value orientations, such as, collectivism, long-term orientation, femininity, masculinity, uncertainty avoidance, and power distance, which were theoretically integrated into the different frameworks as explanatory or moderating or mediating variables. Hence, cultural values influence GPI and GPB and have the ability to influence the association between pro-environmental concerns and behaviors, and thus could mitigate the attitude–behavior inconsistency.

Due to the rising anxieties about traffic congestion, air pollution, and climate change, establishment of low-carbon transportation has become a developing tendency worldwide. Many research studies have shown that when passengers make travel decisions, their eco-friendly attitudes might not essentially lead to low-carbon behaviors due to the green gap. Their choices are mostly governed by drivers other than ecological considerations, for instance, personal safety, convenience, and comfort [48]. Individuals with ecological

concerns might be more persuaded to adopt GPB, to eagerly decrease non-essential luxuries that are detrimental to the environment, and to consider several external stimuli, for example, environmental pollution [49]. Environmental consciousness, ecological values, and beliefs in sustainability might prompt green passengers to favor eco-friendly travel modes [50].

Recycling at the end of a product's life is also crucial to creating a low carbon lifecycle, which depends to some degree as well on appropriate consumer behavior. Several studies on product recycling programs and the purchase of recycled or remanufactured products worldwide indicated that various drivers could affect the rate of purchasing such products [51]. Guagnano et al. (1995) revealed that perceived costs, external conditions, and attitudes can influence consumer's perceptions about the recycling of products [52], while financial, economic, and technical factors [53] as well as household income, family composition [54], and demographics, such as, gender, age, occupation, education level, and culture [55], are all influential elements that affect personal behavior towards the purchasing of remanufactured products, and product recycling.

Several research studies found that a lack of customer trust in eco-friendly features and ethical claims of a product are key obstacles to the purchase of eco-friendly goods [56]; customers do not trust the eco-friendly features of products, and they are not persuaded that consumption of such products will lead to any ecological benefits. Furthermore, customers do not trust information available on eco-friendly packages and eco-labels, and they avoid buying such goods [57]. Hence, customers' lack of trust appears as a significant reason for the existing green gap. Results further indicate that numerous emotions, especially warm glow [58], emotional value [59], and emotions in general [60] directly influence customer GPB and might drive customers towards green purchasing. However, the influence of different types of emotions largely remains unexplored, and future research should address this issue.

In this review, it was further noticed that customers are keen to purchase eco-friendly items, though this somehow does not transform into actual purchasing behaviors. One of the major reasons for this is that some green companies only offer eco-friendly products because of the present a new business opportunity; thus, they overvalue the product because of it being "green". Therefore, the overvaluing negatively affects the buying capacity of a customer and due to such pricing policies presents green items as "niche products" that are purchased only by a part of the public rather than being presented as lower-priced products that would appeal to a much larger audience. However, the pricing is neither the only issue, nor the only answer for the issue. The eco-friendly product-producing companies should make products that are healthier for the consumers as well as friendlier to the environment, and thus appealing to everybody. Moreover, retailers should stock an assortment of green items so that customers' choice range will be broadened. Then, a drastic change in the consumers GPB could happen and could influence more of society to "go green".

There are significant managerial implications in the current review. It notifies marketing personnel and policymakers about the significant determinants of customers' GPB. Marketers should comprehend the identified motives and barriers on GPB, and those understandings will allow them to introduce innovative product offerings and to formulate novel marketing strategies that encourage GPB. Further, valuable implications for public policy were introduced through the current review as well. The findings have shown that environmental values and concerns are key determinants that motivate a consumer to explore eco-friendly items.

