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Perceived Warm-Glow Effect on the Purchase Intention of Potential Customers in Cavite Towards Selected Sustainable Water Bottles

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Abstract
As environmental concerns continue to rise, consumers are increasingly seeking products that align with their personal values, with sustainable items like water bottles taking center stage in the movement toward greener living. Beyond practical considerations, the warm-glow effect—the emotional satisfaction gained from contributing to environmental and social good—is also recognized as a key driver of purchase decisions. This study aimed to investigate the relationship between the perceived warm-glow effect and the purchase intention of potential customers in Cavite towards selected sustainable water bottles. Using a Quantitative Approach, a survey was conducted with 385 participants across Cavite. Results revealed a high level of both perceived warm-glow effect and purchase intention, and a significant relationship between the two, as evidenced by positive Pearson's R-values and p-values less than 0.05 across all components. This indicates that the emotional satisfaction derived from making sustainable choices plays a key role in influencing purchase intentions. Overall, this study provides valuable insights that can guide businesses and marketers in promoting sustainable purchasing behavior and fostering environmentally responsible consumer choices.

Keywords: Warm-Glow Effect, Purchase Intention, Sustainability, Water Bottles

1. Introduction

As global awareness of social and environmental issues intensifies, customers are increasingly conscious of the ethical and environmental implications of their purchases. In response to these standards set by now increasingly conscious customers, companies are adopting sustainable initiatives such as developing sustainable products, or products with consideration for environmental impact, social responsibility, and ethical sourcing (Dzage et al., 2024). However, beyond meeting these practical expectations, how does a customer's perceived sense of contributing to environmental and social good relate to their purchase decisions?

Recent studies emphasized that intrinsic motivations, fueled by the satisfaction of a basic psychological needs, like emotional satisfaction, significantly shape consumer behaviors. Among these drivers is the "warm-glow effect", first introduced by Andreoni in his 1989 and 1990 articles, which is defined as the internal or emotional reward that prosocial or environmentally conscious acts elicit (Bianchi et al.,

2023). In the same study, "warm glow" is characterized as "a hedonistic feeling—a good feeling or positive emotion", "the joy from giving", "an emotional benefit or reward", or "a purely internal satisfaction that comes from the act of giving". Essentially, the warm-glow effect captures the positive emotional response consumers feel when their decisions align with their values, especially when those decisions contribute to either the societal or environmental good. This feeling of warmth or emotional fulfilment can motivate behavior, especially in contexts where consumers can see or believe their actions are making a positive impact. Consequently, the warm glow feeling can also be expected or anticipated (Boobalan et al., 2021), which could also affect the customer's attitude towards such sustainable behaviors. Therefore, this study is focused on the perceived warm-glow effect and its relationship with the purchase intention of potential customers towards sustainable products.

Globally, the concept of the warm-glow effect has been studied across various domains, such as consumer engagement and its role in environmental conservation efforts. In the Philippine context, Filipino consumers increasingly value products that are aligned with their pro-environmental and community-centric values. However, despite the growing interest in sustainability among Filipino consumers, there is a noticeable gap in understanding how perceived emotional rewards, like the warm-glow effect, correlate with purchasing decisions. Cavite, a province marked by both urban growth and environmental challenges, presents a unique case for analyzing these dynamics. With rapid economic development and rising consumer awareness, the province represents a microcosm of the Philippines' evolving sustainability landscape, making Cavite a compelling setting for exploring how the customer's perceived warm-glow effect and purchase intention intersect with sustainable products in a continuously and rapidly developing urban environment.

As previously mentioned, despite the growing interest in studying the warm-glow effect and its influence on behavior, there is a notable gap in the literature regarding its correlation with purchase intention, particularly in the context of sustainable products. Based on Mahasuweerachai and Suttikun (2022), explored consumers' attitudes toward green practices, such as recycling programs, reducing food waste, and using biodegradable packaging, emphasizing their role in shaping perceptions of sustainability. However, while eco-friendly operational activities contribute significantly to a business's green image, consumers may also evaluate other dimensions, such as sustainable products. On the other hand, Gimena et al. (2022) examined the influence of Fear of Missing Out (FoMo) on the purchase intention of Aquaflask, a brand known for its insulated and reusable water bottles. They recommended exploring new focal variables affecting purchase intention.

In line with this, the present study will focus on the perceived warm-glow effect as a key determinant. In order to address this gap, this study aimed to investigate whether the perceived warm-glow effect correlates with the purchase intention of potential customers in Cavite toward sustainable water bottles. By examining the relationship between the two variables, this study filled a gap in the literature by using the perceived warm-glow effect as the focal variable on the purchase intention (due to its unexplored use as a factor towards purchase intention) of potential customers in Cavite (due to its geographical relevance), towards sustainable water bottles (due to its growing market and overall demand for sustainable products).

1.1 Statement of the Problem

Generally, this study sought to answer the following questions about the perceived warm-glow effect on the purchase intention of potential customers in Cavite towards selected sustainable water bottles.

Specifically, this study sought to answer the following questions:

1.1.1 What is the socio-economic profile of the participants in terms of:
1.1.1.1.age;
1.1.1.2.sex;
1.1.1.3.educational attainment;
1.1.1.4.monthly income; and
1.1.1.5.occupation?

1.1.2 What is the perceived warm-glow effect of the participants towards selected sustainable water bottles in terms of:
1.1.2.1 value;
1.1.2.2 belief; and
1.1.2.3 norm?

1.1.3 What is the purchase intention of the participants towards selected sustainable water bottles in terms of:
1.1.3.1 attitude;
1.1.3.2 subjective norm; and
1.1.3.3 perceived behavioral control?

1.1.4 Is there a significant difference on the perceived warm-glow effect of participants when grouped according to their profile?

1.1.5 Is there a significant difference on the purchase intention of participants when grouped according to their profile?

1.1.6 Is there a significant relationship between the perceived warm-glow effect and the purchase intention of potential customers in Cavite towards selected sustainable water bottles?

1.2 Hypothesis

This study tested the following Null Hypothesis:

$H_0$1: There is no significant difference in the perceived warm-glow effect of participants when grouped according to their profile.

$H_0$2: There is no significant difference in the purchase intention of participants when grouped according to their profile.

$H_0$3: There is no significant relationship between the perceived warm-glow effect and the purchase intention of potential customers in Cavite towards selected sustainable water bottles.

1.3 Scope and Limitation

This study focused on the relationship of the perceived warm-glow effect on the purchase intention of potential customers in Cavite towards selected sustainable water bottles. It explored the extent to which a potential customer's perceived positive feelings or satisfaction from supporting sustainable products, specifically sustainable water bottles (perceived warm-glow effect), correlates with their intent to support businesses or purchase such products (purchase intention).

The study was conducted in Cavite, with 385 participants aged 18 to 44, ensuring that participants will have sufficient life experience to form and express purchasing intentions, and are also legally able to engage in consumer decisions. Besides age, the socio-economic profile criteria for sex, educational attainment, occupation, and monthly income, were not confined nor delimited to any specific range or group to allow for a comprehensive analysis of the perceived warm-glow effect across a broader demographic of participants. In addition to that, participants must also have familiarity/awareness towards sustainable water bottles but must not have any experience with purchasing such products.

However, prior usage or experience with using sustainable water bottles is still allowed, as the focus of the study is on purchase intention rather than ownership. By concentrating on individuals who are aware but have not yet made a purchase, the study centers on potential customers, allowing a clearer understanding of how the perceived warm-glow effect correlates to their purchase intention.

As to sustainable water bottles, it was defined as water bottles with "positive social and/or environmental attributes" (Luchs et al., 2010, as cited by Bangsa & Schlegelmilch, 2020). Thus, these may include any water bottles that are designed, produced, and consumed with consideration for either environmental impact, social responsibility, or ethical sourcing. These products may be from, but not limited to, brands like Aquaflask, Hydro Flask, Stanley, Thermos, Klean Kanteen, etc.

Excluded from this study are participants outside Cavite, as well as individuals who are 17 years old and below or 45 years old and above, have no awareness towards sustainable water bottles, and those who already have experience in purchasing sustainable water bottles. Additionally, the study did not consider other factors that could also affect purchase intention, ensuring that the analysis remains focused solely on the focal variable perceived warm-glow effect as a possible motivator for a potential customer's purchase intention.

As for this study's time frame, this research was conducted for approximately eight (8) months, starting from August 2024 to April 2025, to investigate the perceived warm-glow effect on the purchase intention of potential customers in Cavite towards selected sustainable water bottles.

1.4 Theoretical Framework

This study was grounded in two well-established psychological theories: the Value-Belief-Norm (VBN) Theory and the Theory of Planned Behavior (TPB).

The Value-Belief-Norm (VBN) Theory, proposed by Stern et al. (1999), explains how personal values, beliefs, and norms guide pro-environmental behaviors. The VBN Theory is particularly relevant to this study as it provides insight into how the perceived warm-glow effect correlates with a potential customer's purchase intentions towards sustainable water bottles in Cavite. Also, the theory suggests that individuals' values lead to beliefs about the environment, which then drive specific norms or behaviors. Therefore, the VBN Theory helped explain the connection between the perceived emotional response (warm glow) of the participants and their underlying motivations for purchasing environmentally friendly products, such as sustainable water bottles.

Value. It emphasizes the consumers' internal drive to support sustainability, which can lead to feelings of personal satisfaction and positive emotions when making responsible purchases. These emotions, aligned with a customer's perceived warm-glow effect, encourage individuals to engage in sustainable behaviors, such as buying sustainable water bottles.