In addition, educators and policymakers should nurture and build up this trend via ecological education. Customers usually remain skeptical of ecological claims given by the green companies, and it is difficult for them to distinguish eco-friendly items. Therefore, knowledge about how to recognize eco-friendly products should be conveyed to customers through ecological education, with special reference to the green determinants that affect GPI and GPB. Most of the research studies use the economic rational paradigm to examine

the attitude–behavior inconsistency, mostly through the TPB, and therefore, attitudes, subjective norms, PBC, and intention are the most frequently used green determinants. Moreover, personal norms and perceived consumer effectiveness play an important role as green drivers. Hence, it is significant for educators and policymakers to pay special attention to the above drivers when designing awareness programs in order to alter customer behavior. Additionally, customers who generally exhibit green attitudes and behaviors, but who sporadically refrain from purchasing eco-friendly products, react well to initiatives that address their cognitive preferences and build upon their prevailing knowledge towards green consumption. Additional information might enhance customer knowledge, which in turn may reinforce customers' trust in eco-friendly products and strengthen the attitude–behavior relationship. Hence, it is a significant alternative opportunity to close the green gap.

There are numerous drivers that act as obstacles and that widen the green gap between customers' positive attitudes and actual GPB. Higher prices are described as a noteworthy obstacle to buying eco-friendly products. Green product manufacturing companies usually charge a premium for eco-friendly products, while customers are generally sensitive towards the price; they are keen to purchase green products, but not at higher prices. Customers usually desire low-priced eco-friendly products and assign more significance to price as compared with green claims because customers are not yet prepared to prioritize the environment over their personal pleasure and wellbeing. Therefore, if the product price is higher than their expectations, it will weaken the effect of their eco-friendly attitude and broaden the green gap. Therefore, governments should pay more attention to the regulation of the eco-friendly product prices and should establish regulatory bodies to decide the nominal and affordable prices for the green products and services in order to increase their usage; it would be a win–win situation for both manufacturers and green consumers.

For green manufacturers, the outcomes suggest that customers prefer an eco-friendly item with ideal functional attributes. Thus, not focusing only the eco-friendly characteristics of the product, producers or marketers have to pay attention to the functional attributes of the eco-friendly items. Hence, organizations need to combine eco-friendly and functional features to introduce innovative products that satisfy customer needs. Furthermore, they should attempt to create customer trust in the green label. Consequently, marketers can offer specific strategies to encourage public consciousness of green labels so consumers can recognize the meaning and availability of the green-labels and the advantages of purchasing green-labelled items. Governments ought to likewise monitor the trustworthiness of the messages given by green labels to ensure that the trust of customers is not broken. Moreover, policy should contribute to enhance the confidence of green products via promotion of clarify and trustworthy eco-labelling policy implementation. Therefore, these findings highlight the necessity for policymakers to promote environmental education and provision of more information about eco-friendly products and their impact on environment.

Nguyen et al. (2019) revealed that although high-income customers were able to spend extra on green goods, they really might not purchase those goods in the marketplace due to a lack of trust [61]. Hence, additional awareness of the ecological and climate effects of commodities is also a significant driver [62]. If customers do not comprehend the advantages of eco-friendly merchandise, they might be unwilling to purchase it. Consequently, Li et al. (2017) proposed that additional evidence about green goods must be delivered to customers with proper financial enticements, for example, subsidies to encourage customers to purchase eco-friendlier products [63]. Because laws and protocols are not always successful in accomplishing related policy goals, incentives might be a successful way to encourage personal behaviors [64]. Nonetheless, considering the complication of various drivers that influence consumer behavior, it is vital to consider how to implement incentive programs without losing customers' intrinsic motivation for GPB [65]. Normally, intangible rewards are more effective than material rewards. Once individuals are labelled as "environmentalists", they are more willing to display GPBs to increase their ecological self-identity. Governments might consider giving more incentives, particularly non-monetary incentives,

for example, priority approval for establishing organic food factories or remanufactured product factories.

Among the drivers influencing consumer GPBs, demographic characteristics are challenging to alter in the short term. Most of the eco-friendly behaviors are not compulsory nowadays; thus, improving the individual willingness of consumers can be significant—for instance, education may enhance the role of internal drivers such as personal norms and attitude. When an individual has a subjective willingness, external drivers play a critical role; for instance, improved infrastructure and economic incentives can decrease the gap between GPI and GPB. Various manipulating drivers interact with each other, and increasing the role of other drivers under specific circumstances is of great significance for encouraging behavioral changes towards GPI and GPB. Furthermore, policymakers must pay more attention to the various impacts of policies on various clusters, for instance, for high-income categories, taxes might be more successful than subsidies and vice versa.

Strengthening ecological education is compulsory. Even though individuals are mindful of ecological change, they might not comprehend the association between ecological change and individual behavior. Comprehending the existing effects of ecological change is not as clear as understanding the effects of personal behavior, such as understanding the effect of driving on air quality [66]. Hence, promoting ecological education as well as publicity, especially increasing knowledge on ecological change, is of great consequence for encouraging GPB alterations. Customers should well comprehend the consequences of their behaviors and the ecological benefits of behavior changes. Extensive ecological behavior education may assist in building robust ecological awareness, leading towards more effective ecological attitudes in order to buy more green products.

Promoting the purchase of electric vehicles is a successful substitute that assists in decreasing automobile-related CO_2 emissions, as well as decreasing global warming. A study on automobile usage in the Netherlands found that individuals who pay extra attention to the ecological issues that arise from driving conventional automobiles are more willing to buy electric vehicles, while respondents who are less anxious about such matters might concentrate more on their individual freedom to drive conventional automobiles as an illustration of their psychological values [67]. Given these conditions, initiatives must concentrate on decreasing conventional automobiles' functional, cultural, and psychological values. Therefore, to encourage eco-friendly alternative fuel vehicles over conventional vehicles, governments in many nations have to take actions, for instance, road tolls for conventional cars and license-plate-based driving restrictions, policies proven to be effective for increasing the purchase of alternative fuel vehicles, for instance, hybrid electric vehicles, hydrogen fuel cell vehicles, and plug-in electric vehicles (PEVs). Furthermore, governments have taken additional proactive decisions to speed up the adoption of alternative-fuel automobiles, including subsidies, tax benefits, parking and driving privileges, and phase-out of conventional automobiles, and they have conducted awareness programs on the green gap because adoption of alternative fuel vehicles can more efficiently enable the promotion of these new types of vehicles.

The aim of enhancing infrastructure that is favorable to encouraging eco-friendly purchases wants to be incorporated in the policy agenda. When the community knows how to diminish detrimental effects to the environment, better infrastructure may abolish physical obstructions to public involvement in eco-friendly purchase events. Easy-to-use, and readily available infrastructure may also offer a favorable external environment for GPB. For instance, governments can organize enhanced green product infrastructure, more convenient and low interest loan schemes, tax free green raw materials, and so on to accelerate behavior changes towards GPI and GPB. Therefore, increasing policy interventions are significant. Policymakers can design applicable policies that lead consumer groups and people to alter behaviors and to decrease their ecological impact through GPB. They can also improve related rules and regulations to force GPBs and increase participation networks for growing public involvement in buying green products. For example, carbon trading and carbon taxes are efficient policy tools for decreasing CO_2 emissions [68],

and expanding these policies to consumers with a suitable scheme design can efficiently encourage GPI and GPB. Furthermore, policymakers can promote smart green home appliances with lower carbon footprints, and higher energy efficiency via information tools, for example, carbon labels.

On the academic level, the drivers affecting the green gap, either negatively or positively, are being broadly investigated by academics in the field of ecological psychology and associated disciplines. In the future, study efforts must concentrate on the determinants and settings supporting positive eco-friendly compensation behavior, mainly personality traits. The variables that contribute to maintaining a passive state of inconsistent behavior must also be examined. Additionally, studies that more strongly integrate green principles into consumption behavior are required to move beyond simply reducing ecological impacts to challenging the fundamental unsustainability of many aspects of consumer lifestyles in modern economies. Furthermore, a very inadequate number of research studies have explored eco-labels as a determinant of eco-friendly consumption, and how label content might alter perception of the product has still not been investigated. Future studies must, hence, analyze how the design of the label affects attitudes towards a product, and as a consequence, the intention to buy. Moreover, the authors suggest that producers should also start concentrating on the content that is available on social media platforms regarding their products and that they must familiarize themselves with electronic word of mouth (eWOM). It has become necessary to understand various drivers that act as antecedents and that can affect human behaviors, for instance, buying behavior, as a result of social media usage. In this context, the current review recommends that companies pay more consideration to developing their brands on social media and establishing their relations with potential customers and individual users, such that they can stay in touch with their customers in order to fulfil their requirements. Additionally, future research should focus more on the concept of eWOM. Therefore, academics can design more studies to comprehend the drivers and mechanisms that influence consumers' GPB, grounded on their reliance on social media platforms for pursuing sustainability-related information in developing and developed countries. Overall, the review proposes that the green gap phenomenon cannot be resolved in the near future, and as such, it should continue to be expansively investigated.