Belief. It refers to the customers' understanding of the benefits of sustainability, such as the positive impact of reducing plastic waste. Significantly, when customers believe that sustainable water bottles can contribute to the environment, the resulting perceived warm-glow effect can enhance their positive emotional experience, which then increases their intention to purchase these products.

Norm. It examines how societal pressures and personal responsibility influence pro-environmental actions. As sustainability becomes a more widely accepted social norm, customers may feel a sense of duty to contribute to environmental well-being, which is reinforced by their perception of the warm-glow effect.

The VBN Theory, therefore, helped the study understand how an individual's emotional satisfaction, driven by values, beliefs, and social norms, affects their decision-making process, particularly in the context of purchasing sustainable water bottles.

The Theory of Planned Behavior (TPB), developed by Ajzen (1991), provides a framework for understanding how attitudes, subjective norms (SN), and perceived behavioral control (PBC) shape an individual's intention to engage in specific behaviors. TPB is highly relevant to the study of the perceived warm-glow effect on the purchase intention of sustainable water bottles, as it helps explain the psychological factors driving customers' decisions to purchase such eco-friendly products.

Attitude. It refers to the customer's positive or negative evaluation of purchasing sustainable products. In this study, it examined how favorable attitudes towards sustainability, combined with the positive emotions triggered by their perceived warm-glow effect, correlates with customers' intentions to buy sustainable water bottles. Notably, when consumers feel good about supporting sustainable practices, such as buying sustainable products. they are more likely to translate that emotional response into a purchasing decision, reflecting the warm-glow effect.

Subjective Norm. It explores how societal pressures and expectations influence an individual's behavior. In the context of sustainable products, these norms include growing social awareness about environmental issues and the collective push towards sustainability. This variable of the TPB helps understand how customers perceive the responsibility to contribute to environmental conservation, which is also driven by external expectations. Significantly, when customers feel socially supported or empowered to make sustainable choices, their perceived warm-glow effect amplifies, reinforcing their intention to purchase sustainable products.

Perceived Behavioral Control. It refers to a customer's belief in their ability to perform a behavior, such as purchasing sustainable products. It reflects the confidence that customers have in making responsible choices, including their perceptions about the availability and accessibility of sustainable water bottles. This factor of the TPB is crucial because customers who feel more capable and in control of their purchasing decisions are likely to experience a stronger the warm-glow effect, which positively correlates with their intention to buy.

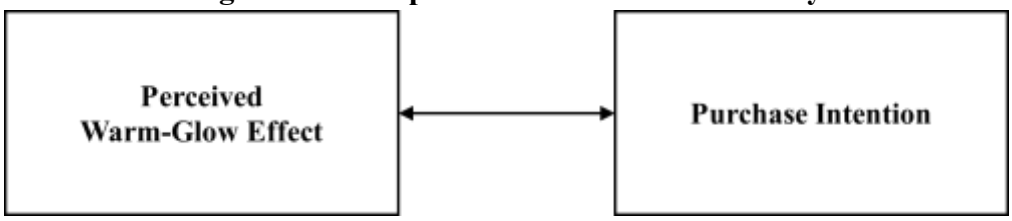
1.5 Conceptual Framework

Figure 1 shows the Conceptual Framework, illustrating the research process on the perceived warm-glow effect on the purchase intention of customers in Cavite towards selected sustainable water bottles using an Independent Variable-Dependent Variable (IV-DV) Model.

In the first frame, the perceived warm-glow effect refers to the positive emotional experience that individuals feel when they make an environmentally conscious choice, such as purchasing a sustainable product. A customer's emotional response can be stronger who feel that their potential purchase will contribute to a greater good, such as environmental sustainability. Notably, customers with different socio-economic profiles may perceive this warm-glow effect to varying degrees based on their values, knowledge, or personal capacity. On the other hand, the second frame, the purchase intention refers to the likelihood or desire of consumers to buy sustainable water bottles. In the framework, the perceived warm-glow effect is expected to correlate with the purchase intention; the more a potential customer feels positively about the impact of their purchase, the more likely they are intended to buy the product. Basically, the study hypothesizes that those who experience a stronger warm-glow effect will have higher purchase intentions toward sustainable water bottles.

This framework, Figure 1, aligns with the study's objectives by systematically investigating how perceived emotional responses (warm-glow effect) correlates with a potential customer's likelihood to buy (purchase intention) toward sustainable products, such as sustainable water bottles.

Figure 1: Conceptual Framework of the Study



2. Methodology

This study utilized a Descriptive-Comparative-Correlational research design to examine the perceived warm-glow effect on the purchase intention of potential customers in Cavite towards selected sustainable water bottles. The Descriptive Design described the socio-economic profile of potential customers in Cavite, their perceived warm-glow effect, and their purchase intention towards selected sustainable water bottles. The Comparative Design determined whether significant differences existed in these variables when grouped according to their socio-economic profile. Lastly, the Correlational Design assessed the relationship between the perceived warm-glow effect and purchase intention.

A non-probability Purposive Sampling technique was employed to select 385 participants based on specific criteria (Bisht, 2024): residents of Cavite, aged 18 to 44, familiar with sustainable water bottles but without prior purchase experience. The sample size was determined based on the total population of this age group in Cavite, calculated using the Raosoft® Sample Size Calculator. Besides age, other socio-economic profile variables were not delimited to any specific range to allow for a comprehensive analysis across a broader demographic of participants. The study was conducted in Cavite, a province marked by rapid economic development, environmental initiatives, and rising consumer awareness, making it a suitable setting for exploring sustainable consumption behaviors. The province actively promotes sustainability through local policies and community programs (PEMSEA, 2020; Ignacio, 2019), positioning it as a relevant case for similar urban areas in the Philippines.

Data were collected through a structured, researcher-modified questionnaire managed via Google Forms. The instrument consisted of three sections: socio-economic profile, perceived warm-glow effect (based on the VBN Theory), and purchase intention (based on the TPB). Prior to deployment, the questionnaire underwent expert validation by field specialists and a licensed psychometrician, followed by a pilot test involving 30 participants. Reliability Testing was also assessed using Cronbach's Alpha to ensure consistency in responses. For data analysis, this study utilized Frequency, Percentage, Mean, and Standard Deviation (SD) for descriptive statistics. ANOVA Test assessed significant differences in the perceived warm-glow effect and purchase intention across socio-economic groups, while Pearson's Correlation Coefficient measured the relationship between these two variables.

3. Results and Discussion

3.1 Socio-Economic Profile of the Participants

The socio-economic profile of the participants was described in terms of age, sex, educational attainment, monthly income, and occupation. As mentioned, a total of 385 participants were gathered

during the period of March 2025. These individuals are residents of Cavite, aged between 18 to 44 years old, who possess familiarity or awareness of sustainable water bottles but have no prior experience in purchasing such products, qualifying them as potential customers.

Table 1: Age of the Participants

Age	Frequency (n = 385)	Percentage (%)
18 to 20	32	8.31
21 to 23	212	55.07
24 to 26	41	10.65
27 to 29	12	3.12
30 to 32	22	5.71
33 to 35	27	7.01
36 to 38	13	3.38
39 to 41	12	3.12
42 to 44	14	3.64

Table 1 shows the participants' Age. The results showed that with a percentage of 55.07%, most of the participants fell between the 21 to 23 years old, which falls under the category of Young Adults or Generation Z (Gen Z). On the other hand, the least represented age groups were 27 to 29 and 39 to 41 years old, each comprising only 3.12% of the total respondents. Gen Z refers to individuals born between the mid-1990s and the early 2010s.

Gen Z refers to individuals born between the mid-1990s and the early 2010s. As noted by Djafarova and Foots (2022), this group is distinct from older generations due to the influence of evolving technologies and unique socioeconomic developments during their formative years. Making up roughly 32% of the global population, Gen Z represents the largest generational group and possesses substantial purchasing power. According to Su et al. (2019), as cited by Mahasuweerachai and Suttikun (2022), among all generations, Gen Z shows a heightened concern for environmental issues and demonstrates strong awareness and integration of sustainable practices in daily life, such as opting for eco-friendly alternatives and making healthier food choices. In comparison to older age groups, Gen Z shows greater awareness of ecological issues, leans toward healthier consumption habits, and demonstrates a greater willingness to spend more on eco-friendly products. Gen Z places high importance on ethical consumption, guided by firm moral standards and attitudes about how their lifestyle choices affect society and future generations. Research has shown that they are more likely to support environmentally responsible restaurants and are even willing to pay extra for green products. Additionally, they are highly engaged with technology and socially conscious, with 59% expressing a commitment to making a positive impact in their communities.

Table 2: Sex of the Participants

Sex	Frequency (n = 385)	Percentage (%)
Female	235	61.04
Male	150	38.96

Table 2 shows the participants' Sex. The results showed that 61.04% of participants were female (235), while 38.06% were male (150), meaning that majority of the participants surveyed were female.
In a study by Dewi and Syauki (2023), they found that female consumers tend to exhibit a stronger interest in and concern for environmental matters. Similarly, Stankevičiūtė and Jarmalavičiūtė (2025) observed that women are generally more inclined than men to practice sustainable consumption, such as buying organic foods, opting for reusable bags, and choosing sustainable household items.