5. Limitations and Future Research

In the current review, the authors attempted to be very accurate and systematic in choosing studies; for example, here we selected only the SCOPUS-indexed research articles that were published in the period of 2015–2021, and those shortcomings might be overwhelmed by future investigations. The factors recognized might have diverse influences on people from dissimilar social and cultural backgrounds.

Most of the empirical studies on eco-friendly purchasing were dependent on customers' self-reported attitudes and practices instead of actual customer behaviors. Future studies might measure actual customer behavior to acquire a true picture of how customers behave in reality. Finally, future studies might likewise focus on researching new variables that cause the stated inconsistency in GPB and that recognize the impact of variables that have been examined relatively less frequently in the existing literature.

6. Conclusions

Through a broad literature review, various elements influencing customer GPI and GPB were recognized. All these variables were found to either encourage or discourage the purchasing of eco-friendly items. Depending on the identified variables, possible clarifications could be suggested for the stated green gap in GPB. As revealed by most research, customers' attitudes, environmental concerns, environmental knowledge, PBC, subjective norms, perceived consumer effectiveness, and awareness were considered as the major positive drivers of both GPI and GPB. Meanwhile, green trust, health consciousness, and price, while intention, environmental involvement, and personal norms emerged as

major positive drivers for GPI and GPB, respectively. Moreover, the findings of the current systematic review dedicated to the determinants of GPI and GPB highlighted five major groups of determinants: individual factors, non-individual factors, situational factors, product attributes, and demographics. Individual factors included 83 variables under the 10 subcategories that were associated with GPI and GPB. Furthermore, regarding effects on GPI and GPB, 5 variables under non-individual factors, 1 variable under situational factors, 11 variables under product attributes, and 4 variables under demographics were identified.

Author Contributions: Conceptualization, R.W. and M.F.S.; methodology, R.W.; data curation, R.W.; writing—original draft preparation, R.W.; writing—review and editing, M.F.S.; supervision, M.F.S. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. List of studies selected and their dependent variables (DVs).

No	Year	Authors	Topic	Population	Sample Size	DV	
						GPI/WTP	GPB
1	2015	Martinho et al. [69]	"Factors affecting consumers' choices concerning sustainable packaging during product purchase and recycling"	Households	199		√
2	2015	Felix and Braunsberge [70]	"I believe therefore I care: The relationship between religiosity, environmental attitudes, and green product purchase in Mexico"	Households	242		√
3	2015	Joshi and Rahman [71]	"Predictors of young consumer's green purchase behavior"	Households	1502		√
4	2015	Uddin and Khan [72]	"Exploring green purchasing behavior of young urban consumers"	Households	161		√
5	2015	Bhatt and Bhatt [73]	"Analyzing psychographic factors affecting green purchase intention"	Undergraduate and postgraduate students	244	√	
6	2015	Nagar and Rana [74]	"Examining linkages between brand image and purchase intention of green products: The moderating role of perceived benefits"	postgraduate students	150	√	
7	2015	Konuk et al. [75]	"Antecedents of green behavioral intentions: a cross-country study of Turkey, Finland and Pakistan"	Green consumers	1500	√	
8	2016	Chen and Hung [76]	"Elucidating the factors influencing the acceptance of green products: An extension of theory of planned behavior"	Green consumers	406	√	
9	2016	Mobrezi and Khoshtinat [77]	"Investigating the factors affecting female consumers' willingness toward green purchase based on the model of planned behavior"	Green consuming females	279	√	
10	2016	Chekima et al. [78]	"Examining green consumerism motivational drivers: does premium price and demographics matter to green purchasing?"	Green consumers	405	√	
11	2016	Lai and Cheng [35]	"Green purchase behavior of undergraduate students in Hong Kong"	Undergraduate students	100	√	√
12	2016	Göçer and Oflaç [79]	"Understanding young consumers' tendencies regarding eco-labelled products"	Undergraduate and postgraduate students	328	√	
13	2016	Chang and Chang [80]	"Tie strength, green expertise, and interpersonal influences on the purchase of organic food in an emerging market"	Organic food consumers	578	√	√
14	2016	Suki [81]	"Green product purchase intention: impact of green brands, attitude, and knowledge"	Green consumers	300	√	
15	2016	Wang and Wang [18]	"Do psychological factors affect green food and beverage behavior? An application of the theory of planned behavior"	College students	793		√