Table 3: Educational Attainment of the Participants

Educational Attainment	Frequency (n = 385)	Percentage (%)
Senior High School Student/Graduate	143	37.14
College Student/Graduate	156	40.52
Postgraduate (Graduate Studies)	86	22.34

Table 3 shows the participants' Educational Attainment. The results showed that the highest percentage of participants, 40.52% (156), were College Students/Graduates, while the lowest percentage, 22.34% (86), were Postgraduates (Graduate Studies).
Chekima et al. (2016), as cited by Tian et al. (2022), highlighted that individuals with higher educational attainment are more inclined to develop intentions toward environmentally friendly purchasing compared to those with lower educational backgrounds. Likewise, Ansu-Mensah (2021) emphasized that green purchase intentions of university students are most significantly influenced by their perception of the quality of eco-friendly products.

Table 4: Monthly Income of the Participants

Monthly Income	Frequency (n = 385)	Percentage (%)
Less than ₱12,030	75	19.48
₱13,031 - ₱24,060	42	10.91
₱24,061 - ₱48,120	55	14.29
₱48,121 - ₱84,210	23	5.97
More than ₱84,210	17	4.42
None / N/A	173	44.94

Table 4 shows the participants' Monthly Income. The income ranges are based on the "Indicative Monthly Family Income and Size of Income Class (Families and Persons), as of 2021", as outlined in the discussion paper by Albert et al. (2024) for the Philippine Institute for Development Studies. Since the majority of the participants were still students (based on Table 9, Occupation of the Participants), 44.94% reported having no monthly income, falling under the "None / N/A" category. This was followed by 19.48% who earn less than ₱12,030 per month, while the smallest group, 4.42% (17), reported earning more than ₱84,210.
The decision of the researchers to include students and/or individuals with no reported monthly income was based on the understanding that purchasing intention is not solely determined by fixed income. Many of these participants, particularly students, receive regular allowances, which give them spending power and influence over market trends. As potential customers, including this demographic offers

valuable insight into the motivations and potential future behaviors of a generation (Gen Z) that plays a significant role in shaping demand for sustainable products.

According to Ferreira and Santana, (2021), low-income individuals often possess a heightened sense of self-efficacy, which empowers them to engage in sustainable practices despite financial constraints. Similarly, Berthold et al. (2023), suggest that these individuals may perceive a scarcity of resources, leading them to prioritize sustainability as a means of resource conservation. As compared to higher-income individuals, who may place less emphasis on sustainability, as they typically do not perceive an immediate threat to their resource availability.

Table 5: Occupation of the Participants

Occupation	Frequency (n = 385)	Percentage (%)
Full-Time Student	211	54.81
Employed	114	29.61
Self-Employed	60	15.58

Table 5 shows the participants' Occupations. The results showed that more than half of the participants who answered were still full-time students, with 54.81%. On the other hand, the least represented group were those self-employed, with only 15.58%.

According to Moiceanu et al. (2023), students are increasingly aware of urgent environmental concerns, driving their interest in sustainability. As compared to employed individuals, students often possess innovative energy and a passion for environmental issues, motivating them to engage in green entrepreneurship and sustainable practices. In addition, Maiorescu et al. (2020) indicated that students are motivated by gaining experience and enhancing their CVs (Curriculum Vitae) through sustainability actions, contrasting with employed individuals who may prioritize job security and financial stability, potentially leading to differing levels of engagement in sustainability initiatives.

3.2 Perceived Warm-Glow Effect of the Participants Towards Selected Sustainable Water Bottles

The perceived warm-glow effect of the participants was measured using the Value-Belief-Norm Theory, a framework that explains how personal values, beliefs, and norms guide pro-environmental behaviors.

Table 6: Perceived Warm-Glow Effect of the Participants towards Selected Sustainable Water Bottles in terms of Value

Statements	Mean	SD	Interpretation
1. I care about sustainable water bottles that promote environmental and social responsibility because of their impact on my quality of life.	3.57	0.53	High Positive WGE
2. I care about sustainable water bottles that improve ethical and sustainable practices because of their impact on my future.	3.55	0.52	High Positive WGE
3. I care about sustainable water bottles aimed at addressing global challenges like pollution because of their effects on my community.	3.74	0.47	High Positive WGE
4. I care about sustainable water bottles that prioritize long-term welfare because of their significance for future generations.	3.70	0.51	High Positive WGE
5. I care about water bottles that promote sustainability because supporting such means helping the humankind.	3.74	0.46	High Positive WGE

Grand Mean	**3.66**	**0.08**	**High Positive WGE**

Note: High Positive WGE (3.26-4.00); Positive WGE (2.51-3.25); Moderate WGE (1.76-2.50); Negative WGE (1.00-1.75)

Table 6 shows the findings for the perceived warm-glow effect of the participants towards selected sustainable water bottles in terms of Values. The statements "I care about sustainable water bottles aimed at addressing global challenges like pollution because of their effects on my community." and "I care about water bottles that promote sustainability because supporting such means helping humankind." received the highest mean score of 3.74, interpreted as High Positive WGE, suggesting participants are highly driven by collective and societal concerns, linking their customer choices to broader humanitarian and environmental causes. On the other hand, the statement "I care about sustainable water bottles that improve ethical and sustainable practices because of their impact on my future." had the lowest mean score of 3.55, still interpreted as High Positive WGE indicating that participants are less focused on long-term or future-oriented outcomes and are more motivated by immediate or present-day social and environmental issues.

Overall, the result showed that with a grand mean of 3.66 in terms of Values, participants had a high positive WGE towards selected sustainable water bottles. This means that the participants strongly perceive emotional satisfaction from their engagement with sustainable water bottles, indicating that they have a very positive perception of their connection to sustainable water bottles. In addition, this indicates that their perceived warm-glow effect is deeply rooted in moral and altruistic values, such as concern for environmental and social responsibility, ethical practices, community well-being, and the welfare of future generations. Also, the low overall SD of 0.08 indicates that participants had very similar responses regarding the value they place on sustainable water bottles, showing strong consensus and consistent perceptions about their personal importance and emotional connection to these products. Moreover, this underscores the role of personal values in affecting positive emotional responses, such as pride, satisfaction, and fulfilment, when making sustainability-related choices.

Jerit et al. (2024) suggested that warm glow feelings significantly relate to green behavioral intentions, indicating that participants may perceive sustainable water bottles positively due to intrinsic motivations aligned with their values, leading to a strong agreement in their perceived warm-glow effect. Moreover, Hwang and Choi (2017), as cited by Majeed (2023), noted that engaging in green consumption enables customers to form favorable cognitive responses—such as perceptions, evaluations, and beliefs—toward companies that provide psychological advantages linked to sustainability, including the experience of the warm-glow effect.

Table 7: Perceived Warm-Glow Effect of the Participants towards Selected Sustainable Water Bottles in terms of Beliefs

Statements	Mean	SD	Interpretation
6. When people fail to prioritize buying sustainable water bottles, the consequences can be disastrous.	3.27	0.63	High Positive WGE
7. Such sustainable water bottles that address pressing societal and ecological issues are essential for global progress.	3.55	0.59	High Positive WGE
8. Neglecting responsibility for sustainable water bottles is harmful to	3.30	0.68	High Positive

society.			WGE
9. Balancing societal progress with responsibility toward people and the planet by selling, creating, and/or buying sustainable water bottles is critical.	3.38	0.59	High Positive WGE
10. Ignoring responsibility to sell, create and/or consume sustainable water bottles will lead to significant global challenges.	3.44	0.70	High Positive WGE
Grand Mean	**3.39**	**0.10**	**High Positive WGE**

Note: High Positive WGE (3.26-4.00); Positive WGE (2.51-3.25); Moderate WGE (1.76-2.50); Negative WGE (1.00-1.75)

Table 7 shows the findings for the perceived warm-glow effect of the participants towards selected sustainable water bottles in terms of Beliefs. The statement "Such sustainable water bottles that address pressing societal and ecological issues are essential for global progress." received the highest mean score of 3.55, interpreted as High Positive WGE, suggesting that participants strongly believe that sustainable water bottles are not just a product choice, but a necessary step toward collective advancement, reflecting a broad belief in sustainability as a solution to social and environmental challenges. On the other hand, the statement "When people fail to prioritize buying sustainable water bottles, the consequences can be disastrous." had the lowest mean score of 3.27, still interpreted as High Positive WGE, which may suggest that participants do not strongly associate individual sustainable choices with extreme or urgent consequences, possibly due to perceived distance from direct impact.

Overall, the result showed that with a grand mean of 3.39 in terms of Beliefs, participants also had a high positive WGE towards selected sustainable water bottles. In other words, their belief in the personal fulfilment gained from sustainable actions creates a meaningful psychological connection with sustainability, which in turn influences their behavior and decision-making. Also, results reflect the participants' deep-seated belief that failing to support or engage with sustainable products contributes to harm on both local and global levels. Also, an overall SD of 0.10 suggests a small variation in participants' beliefs about sustainable water bottles. This reflects a generally shared conviction about the environmental and ethical significance of these products, with only slight differences in individual opinions. Moreover, participants also acknowledge the necessity of balancing progress with environmental and social responsibility, reinforcing the idea that sustainability is not just a preference, but a shared obligation. This strong agreement further supports the presence of a perceived warm-glow effect, where participants feel a perception of moral and emotional reward when they act in line with their beliefs about sustainability.

Zhou et al. (2024) pro-environmental behavior, such as choosing sustainable water bottles, elicits positive emotions (warm glow), reinforcing beliefs in environmental responsibility. This aligns with the VBN Theory, suggesting that positive feelings strongly influence participants' beliefs and agreement towards sustainability. Research also shows that ecological values positively affect beliefs, which in turn enhance personal norms and green purchase intentions, further supporting the warm-glow effect (Im, 2024). Similarly, according to Jebarajakirthy et al. (2024), psychological factors, such as beliefs, play a mediating role in the relationship between altruistic, biospheric, and egoistic values and green purchase intention. This suggests that customers' beliefs, which are influenced by their values, have a significant

correlation with their intention to make environmentally conscious purchases, aligning with the concept of a high positive warm-glow effect.

Table 8: Perceived Warm-Glow Effect of the Participants towards Selected Sustainable Water Bottles in terms of Norms

Statements	Mean	SD	Interpretation
11. I feel personally obliged to support organizations that sell sustainable water bottles.	3.08	0.67	Positive WGE
12. I feel personally obliged to reduce waste and consumption in my daily activities by buying sustainable water bottles.	3.26	0.61	High Positive WGE
13. I feel morally obliged to support organizations selling sustainable water bottles, regardless of what others do.	3.19	0.70	Positive WGE
14. I would feel good buying sustainable water bottles if my friends had one.	3.38	0.74	High Positive WGE
15. The government's actions to take care of the environment makes me feel better in purchasing sustainable water bottles.	3.28	0.69	High Positive WGE
Grand Mean	**3.24**	**0.10**	**Positive WGE**

Note: High Positive WGE (3.26-4.00); Positive WGE (2.51-3.25); Moderate WGE (1.76-2.50); Negative WGE (1.00-1.75)

Table 8 shows the findings for the perceived warm-glow effect of the participants towards selected sustainable water bottles in terms of Norms. The statement "I would feel good buying sustainable water bottles if my friends had one." had the highest mean score of 3.38, interpreted as High Positive WGE, indicating that peer influence contributes positively to the emotional reward towards sustainable products. On the other hand, the statement "I feel personally obliged to support organizations that sell sustainable water bottles." received the lowest mean score of 3.19, interpreted as Positive WGE, implying that while social influence is relevant, there is a lack of internalized duty or moral pressure to support sustainable brands unless prompted by others.

Overall, the result showed that with a grand mean of 3.24 in terms of Norms, participants had a positive WGE towards selected sustainable water bottles. This means that participants perceive emotional satisfaction from their engagement with sustainable water bottles, indicating that they have a positive perception of their connection to sustainable water bottles. Statements that received high positive responses indicate that participants not only feel a personal responsibility to engage in sustainable consumption, but are also positively influenced by social cues, such as peers owning sustainable products, and institutional reinforcement, like government environmental efforts. The consistent positive moral obligation, even independent of others' actions, highlights the presence of internalized personal norms that drive behavior. Also, an overall SD of 0.10 demonstrates that participants' perceptions of social norms related to sustainable water bottles were relatively uniform, indicating a common sense of moral or social obligation toward sustainability within the group. These findings reinforce the presence of the perceived warm-glow effect, where participants derive emotional or moral satisfaction from the alignment of their sustainable behavior with their own personal and societal values.

According to Bai and Bai (2020), results showed that personal norms have a more significant influence on environmental protection behavior. Moreover, Jerit et al. (2024) indicated that warm-glow effects are

particularly pronounced in socially visible actions, suggesting that individuals are motivated by the recognition of their sustainable choices.

From the consolidated results of the Values, Beliefs and Norms, an overall mean of 3.43 signified that the perceived warm-glow effect of the participants towards selected sustainable water bottles indicated a high positive WGE. Thus, it indicates that the participants generally perceive a strong emotional benefit or personal satisfaction when choosing sustainable water bottles. Thus, this perceived emotional reward reflects a favorable attitude toward sustainability, suggesting that customers are more likely to support environmentally friendly product when they believe it aligns with their values and bring a sense of pride or fulfilment. According to Boobalan et al. (2021), the warm glow theory suggests that individuals are motivated to engage in prosocial behavior due to their perception of themselves as prosocial, and the fulfilment of these actions leads to the positive emotion, known as a "warm glow".

3.3 Purchase Intention of the Participants towards Selected Sustainable Water Bottles

The purchase intention of the participants was measured using the Theory of Planned Behavior, a framework for understanding how attitudes, subjective norms, and perceived behavioral control shape an individual's intention to engage in specific behaviors.

Table 9: Purchase Intention of the Participants towards Selected Sustainable Water Bottles in terms of Attitude

Statements	Mean	SD	Interpretation
1. I prefer water bottles that are produced in ways that are better for the environment and society.	3.52	0.56	Very High Intention
2. I prefer water bottles that have a lesser negative impact on the environment and society.	3.51	0.54	Very High Intention
3. I believe buying water bottles that support the environment, and society is a good decision.	3.53	0.54	Very High Intention
4. I think purchasing water bottles that benefit the environment is a wise choice.	3.51	0.55	Very High Intention
5. I believe buying water bottles that have lesser consequences for the environment and community makes me feel good.	3.49	0.55	Very High Intention
Grand Mean	**3.51**	**0.01**	**Very High Intention**

Note: Very High Intention (3.26-4.00); High Intention (2.51-3.25); Low Intention (1.76-2.50); Very Low Intention (1.00-1.75)

Table 9 shows the findings for the purchase intention of the participants towards selected sustainable water bottles in terms of Attitude. The statement "I believe buying water bottles that support the environment, and society is a good decision." had the highest mean score of 3.53, interpreted as Very High Intention, suggesting that most participants hold a positive and rational evaluation of sustainable water bottles, recognizing them as ethically and socially sound choices. On the other hand, the statement "I believe buying water bottles that have lesser consequences for the environment and community makes me feel good." received the lowest mean score of 3.49, but was still interpreted as Very High Intention, indicating that participants may focus more on doing good than on avoiding harm.

Overall, the result showed that with a grand mean of 3.51, in terms of Attitude, the participants were found to have very high purchase intention towards selected sustainable water bottles. This means that participants have a strong intention to purchase sustainable water bottles, indicating that they are highly motivated to buy these products. In addition to that, they view purchasing sustainable products as personally valuable and beneficial, which positively affects their intention to choose them. All statements received a very high level of intention, indicating that participants not only value the environmental and social benefits of these products but also associate their purchase with personal satisfaction and sound decision-making. Thus, this reflects a deeply rooted favorable attitude toward sustainability, where the perceived outcomes of buying eco-friendly water bottles, such as reducing negative impacts and supporting broader societal goals, are strongly aligned with participants' values. Also, with an extremely low overall SD of 0.01, it indicates that participants' attitudes toward purchasing sustainable water bottles are highly consistent, showing very little variation in their responses. Ultimately, such positive attitudes are key predictors of actual purchase intention, supporting the idea that strong internal beliefs can drive intentions even in the absence of immediate external rewards.

In a study by Lavuri (2021), it was found that the green attitude of millennials positively impacted their purchase intention. Also, Lavuri argued that attitude towards sustainable products is a critical determinant of purchase intention and that positive attitudes are often linked to a heightened awareness of environmental issues and a desire to contribute to sustainability goals. Moreover, Wadyatenti (2024) mentioned that consumers who perceive sustainable water bottles as effective in reducing environmental impact are more likely to develop a favorable attitude towards purchasing them, leading to purchase intention.

Table 10: Purchase Intention of the Participants towards Selected Sustainable Water Bottles in terms of Subjective Norms

Statements	Mean	SD	Interpretation
6. People whose opinions I trust would encourage me to buy water bottles that are better for the environment and society.	3.48	0.61	Very High Intention
7. My friends and family influence my decisions to buy water bottles that support the environmental society.	3.42	0.69	Very High Intention
8. My friends would support my decisions to buy water bottles that have less impact on the environment and society.	3.47	0.62	Very High Intention
9. People around me generally believe it's better to choose water bottles with less impact on the environment.	3.33	0.58	Very High Intention
10. My community expects me to buy water bottles that are environmentally and socially responsible.	3.13	0.73	High Intention
Grand Mean	**3.37**	**0.13**	**Very High Intention**

Note: Very High Intention (3.26-4.00); High Intention (2.51-3.25); Low Intention (1.76-2.50); Very Low Intention (1.00-1.75)

Table 10 shows the findings for the purchase intention of the participants towards selected sustainable water bottles in terms of Subjective Norms. The statement "People whose opinions I trust would

encourage me to buy water bottles that are better for the environment and society." received the highest mean score of 3.48, interpreted as Very High Intention, meaning those trusted individuals of the participants play a significant role in influencing purchase behavior, reinforcing the importance of close social networks in eco-friendly consumption. On the other hand, the statement "My community expects me to buy water bottles that are environmentally and socially responsible." had the lowest mean score of 3.13, but was still interpreted as Very High Intention, reflecting a lack of communal pressure or expectation, and suggesting that broader societal norms around eco-conscious purchasing are still underdeveloped or not enforced locally.

Overall, the result showed that with a grand mean of 3.37, in terms of Subjective Norms, the participants were found to also have very high purchase intention towards selected sustainable water bottles. This means that they feel a strong social pressure or encouragement from peers, family, or society to support and buy sustainable products. All statements also received a high level of intention, showing that participants are significantly influenced by the views and expectations of trusted individuals, such as friends, family, and their broader community. Furthermore, this suggests that social pressure and perceived social approval play a crucial role in shaping consumer behavior. Also, a moderate overall SD of 0.13 suggests there is some variability among participants regarding how much social pressure or influence from others affects their intention to purchase sustainable water bottles. Thus, when people believe that their social circles value environmentally responsible purchases, they are more likely to align their behavior, accordingly, highlighting the importance of community norms and interpersonal influence in encouraging sustainable consumption.