Table A1. *Cont.*

No	Year	Authors	Topic	Population	Sample Size	DV	
16	2016	Nguyen et al. [82]	"The influence of cultural values on green purchase behavior"	Consumers	682	√	
17	2016	Rejikumar [83]	"Antecedents of green purchase behavior: An examination of moderating role of green wash fear"	Retail customers	188	√	
18	2016	Sharma and Sharma [84]	"Relationship between consumers' spirituality and green purchasing intentions: The mediation effect of perceived consumer effectiveness"	Green consumers	115	√	
19	2016	Nguyen et al. [85]	"Energy efficient household appliances in emerging markets: the influence of consumers' values and knowledge on their attitudes and purchase behavior"	Consumers	682	√	√
20	2016	Liobikienė et al. [86]	"Theory of planned behavior approach to understand the green purchasing behavior in the EU: A cross-cultural study"	Green consumers	NG		√
21	2017	Singh and Verma [87]	"Factors influencing Indian consumers' actual buying behavior towards organic food products"	Organic food consumers	611	√	√
22	2017	Cai et al. [10]	"Eco-label credibility and retailer effects on green product purchasing intentions"	Green furniture users	2513	√	
23	2017	Goriparthi and Tallapally [88]	"Consumers' attitude in green purchasing"	Green consumers	483		√
24	2017	Nguyen et al. [89]	"Young consumers' green purchase behavior in an emerging market"	University students	289		√
25	2017	Norton et al. [90]	"Bridging the gap between green behavioral intentions and employee green behavior: The role of green psychological climate"	Australian employees	74		√
26	2017	Ghazali et al. [91]	"Cultural influences on choosing green products: An empirical study in Malaysia"	Green consumers	615		√
27	2017	Wei et al. [92]	"Toward sustainable livelihoods: Investigating the drivers of purchase behavior for green products"	Green consumers	375	√	√
28	2018	Sreen et al. [93]	"Impact of culture, behavior and gender on green purchase intention"	Urban consumers	1040	√	
29	2018	Trivedi et al. [94]	"Causality analysis of media influence on environmental attitude, intention and behaviors leading to green purchasing"	Green consumers	308	√	√
30	2018	Woo and Kim [95]	"Consumer attitudes and buying behavior for green food products"	Green food consumers	253	√	
31	2018	Tan and Goh [96]	"The role of psychological factors in influencing consumer purchase intention towards green residential building"	Green residential building users	304	√	
32	2018	Siyavooshi et al. [97]	"Effect of Islamic values on green purchasing behavior"	Muslim consumers	270	√	