As per Ogiemwonyi et al. (2021), subjective norms is a key factor relating to a consumer's green purchase behavior. Moreover, the findings suggest that these norms help consumers sustain their current actions and affect their future ones, continuing their support toward green purchasing, fostering a more positive mindset toward buying eco-friendly products and promoting sustainable consumption. Similarly, Kaushal et al. (2021) also indicated that subjective norms significantly affect purchase intention for green products, as individuals are affected by family, friends, and colleagues.

Table 11: Purchase Intention of the Participants towards Selected Sustainable Water Bottles in terms of Perceived Behavioral Control

Statements	Mean	Sd	Interpretation
11. I can decide whether or not to buy water bottles that are better for the environment and society.	3.62	0.53	Very High Intention
12. I am confident that I can buy water bottles that support the environment if I choose to.	3.63	0.52	Very High Intention
13. I have enough resources and time to buy water bottles that have lesser negative impact on the environment and society.	3.53	0.61	Very High Intention
14. I feel free to make my own decisions about buying water bottles that are better for the environment.	3.63	0.52	Very High Intention
15. I have opportunity and ability to buy water bottles that support the environment and society whenever I want.	3.61	0.54	Very High Intention
Grand Mean	**3.60**	**0.04**	**Very High Intention**

Note: Very High Intention (3.26-4.00); High Intention (2.51-3.25); Low Intention (1.76-2.50); Very Low Intention (1.00-1.75)

Table 11 shows the findings for the purchase intention of the participants towards selected sustainable water bottles in terms of Perceived Behavioral Control. The statements "I am confident that I can buy water bottles that support the environment if I choose to." and "I feel free to make my own decisions about buying water bottles that are better for the environment." had the highest mean score of 3.63, interpreted as Very High Intention, implying that participants express a strong sense of agency and autonomy over their purchasing decisions, and that internal motivation is high when barriers are minimal. On the other hand, the statement "I have enough resources and time to buy water bottles that have a lesser negative impact on the environment and society." received the lowest mean score of 3.53, still interpreted as Very High Intention, suggesting that despite their positive intent, practical constraints like affordability, accessibility, convenience still limit actual purchase behavior.

Overall, the result showed that with a grand mean of 3.60, in terms of Perceived Behavioral Control, the participants were found to also have very high purchase intention towards selected sustainable water bottles. This means that they believe they have the ability, resources, and opportunities to make environmentally responsible purchases with ease. All statements, with a very high level of intention, indicate that participants not only feel capable of making environmentally responsible purchasing decisions, but also believe they have the time, resources, and freedom to do so. Also, a low overall SD of 0.04 shows that participants generally agree closely on their PBC over purchasing sustainable water bottles, indicating similar levels of confidence and perceived ease in making such purchases. Thus, this strong sense of control suggests that when individuals perceive few barriers, whether financial, situational, or personal, they are more likely to follow through with sustainable purchase intentions.

The findings from Kumar et al. (2022) revealed that Perceived Behavioral Control (PBC) has a strong, significant positive impact on a consumer's purchase intention, followed by personal moral norms, attitude, and perceived consumer effectiveness. Similarly, the study from Salleh et al. (2024) indicated that PBC significantly mediates the relationship between conscientiousness and purchase intention, suggesting that when consumers feel capable of purchasing sustainable products, their intention to buy, such as sustainable water bottles, increases to a great extent.

From the consolidated results from the Attitude, Subjective Norms, and Perceived Behavioral Control, an overall mean of 3.49 signified that the purchase intention of the participants towards selected sustainable water bottles indicated a very high purchase intention. It indicates that participants are highly motivated to purchase sustainable water bottles, driven by favorable personal attitudes, social influences, and a strong sense of capability to make such purchases. As per Sutikno (2020), majority of constructs within the TPB Framework, which was employed in this study to assess the purchase intention of participants towards selected sustainable water bottles, showed a positive relationship and significant impact on the purchase intention of young consumers in Indonesia.

3.4 Difference on the Perceived Warm-Glow Effect of Participants when Grouped According to Their Profile

Table 12: Difference on the Perceived Warm-Glow Effect of Participants when Grouped According to their Age

Variables	P-Value	Decision H_0	Interpretation
Value	< .001	Reject	With Significant Difference
Belief	< .001	Reject	With Significant Difference
Norm	0.026	Failed to Reject	No Significant Difference

Table 12 shows the findings for the difference on the perceived warm-glow effect of participants when grouped according to their Age. From the analysis, the null hypothesis is rejected. The result showed that there is a significant difference on the perceived warm-glow effect when grouped according to their Age, specifically in terms of Value and Belief, suggesting that age is a relevant factor in distinguishing how strongly individuals connect sustainability with their personal values and worldview. Specifically, it indicates that older or younger age groups may differ in how deeply they associate sustainability with their personal values (such as environmental responsibility or ethical concern) and their belief systems (including perceptions of environmental impact and long-term consequences). According to Iweala et al. (2022), prosocial behavior tends to increase with age, and research indicates that older individuals derive greater emotional satisfaction from engaging in positive actions. Although the relationship between age and pro-environmental or prosocial behavior remains unclear, recent studies have confirmed that older adults experience a higher emotional benefit from performing good deeds (Bjälkebring et al., 2016, as cited by Iweala, 2022). Also, experimental studies show that engaging in pro-environmental actions elicits warm-glow feelings, which can motivate further sustainable behavior across all ages (Zhou et al., 2024).

However, no significant difference was observed in terms of Norms, indicating that feelings of moral obligation or societal pressure to support sustainability are consistent across age groups. Studies indicate that individuals who anticipate a warm glow from engaging in sustainable practices are more likely to act in environmentally friendly ways (Zhou et al., 2024). Notably, this can be particularly effective among younger individuals who are often more environmentally conscious and motivated by the emotional benefits of contributing to various sustainability efforts.

Table 13: Difference on the Perceived Warm-Glow Effect of Participants when Grouped According to Their Sex

Variables	P-Value	Decision H_0	Interpretation
Value	0.283	Failed to Reject	No Significant Difference
Belief	0.029	Failed to Reject	No Significant Difference
Norm	0.837	Failed to Reject	No Significant Difference

Table 13 shows the findings for the difference on the perceived warm-glow effect of participants when grouped according to their Sex. From the analysis, the null hypothesis is accepted, as it showed that there is no significant difference on the perceived warm-glow effect when grouped according to their Sex, in terms of Values, Beliefs, and Norms. Hence, this suggests that regardless of sex, participants

share a relatively similar attitude and sense of responsibility toward sustainable water bottles and/or the environmental cause they represent as individuals. According to Gökmen (2021), some studies suggest that environmental attitudes do not differ by gender. For instance, a study involving secondary school students found no variation in environmental attitudes based on gender (Akıllı and Genç, 2015, as cited by Gökmen, 2021). Similarly, preservice teachers exhibited no significant differences in environmental attitudes between male and female participants (Yalçınkaya et al., 2014, as cited by Gökmen, 2021). Studies also show that both men and women experience a warm glow similarly when engaging in pro-environmental behaviors, indicating that emotional responses to altruism are not sex-dependent (Zhou et al., 2024). However, this finding contradicts research by Soutschek et al. (2017), as cited by Iweala et al. (2022), which shows that women tend to be more responsive to prosocial rewards, such as the warm glow effect, which may explain why women exhibit more prosocial behavior compared to men.

Table 14: Difference on the Perceived Warm-Glow Effect of Participants when Grouped According to Their Educational Attainment

Variables	P-Value	Decision H_0	Interpretation
Value	< .001	Reject	With Significant Difference
Belief	0.121	Failed to Reject	No Significant Difference
Norm	0.696	Failed to Reject	No Significant Difference

Table 14 shows the findings for the difference on the perceived warm-glow effect of participants when grouped according to their Educational Attainment. From the analysis, the results failed to reject the null hypothesis. The result showed that there is no significant difference on the perceived warm-glow effect when grouped according to their Educational Attainment, specifically in terms of Belief and Norm, implying shared levels of understanding and moral responsibility across different educational levels. According to Huddart-Kennedy et al. (2013), as cited by Sargisson et al. (2020), no significant relationship was found between educational level and environmental concern. In addition, participants with varying educational levels reported similar anticipated warm glow effects when engaging in pro-environmental activities, suggesting that intrinsic motivation transcends educational differences (Shrum & Molokandov, 2021). As indicated in the same study the anticipation of a warm glow can enhance the likelihood of engaging in environmentally friendly behaviours, regardless of educational background.
However, there is a significant difference observed in terms of Values, indicating that educational background corresponds with how the participants align their personal values with sustainability. In the study by Sargisson et al. (2020), education was found to be largely unrelated to altruistic or biospheric values, which are similar to the warm-glow effect. In addition, Iweala et al. (2022) noted that the interaction between education and the warm-glow feeling interact in a way that significantly decreases consumers' willingness to pay for ethically certified products. Also, higher educational attainment often correlates with a greater intrinsic motivation to engage in pro-environmental behaviors, as seen in studies where participants with higher education reported increased anticipated warm glow from such actions (Shrum & Molokandov, 2021).

Table 15: Difference on the Perceived Warm-Glow Effect of Participants when Grouped According to their Monthly Income

Variables	P-Value	Decision H_0	Interpretation
Value	0.083	Failed to Reject	No Significant Difference
Belief	< .001	Reject	With Significant Difference
Norm	0.181	Failed to Reject	No Significant Difference

Table 15 shows the findings for the difference on the perceived warm-glow effect of participants when grouped according to their Monthly Income. From the analysis, the results failed to reject the null hypothesis. The result showed that there is no significant difference on the perceived warm-glow effect when grouped according to their Monthly Income, specifically in terms of Value and Norm, suggesting a shared sense of personal ethics and obligations regardless of income level. According to Sargisson et al. (2020), the correlations between income and values, such as altruistic and biospheric values, were weak and inconsistent, suggesting that income may not be an effective basis for market segmentation strategies targeting these values. Moreover, Mayer and Frantz (2004), as cited by Fretwell and Greig (2019), also found no significant link between the participants' income and Connection to Nature (CNS) scores. In addition, studies found that the warm-glow effect is closely linked to intrinsic motivations, which can be independent of financial incentives (Jerit et al., 2024). However, in direct contrast, Iweala et al. (2022) argued that the warm-glow feeling, when combined with socioeconomic factors like increased income, could serve as a reliable indicator of more prosocial or pro-environmental behavior.

On the other hand, a significant difference was found only in Beliefs, indicating that individuals' perception of the broader societal and environmental consequences of buying sustainable products varies depending on income. As per Iweala et al. (2022), wealthier individuals report a stronger warm-glow effect linked to their willingness to pay for ethically certified products.

Table 16: Difference on the Perceived Warm-Glow Effect of Participants when Grouped According to their Occupation

Variables	P-Value	Decision H_0	Interpretation
Value	0.283	Failed to Reject	No Significant Difference
Belief	0.004	Reject	With Significant Difference
Norm	0.442	Failed to Reject	No Significant Difference

Table 16 shows the findings for the difference on the perceived warm-glow effect of participants when grouped according to their Occupation. From the analysis, the results failed to reject the null hypothesis. The findings showed that there is no significant difference on the perceived warm-glow effect when grouped according to their Occupation, specifically in terms of Value and Norm. However, significant differences were observed in Beliefs, which may imply that the professional role is considered to be a relevant factor toward their understanding of the importance of sustainable practices.

According to Esvandiari (2023), individuals, regardless of occupation, may possess a common understanding of the importance of sustainability, leading to similar warm-glow effects when engaging with eco-friendly products. Also, occupations that emphasize altruism, such as social work or non-profit sectors, may enhance intrinsic motivation, leading to a stronger warm-glow effect when engaging in pro-environmental behaviors (Shrum & Molokandov, 2021). However, in contrast, the study by Fretwell and

Greig (2019), as cited by Pong & Fong (2024), found that individuals with a strong sense of personal well-being, including satisfaction with their job, tend to be more environmentally conscious and motivated to engage in sustainable behaviors. In their study, retirees and volunteers were shown to have a stronger connection to nature compared to students or full-time employees. Thus, this difference may be attributed to the greater amount of free time retirees and volunteers have to reflect on and cultivate their relationship with nature, whereas students and full-time employees are typically among the most time-constrained groups.

3.5 Difference on the Purchase Intention of Participants when Grouped According to their Profile

Table 17: Difference on the Purchase Intention of Participants when Grouped According to their Age

Variables	P-Value	Decision H_0	Interpretation
Attitude	< .001	Reject	With Significant Difference
Subjective Norm	< .001	Reject	With Significant Difference
PBC	0.004	Reject	With Significant Difference

Table 17 shows the findings for the difference on the purchase intention of participants when grouped according to their Age. From the analysis, the null hypothesis is rejected. The result showed that there is a significant difference on purchase intention when grouped according to their Age, in terms of Attitude, Subjective Norm, and PBC, indicating that age is a relevant factor in determining customers' purchase intention toward sustainable water bottles. As individuals age, they may develop stronger attitudes toward environmental responsibility, feel more societal influence (norms), and perceive greater ability or control to act sustainably. Also, this suggests that age-related experiences and maturity contribute to heightened awareness and behavioral intentions toward sustainability.

According to Su et al. (2019), as cited by Mahasuweerachai & Suttikun (2022), Gen Z shows a higher awareness of sustainable consumption, demonstrating greater concern for environmental issues, a preference for healthier food choices, and a willingness to pay higher prices for eco-friendly food products compared to other generations. Also, younger consumers often have more positive attitudes towards sustainability, influenced by their upbringing and education, which fosters a greater intention to purchase such products (Gidaković et al., 2024). In addition, Gen Y's, or those born between 1981 and 1996, purchase intentions are primarily influenced by Attitudes and PBC, Gen Zs are significantly affected by environmental knowledge and Subjective Norms (Ghouse et al., 2024). Research by Guo and You (2023) indicates that individual characteristics, including age, are significant factors that determines purchase intention for hybrid energy vehicles (HEVs). Thus, this suggests that age-related differences contribute to variations as to how attitudes, subjective norms, and PBC are associated with an individual's purchase intentions, aligning with findings from Xian et al. (2022) regarding age's effect on green consumption behavior.

Table 18: Difference on the Purchase Intention of Participants when Grouped According to their Sex

Variables	P-Value	Decision H_0	Interpretation
Attitude	0.111	Failed to Reject	No Significant Difference
Subjective Norm	0.971	Failed to Reject	No Significant Difference

PBC	0.971	Failed to Reject	No Significant Difference

Table 18 shows the findings for the difference on the purchase intention of participants when grouped according to their Sex. From the analysis, the results failed to reject null hypothesis, as the findings showed that there is no significant difference on the purchase intention when grouped according to their Sex, in terms of Attitude, Subjective Norm, and PBC. This implies that both male and female participants exhibit similar levels of positive attitude, perceived social influence, and self-efficacy in buying sustainable water bottles. Thus, the findings suggest that sex is not a relevant factor in determining how participants form intentions to engage in environmentally responsible purchasing.

Yasa and Ekawati (2015), as cited by Afriza and Srigustini (2024), indicates that while there are positive differences in purchase intentions between women and men, these differences are not significant. Thus, the lack of significant difference could imply that both male and female consumers prioritize similar values, such as environmental concerns, when considering sustainable products like water bottles, leading to comparable purchase intentions regardless of sex. As per Tengli and Srinivasan (2022), findings show that male and female consumers exhibited similar attitudes when it comes to their intention to purchase natural cosmetics. This study also indicates that both genders showed similar levels of PBC related to purchase intentions, suggesting no significant difference. In direct contrast, Tung et al. (2017), as cited by Zhao (2021), noted that men typically base their decision to purchase green products on factors such as functionality, usefulness, and a sense of personal responsibility toward nature. On the other hand, women are primarily motivated by the ecological impact of the products, rather than their practicality.

Table 19: Difference on the Purchase Intention of Participants when Grouped According to their Educational Attainment

Variables	P-Value	Decision H_0	Interpretation
Attitude	< .001	Reject	With Significant Difference
Subjective Norm	0.005	Reject	With Significant Difference
PBC	< .001	Reject	With Significant Difference

Table 19 shows the findings for the difference on the purchase intention of participants when grouped according to their Educational Attainment. From the analysis, the null hypothesis is rejected. The result showed that there is a significant difference on the purchase intention when grouped according to their Educational Attainment, in terms of Attitude, Subjective Norm, and PBC. Hence, this means that differences in the participants' educational background contribute as to how they perceive the benefits of sustainable products, how much they are influenced by others, and how capable they feel of making eco-friendly purchases.

In terms of educational background, higher education may enhance environmental literacy and confidence in making sustainable decisions. This is supported by Yang (2024) highlighted that students in higher education are key contributors to environmental efforts due to their innovative thinking, academic background, and ability to make informed and independent purchasing decisions that can shape environmental behavior. Supporting this, Witek (2020) explains that higher education tends to be associated with greater environmental knowledge, which influences purchasing behaviors by encouraging more rational resource management, a preference for eco-friendly products, and a

willingness to bear additional costs to address environmental concerns. In terms of TPB, Gul and Ahmed (2024) indicated that higher educational levels often correlate with increased environmental awareness and concern, leading to more positive attitudes towards sustainable products. In addition, Al-Swidi et al. (2014), as cited by Teixeira (2021), revealed that with 90% of the respondents ranging from Graduate to Postgraduate Level, Subjective Norms play a significant moderating role in the connection between attitudes and purchase intention, as well as between PBC and purchase intention. Also, Subjective Norms did have a notable association on attitudes toward buying intentions.

Table 20: Difference on the Purchase Intention of Participants when Grouped According to their Monthly Income

Variables	P-Value	Decision H_0	Interpretation
Attitude	< .001	Reject	With Significant Difference
Subjective Norm	< .001	Reject	With Significant Difference
PBC	< .001	Reject	With Significant Difference

Table 20 shows the findings for the difference on the purchase intention of participants when grouped according to their Monthly Income. From the analysis, the null hypothesis is rejected. The result showed that there is a significant difference on the purchase intention when grouped according to their Monthly Income, in terms of Attitude, Subjective Norm, and PBC, indicating that income levels correspond to variations in purchase intentions. Individuals with higher income may feel more capable and more socially encouraged to make sustainable choices, as compared to lower-income participants who may still hold positive attitudes but face constraints. Hence, this significant difference highlights how economic capacity can influence sustainability-related behavior.

According to Awad (2011), as cited by Witek (2020), income is generally regarded as a factor that is positively linked to higher purchases of green products, primarily because these products tend to be more expensive. Consumers with higher income levels are more capable of affording the premium prices associated with eco-friendly options, while those in the medium-income bracket are also increasingly expressing intentions to buy green products due to rising environmental awareness. In terms of TPB, Bhat et al. (2021) investigated the role of an individual's monthly income towards online purchase intention, emphasizing that higher income levels can enhance positive attitudes and PBC, leading to an increased likelihood of online purchases among consumers with varying demographic characteristics. Furthermore, He et al. (2022) found significant differences in electric vehicle (EV) purchase intention based on income groups, revealing that high-income consumers' intentions are primarily influenced by negative anticipated emotions (NAE), while low-income consumers' intentions depend more on positive anticipated emotions (PAE).