Table A1. *Cont.*

No	Year	Authors	Topic	Population	Sample Size	DV	
33	2018	Ali et al. [98]	"Factors affecting consumers' purchase behavior for health and wellness food products in an emerging market"	Households	218		√
34	2018	Uddin and Khan [99]	"Young consumer's green purchasing behavior: opportunities for green marketing"	College students	730		√
35	2018	Arli et al. [100]	"Exploring Consumers' Purchase Intention toward Green Products in an Emerging Market: The Role of Consumers' Perceived Readiness"	University students and non-student consumers	916	√	
36	2018	Rahimah et al. [101]	"Understanding green purchase behavior through death anxiety and individual social responsibility: Mastery as a moderator"	Green consumers	280	√	
37	2018	Bedard and Tolmie [102]	"Millennials' green consumption behavior: Exploring the role of social media"	Millennials	131	√	
38	2018	Ghazali et al. [103]	"Impact of religious values and habit on an extended green purchase behavior model"	Muslim consumers	504	√	√
39	2018	Moons et al. [104]	"The determinants of the adoption intention of eco-friendly functional food in different market segments"	Functional food consumers	1325	√	
40	2018	Ricci et al. [105]	"Trust to go green: An exploration of consumer intentions for eco-friendly convenience food"	Eco-friendly food consumers	550	√	
41	2018	Stadelmann and Schubert [106]	"How do different designs of energy labels influence purchases of household appliances? a field study in Switzerland"	Energy efficient household appliance users	180		√
42	2019	Schill et al. [107]	"Consumers' intentions to purchase smart home objects: Do environmental issues matter?"	Smart home object users	641	√	
43	2019	Joshi and Rahman [108]	"Consumers' sustainable purchase behavior: Modeling the impact of psychological factors"	Young consumers	425		√
44	2019	Hao et al. [109]	"What affect consumers' willingness to pay for green packaging? Evidence from China"	Green consumers	781	√	
45	2019	Wang et al. [110]	"Purchasing intentions of Chinese consumers on energy-efficient appliances: Is the energy efficiency label effective?"	Energy-efficient appliance users	369	√	
46	2019	Sun and Wang [111]	"Understanding consumers' intentions to purchase green products in the social media marketing context"	Green consumers	654	√	
47	2019	Troudi and Bouyoucef [112]	"Predicting purchasing behavior of green food in Algerian context"	Urban consumers	304	√	√
48	2019	Wang et al. [113]	"Antecedents of green purchase behavior: an examination of altruism and environmenta knowledge"	Consumers	248	√	
49	2019	Jaini et al. [114]	"Antecedents of green purchase behavior of cosmetics products"	Green cosmetic consumers	150		√

Table A1. *Cont.*

No	Year	Authors	Topic	Population	Sample Size	DV	
50	2019	Jaini et al. [115]	"I buy green products, do you...? The moderating effect of eWOM on green purchase behavior in Malaysian cosmetics industry"	Green cosmetic consumers	318		√
51	2019	Kashi [116]	"Green purchase intention: A conceptual model of factors influencing green purchase of Iranian consumers"	University students	450	√	
52	2019	Kautish and Sharma [117]	"Value orientation, green attitude and green behavioral intentions: an empirical investigation among young consumers"	Urban consumers	410	√	
53	2019	Tan et al. [118]	"Determinants of green product buying decision among young consumers in Malaysia"	Young consumers	217		√
54	2019	Saeed et al. [119]	"Sustainable product purchase: does information about product sustainability on social media affect purchase behavior?"	Social media users	91	√	
55	2019	Yan et al. [120]	"Powering sustainable consumption: The roles of green consumption values and power distance belief"	Adult and student groups	156 + 219	√	
56	2019	Chiu et al. [121]	"Antecedents of consumers' citizenship behavior towards organic foods"	Organic food consumers	318		√
57	2019	He et al. [122]	"Factors affecting consumers' purchase intention of eco-friendly food in China: The evidence from respondents in Beijing"	Urban consumers	239	√	
58	2019	Sheng et al. [123]	"The role of cultural values in green purchasing intention: Empirical evidence from Chinese consumers"	Green consumers	456	√	
59	2020	Ahmed and Zhang [124]	"Green purchase intention: Effects of electronic service quality and customer green psychology"	Green consumers	1002	√	
60	2020	Patel et al. [125]	"Self-identity and internal environmental locus of control: Comparing their influences on green purchase intentions in high-context versus low-context cultures"	Green consumers	365 + 408	√	
61	2020	Nguyen and Nguyen [126]	"An alternative view of the millennial green product purchase: the roles of online product review and self-image congruence"	Millennials	305	√	
62	2020	Wang et al. [127]	"Effect of green consumption value on consumption intention in a pro environmental setting: The mediating role of approach and avoidance motivation"	Green consumers	741	√	
63	2020	Hosta and Zabkar [128]	"Antecedents of environmentally and socially responsible sustainable consumer behavior"	Green consumers	426	√	√
64	2020	Nam [129]	"Consumer empowerment and eco-friendly behavior: moderating effects of consumer empowerment on the relationship between involvement in eco-friendly food and eco-friendly food behavior"	Eco-friendly food consumers	6000		√

Table A1. *Cont.*

No	Year	Authors	Topic	Population	Sample Size	DV	
65	2020	Hojnik et al. [130]	"Sustainable development: Predictors of green consumerism in Slovenia"	Green consumers	705	√	√
66	2020	Sun et al. [131]	"What you see is meaningful: Does green advertising change the intentions of consumers to purchase eco-labelled products?"	Green consumers	671	√	
67	2020	Niedermeier et al. [132]	"Which factors distinguish the different consumer segments of green fast-moving consumer goods in Germany?"	Green consumers	709		√
68	2020	Mutum et al. [133]	"Parallel mediation effect of consumption values and the moderation effect of innovativeness, in predicting the influence of identity on green purchasing behavior"	Green consumers	1186		√
69	2020	Zhou et al. [134]	"The interplay among green brand knowledge, expected eudaimonic well-being and environmental consciousness on green brand purchase intention"	Green consumers	529	√	
70	2020	Ogiemwonyi1 and Harun [135]	"Consumption of green product as a means of expressing green behavior in an emerging economy: With the case study of Malaysia"	Green consumers	280		√
71	2020	Wang and Chao [136]	"Nostalgia decreases green consumption: The mediating role of past orientation"	Green consumers	162		√
72	2020	Jog and Singhal [137]	"Greenwashing understanding among Indian consumers and its impact on their green consumption"	Consumers	173		√
73	2020	Soomro et al. [138]	"Exploring the green purchasing behavior of young generation in Pakistan: opportunities for green entrepreneurship"	University students	361		√
74	2020	Amoako et al. [139]	"Do green knowledge and attitude influence the youth's green purchasing? Theory of planned behavior"	Green consumers	417		√
75	2020	Shahrin et al. [140]	"Factors affecting consumers' pro-environmental behavior in nutricosmetics consumption: the role of perceived environmental responsibility as a mediator"	Nutricosmetics consumers	448		√
76	2020	Chou et al. [141]	"Persuasiveness of organic agricultural products"	Organic product users	527	√	
77	2020	Tonder et al. [142]	"Cognitive and emotional factors contributing to green customer citizenship behaviors: a moderated mediation model"	Green consumers	450 + 446		√
78	2020	Sreen et al. [143]	"The impact of the institutional environment on green consumption in India"	Green consumers	400	√	
79	2020	Akturan [144]	"Pay-premium for green brands: evidence from an emerging country"	Green consumers	500		√
80	2020	Matharu et al. [145]	"Understanding the impact of lifestyle on sustainable consumption behavior: a sharing economy perspective"	Green consumers	627	√	√