Table 21: Difference on the Purchase Intention of Participants when Grouped According to their Occupation

Variables	P-Value	Decision H_0	Interpretation
Attitude	< .001	Reject	With Significant Difference
Subjective Norm	0.006	Reject	With Significant Difference
PBC	0.006	Reject	With Significant Difference

Table 21 shows the findings for the difference in the purchase intention of participants when grouped according to their Occupation. From the analysis, the null hypothesis is rejected. The result showed that there is a significant difference on the purchase intention when grouped according to their Occupation, in terms of Attitude, Subjective Norm, and PBC. Thus, this suggests that the difference in occupational roles and environments contributes as to how individuals view sustainability, the pressure they feel from peers or institutions, and their sense of control over purchasing decisions.

According to Hafiz & Permana (2021) individuals with occupations that emphasize environmental responsibility, such as educators or environmental scientists, tend to have a more positive attitude towards sustainable products, leading to higher purchase intentions. Moreover, research also shows that socio-economic factors, such as income and education level, correspond with consumer perceptions of eco-friendly products, as higher education levels correlate with increased awareness and willingness to pay for sustainable options (Zvěřinová et al, 2024). As per Suryanda (2021), students play a strategic role as agents of change in addressing environmental pollution issues. They are beginning to embrace green lifestyles, including becoming more critical and conscious in their purchasing decisions by choosing environmentally friendly products. Moreover, their awareness and understanding of environmental pollution serve as a foundation for forming their intentions to prioritize or purchase green products. In terms of the TPB Framework, attitudes towards sustainable products are linked to personal values and moral norms, which can vary significantly across different occupations. For instance, individuals in environmentally focused professions may have stronger pro-environmental attitudes, leading to higher purchase intentions for sustainable products (Kumar & Singh, 2022). In addition, research indicates that moral norms mediate the relationship between Subjective Norms and purchase intentions, suggesting that individuals in occupations with strong ethical standards may exhibit higher purchase intentions for sustainable products (Liu et al., 2020). Lastly, the study by Chen et al. (2020) explored demographic variables, including occupation, in relation to purchase intention for variable life insurance through the TPB Framework, and revealing significant differences in purchase intentions based on these factors.

3.6 Relationship between the Perceived Warm-Glow Effect and the Purchase Intention of Potential Customers in Cavite towards Selected Sustainable Water Bottles

Table 22: Relationship between the Perceived Warm-Glow Effect and the Purchase Intention of Potential Customers in Cavite towards Selected Sustainable Water Bottles

Perceived WGE Component	Purchase Intention Component	Pearson's R	P-Value	Interpretation
Values	Attitude	0.361	<.001	Significant
Values	SN	0.436	<.001	Significant
Values	PBC	0.436	<.001	Significant
Beliefs	Attitude	0.446	<.001	Significant
Beliefs	SN	0.387	<.001	Significant
Beliefs	PBC	0.268	<.001	Significant
Norms	Attitude	0.379	<.001	Significant
Norms	SN	0.450	<.001	Significant
Norms	PBC	0.289	<.001	Significant

Based on the findings shown in Table 22, results revealed that with the positive Pearson's R-values and p-values of less than 0.05 across all components, the perceived warm-glow effect and purchase intention of potential customers in Cavite had a significant relationship towards selected sustainable water bottles. This indicates that the emotional satisfaction and personal fulfilment individuals perceived to experience from making sustainable choices are closely linked to their intention to purchase eco-friendly products, particularly sustainable water bottles. Moreover, this correlation suggests that the positive feelings associated with contributing to environmental well-being motivate potential customers to choose products that align with their values and ethical considerations.

The perceived warm-glow effect (WGE) component Value showed significant positive correlations with all components of purchase intention: Attitude, Subjective Norm (SN), and Perceived Behavioral Control (PBC), suggesting that individuals who value sustainability for their personal, societal, and future-oriented benefits are more likely to form favorable attitudes, feel socially supported, and perceive themselves as capable of purchasing sustainable products, such as sustainable water bottles. The perceived WGE component Belief also showed a positive correlation with all purchase intention components, though the association with the component PBC was the weakest. This suggests that while an individual's beliefs relate strongly to their attitude and perceived social expectations about sustainability, these beliefs are less connected to their confidence or perceived capability to carry out the purchasing behavior. According to Sumesh (2023), belief in perceived consumer effectiveness is crucial; it reflects the conviction that individual actions can lead to positive environmental outcomes. When consumers lack confidence in their ability to effect change, their purchase intentions diminish, leading to a lower relationship between warm-glow feelings and actual buying behavior (Zhou et al., 2024).

Lastly, the perceived WGE component Norms showed a strong relationship with all three components, especially with the highest correlation observed with Subjective Norms. Hence, this implies that an internalized sense of moral responsibility and alignment with societal expectations is closely associated with how much individuals perceive social pressure or approval from others when deciding to purchase sustainable products, such as sustainable water bottles. According to Harjadi and Gunardi (2022), the interplay between SN and the WGE creates a powerful motivator for customers. Significantly, when individuals perceive that their sustainable actions are socially endorsed and recognized, the warm-glow feelings they experience can further drive their purchase intention.

Bezençon et al. (2020), as cited by Mahasuweerachai & Suttikun (2022), explained that the warm-glow effect can be triggered when consumers purchase ethical products, as it gives them a sense that their spending and actions contribute positively to society. In addition, research indicates that these feelings can significantly boost intentions to purchase sustainable products, as they provide intrinsic satisfaction beyond the product's utility (Jerit et al., 2024). It also showed that inducing warm-glow feelings can lead to increased intentions to engage in green behaviors, even among demographics typically less inclined to do so. Furthermore, according to Wijekoon (2021), environmentally conscious individuals who are aware of ecological damage and develop a stronger sense of responsibility toward environmental protection are more likely to let these concerns influence their purchase decisions, often choosing green products that positively impact the environment.

4. Conclusion

Based on the findings, the following conclusions were drawn:

4.1. Socio-Economic Profile of the Participants. The findings revealed that the majority of the participants were young adults, predominantly female, and were college students or graduates. Also, a significant number reported having no monthly income and identified themselves as full-time students. This implies that the target market for sustainable water bottles in Cavite consists mostly of young, educated individuals who are still dependent or have limited financial capacity, yet are potential consumers of environmentally responsible products. Most of them belonged to Generation Z, a demographic group recognized for its high level of environmental concern and awareness of sustainable practices. Moreover, the educational attainment of the participants suggests that they are familiar with sustainability concepts, although their lack of income may limit their access to sustainable water bottles.

4.2. Perceived Warm-Glow Effect of the Participants towards Selected Sustainable Water Bottles. The overall perception of the warm-glow effect towards sustainable water bottles was rated Highly Positive, implying that potential customers in Cavite strongly associate sustainable behavior with emotional satisfaction.

4.2.1. Value. Rated with a High Positive Warm-Glow Effect, findings in terms of Value implied that participants view sustainability as a personal value and source of pride. Also, this implies that many customers see the act of purchasing sustainable products as aligning their consumer behavior with their ethical beliefs.

4.2.2. Belief. Also rated with a High Positive warm-glow effect, findings in terms of Belief implied that customers consider sustainable water bottles as contributing to broader environmental preservation efforts, reinforcing their positive emotional response.

4.2.3. Norms. Showing a slightly lower, but still Positive, Warm-Glow Effect in terms of Norm, this implies that while social norms are present, personal values and beliefs remain the more dominant factors contributing to individuals perceived warm-glow effect.

4.3. Purchase Intention of the Participants towards Selected Sustainable Water Bottles. Findings on purchase intention were rated as Very High, implying that customers are not only aware of sustainable products but also exhibit strong intent to purchase them.

4.3.1. Attitude. It was rated as Very High, indicating that participants generally hold favorable attitudes toward making environmentally responsible purchases.

4.3.2. Subjective Norms. It was also rated as Very High, implying that social influences, such as family, friends, and community, are significantly associated with participants' intention to buy sustainable water bottles.

4.3.3. Perceived Behavioral Control. As the highest-rated component, this suggests that participants feel confident in their ability to make such purchases, likely due to the perceived availability or affordability of the products.

4.4. Difference on the Perceived Warm-Glow Effect of Participants when Grouped According to their Profile.

4.4.1. Age. There is a significant difference observed in terms of Value and Belief for Age, indicating that age serves as a relevant factor in determining the internal motivations and personal convictions that lead individuals to experience the WGE in relation to sustainable behavior. Thus, this also implies that younger and older participants may derive varying degrees of perceived emotional gratification and

moral satisfaction from contributing to environmental causes. Conversely, the absence of significant difference in Norms indicates that age is not a determining factor in how perceived societal expectations relate to sustainable behavior.

4.4.2. Sex. No significant difference was found in the perceived warm-glow effect across all three components, Value, Belief, and Norm, when grouped by Sex. Thus, this implies that sex is not a significant factor in how participants emotionally respond to or perceive the warm-glow effect of sustainable products.

4.4.3. Educational Attainment. No significant difference was found in the Belief and Norm components of the perceived warm-glow effect when grouped by Educational Attainment, implying that these perceptions remain relatively stable regardless of educational level. However, a significant difference was found in the Value component, suggesting that educational background is linked to variations in personal values related to sustainability.

4.4.4. Monthly Income. No significant difference was found in the Values and Norms components when grouped by Monthly Income, implying that emotional and social perceptions of sustainability are consistent across income groups. However, a significant difference was observed in terms of Belief, suggesting that income levels correspond to variations in internal convictions about sustainable behavior.