Table A1. *Cont.*

No	Year	Authors	Topic	Population	Sample Size	DV	
81	2020	Khan et al. [146]	"Driving forces of green consumption in sharing economy"	Households	537		√
82	2020	Prado and Moraes [147]	"Environmental awareness, consumption of organic products and gender"	University students	213	√	
83	2020	Hameed and Khan [148]	"An extension of the goal-framing theory to predict consumer's sustainable behavior for home appliances"	Green consumers	418	√	√
84	2020	Kazmi et al. [149]	"Switching behaviors toward green brands: evidence from emerging economy"	Green brand users	331	√	
85	2020	Saeed and Shafque [150]	"Green customer-based brand equity and green purchase consumption behavior: the moderating role of religious commitment"	Green brand users	315		√
86	2020	Sajjad et al. [151]	"Environmental concerns and switching toward electric vehicles: geographic and institutional perspectives"	Electric vehicle users	380	√	√
87	2020	Szabo and Webster [152]	"Perceived greenwashing: The effects of green marketing on environmental and product perceptions"	Generation Z participants	166		√
88	2020	Wasaya et al. [153]	"Impact of green trust and green perceived quality on green purchase intentions: a moderation study"	Consumers	306	√	
89	2020	Yue et al. [154]	"Effects of perceived value on green consumption intention based on double-entry mental accounting: taking energy-efficient appliance purchase as an example"	Energy-efficient appliance users	745	√	
90	2020	Feil et al. [155]	"Profiles of sustainable food consumption: Consumer behavior toward organic food in southern region of Brazil"	Consumers	1997		√
91	2020	Wang et al. [156]	"The unexpected effect of frugality on green purchase intention"	Consumers	369	√	
92	2020	Silva et al. [157]	"Why wouldn't green appeal drive purchase intention? Moderation effects of consumption values in the UK and China"	Consumers	554 + 402	√	
93	2020	Ali et al. [158]	"How "Green" thinking and altruism translate into purchasing intentions for electronics products: The intrinsic-extrinsic motivation mechanism"	Electronic product buyers	2021	√	
94	2020	Jin et al. [159]	"Negative emotions, positive actions: Food safety and consumer intentions to purchase ethical food in China"	Consumers	505	√	
95	2020	Boobalan et al. [160]	"Understanding the psychological benefits in organic consumerism: An empirical exploration"	Consumers	471 + 440		√
96	2020	Jager and Weber [161]	"Can you believe it? The effects of benefit type versus construal level on advertisement credibility and purchase intention for organic food"	Consumers	297	√	

Table A1. *Cont.*

No	Year	Authors	Topic	Population	Sample Size	DV	
97	2020	Molinillo et al. [162]	"Understanding the drivers of organic foods purchasing of millennials: Evidence from Brazil and Spain"	Millennials	267 + 263	√	√
98	2020	Tandon et al. [163]	"Why do people buy organic food? The moderating role of environmental concerns and trust"	Organic food consumers	378		√
99	2020	Sadiq et al. [164]	"An innovation resistance theory perspective on purchase of eco-friendly cosmetics"	consumers	350	√	
100	2020	Chen et al. [165]	"When East meets West: Understanding residents' home energy management system adoption intention and willingness to pay in Japan and the United States"	Residents	2419	√	
101	2020	Ogiemwonyi et al. [166]	"Green product as a means of expressing green behavior: A cross-cultural empirical evidence from Malaysia and Nigeria"	Consumers	280 + 267		√
102	2020	Lago et al. [167]	"Determinant attributes and the compensatory judgement rules applied by young consumers to purchase environmentally sustainable food products"	Young consumers	106		√
103	2021	Baldi et al. [168]	"Attitude toward environmental protection and toward nature: How do they shape consumer behavior for a sustainable tomato?"	Consumers	500 + 512	√	
104	2021	Talwar et al. [169]	"What drives willingness to purchase and stated buying behavior toward organic food? A Stimulus-Organism-Behavior-Consequence (SOBC) perspective"	Consumers	928	√	√
105	2021	Zollo et al. [170]	"What influences consumers' intention to purchase organic personal care products? The role of social reassurance"	Consumers	266 + 207	√	
106	2021	Al-Swidi and Saleh [171]	"How green our future would be? An investigation of the determinants of green purchasing behavior of young citizens in a developing country"	University students	251		√
107	2021	Hameed et al. [172]	"Greenwash and green purchase behavior: An environmentally sustainable perspective"	Consumers	564		√
108	2021	Long and Liao [173]	"Would consumers pay for environmental innovation? The moderating role of corporate environmental violations"	Consumers	129		√

Abbreviation: NG, not given.

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