4.4.5. Occupation. No significant difference was found in the Values and Norms component when grouped according to Occupation, implying similar emotional and social perspectives across occupational categories. However, a significant difference was found in the Belief component, implying that work-related experiences correspond to differences in convictions toward sustainable choices.

4.5. Difference on the Purchase Intention of Participants when Grouped According to their Profile.

4.5.1. Age. There is a significant difference in all components of purchase intention. Attitude, Subjective Norms, and PBC, when grouped according to Age. Thus, this implies that age is a relevant factor in determining how participants feel about, are influenced by others, and perceive their control over purchasing sustainable water bottles.

4.5.2. Sex. No significant differences were observed in purchase intention based on Sex, across all components. Therefore, this implies that both male and female participants show similar levels of intention to purchase sustainable water bottles.

4.5.3. Educational Attainment. A significant difference in all components of purchase intention was found when grouped by Educational Attainment, indicating that the level of education corresponds with variations in the participants' attitudes, social pressures, and perceived control regarding the purchase of sustainable products.

4.5.4. Monthly Income. Participants showed significant differences in all components based on their Monthly Income, indicating that financial capacity and associated social factors correspond with variations in the intention to purchase sustainable water bottles.

4.5.5. Occupation. All components of purchase intention showed significant difference based on Occupation, implying that an individual's professional role or work setting is linked to differences in their mindset, social context, and perceived ability to engage in sustainable purchases.

4.6. Relationship between the Perceived Warm-Glow Effect and the Purchase Intention of Potential Customers in Cavite towards Selected Sustainable Water Bottles. The relationship between the

perceived warm-glow effect and purchase intention was found to be significantly positive across all components, further validating that the perceived emotional and value-driven motivations are strongly associated to the customers' intent to purchase sustainable water bottles. The high correlation between the components of perceived warm-glow effect, Value, Belief, and Norm, with the components of purchase intention, Attention, Subjective Norm, and Perceived Behavioral Control, suggests that customers not only feel personally gratified by their purchases but also consider the environmental benefits and social acceptability of such actions. Thus, these findings underline the importance of promoting sustainable products as part of a broader ethical and environmental movement that resonates deeply with customers in Cavite, indicating that the perceived emotional satisfaction derived from eco-friendly products significantly correlates with their purchasing intentions.

5. Recommendations

Based on the findings of the study, several recommendations are proposed to address the key factors related to purchase intention towards sustainable products, enhance the effectiveness of marketing strategies, promote conscious consumerism, and encourage further research in the field of sustainable consumption.

5.1. Since majority of participants are young (Gen Z), female college students/graduates with no income, sustainable water bottle campaigns should focus on affordability and educational engagement. Collaborate with universities in the Philippines to hold student-friendly events or partner with campus stores to offer discounts. Additionally, use social media platforms popular with this demographic to highlight low-cost yet high-impact sustainable options, incorporating content that resonates with student values and community care.

5.2. To improve the perceived warm-glow effect under Norms (only Positive), launch community-based challenges or peer-sharing campaigns where participants post their eco-friendly practices using sustainable bottles. Offer small incentives or recognition (e.g., social media features, digital certificates) to those who participate. Thus, this creates a social feedback loop where buying sustainable bottles becomes a visible norm.

5.3. To maintain the Very High Intention to purchase sustainable bottles, brands must continuously engage consumers with fresh, purposeful campaigns. Both entrepreneurs and marketers alike must ensure consistent product availability, provide visible evidence of impact, such as putting "1 Bottle = 1 Tree Planted" stickers or labels on products, and gather testimonials. Significantly, maintaining trust and relevance will preserve high purchase intent.

5.4. Since only Age showed significant differences in the perceived WGE, marketing strategies should be tailored to appeal more to older age brackets. For example, use storytelling that ties sustainable action to long-term community legacy or health benefits. For younger audiences, continue emphasizing environmental urgency and community impact.

5.5. With Age, Educational Attainment, Monthly Income, and Occupation showing significant differences in purchase intention, create tiered marketing strategies. For students/low-income individuals. promote budget-friendly, refillable bottles with incentives like freebies or discounts. For professionals/higher income individuals, offer premium eco-friendly bottles highlighting luxury, ethics, and impact. For customers with higher educational levels, focus on data-driven benefits and credible environmental claims to support buying decisions.

5.6. Since a significant relationship exists between the perceived WGE and purchase intention, brands and campaigns should highlight emotional satisfaction in marketing materials. Share real stories or visuals of how buying sustainable bottles directly supports the environment or communities. Strengthen emotional appeals through consistent branding and user engagement to further drive purchase behavior.

5.7. Future researchers could conduct studies in different regions outside Cavite to compare findings across different consumer groups. Further exploration of other variables, such as social media exposure and/or brand trust in future surveys, to uncover other emotional or behavioral factors that correlate with the warm-glow effect. Additionally, researchers could also examine the role of other focal variables, such as marketing strategies, product pricing, and environmental awareness, on the warm-glow effect to uncover more comprehensive insights that could guide businesses in developing more effective sustainability-driven marketing approaches.

References

1. Afriza, E.F., Srigustini, A., "Jembatan Menuju Wirausaha Suskes: Analisis Dimensi Kompetensi Wirausaha Terhadap Intensi Berwirausaha Pada Mahasiswa", Jurnal Ekonomi Pendidikan Dan Kewirausahaan, October 2022, 10 (2), 167–180. https://doi.org/10.26740/jepk.v10n2.p167-180
2. Ajzen, I, "The Theory of Planned Behavior. Organizational Behavior and Human Decision Processes", December 1991, 50 (2), 179-211. https://doi.org/10.1016/0749-5978(91)90020-T
3. Akıllı, M., Genç, M, "Examination of Middle School Students' Sub-Dimensions of Environmental Literacy in terms of Various Variables", Sakarya University Journal of Education, 2015, 5 (2), 81-97. https://doi.org/10.19126/suje.87773
4. Albert, J.R.G., Briones, R.M., Rivera, J.P.R., "Wealth Creation for Expanding the Middle Class in the Philippines", Philippine Institute for Development Studies Discussion Paper Series No. 2024-10, September 2024. https://doi.org/10.62986/dp2024.10
5. Al-Swidi, A., Mohammed Rafiul Huque, S., Haroon Hafeez, M., Noor Mohd Shariff, M., "The Role of Subjective Norms in Theory of Planned Behavior in the Context of Organic Food Consumption", British Food Journal, September 2014, 116 (10), 1561-1580. https://doi.org/10.1108/BFJ-05-2013-0105
6. Andreoni, J., "Giving with Impure Altruism: Applications to Charity and Ricardian Equivalence", Journal of Political Economy, 1989, 97 (6), 1447-1458.
7. Andreoni, J., "Impure Altruism and Donations to Public Goods: A Theory of Warm-Glow Giving", The Economic Journal, 1990, 100, 464-477.
8. Ansu-Mensah P. "Green Product Awareness Effect on Green Purchase Intentions of University Students': An Emerging Market's Perspective", Future Business Journal, November 2021, 7 (1), 48. https://doi.org/10.1186/s43093-021-00094-5
9. Awad, T.A., "Environmental Segmentation Alternatives: Buyers' Profiles and Implications", Journal of Islamic Marketing, March 2011, 2 (1), 55-73. https://doi.org/10.1108/17590831111115240
10. Bai, G., Bai, Y., "Voluntary or Forced: Different Effects of Personal and Social Norms on Urban Residents' Environmental Protection Behavior", International Journal of Environmental Research and Public Health, May 2020, 17 (10), 3525. https://doi.org/10.3390/ijerph17103525
11. Bangsa, A.B., Schlegelmilch, B.B., "Linking Sustainable Product Attributes and Consumer Decision-Making: Insights from a Systematic Review", Journal of Cleaner Production, February

2020, 245. https://doi.org/10.1016/j.jclepro.2019.118902
12. Berthold, A., Cologna, V., Hardmeier, M., Siegrist, M. "Drop Some Money! The Influence of Income and Subjective Financial Scarcity on Pro-Environmental Behaviour", Journal of Environmental Psychology, November 2023, 91, 102149. https://doi.org/10.1016/j.jenvp.2023.102149
13. Bezençon, V., Girardin, F., Lunardo, R., "When does an Ethical Attribute matter for Product Evaluation? The Role of Warm-Glow Feelings for Low-Rated Products", Psychology & Marketing, August 2020, 37 (11), 1571-1585. https://doi.org/10.1002/mar.21403
14. Bhat, S.A., Islam, S.B., Sheikh, A.H., "Evaluating the Influence of Consumer Demographics on Online Purchase Intention: An E-Tail Perspective", The Fourth Paradigm, October 2021, 25 (2), 141–160. https://doi.org/10.1177/09718907211045185
15. Bianchi, R.T., Cova, F., Tieffenbach, E., "Is the Warm Glow actually Warm? An Experimental Investigation into the Nature of Determinants of Warm Glow Feelings", International Journal of Wellbeing, October 2023, 13 (3), 1-23. https://doi.org/10.5502/ijw.v13i3.2565
16. Bisht, R. "What is Purposive Sampling? Methods, Techniques, and Examples." Cactus Communications, January 2024. https://researcher.life/blog/article/what-is-purposive-sampling-methods-techniques-and-examples/
17. Bjälkebring, P., Västfjäll, D., Dickert, S., Slovic P., "Greater Emotional Gain from Giving in Older Adults: Age-Related Positivity Bias in Charitable Giving", Frontiers in Psychology, June 2016, 7, 846. https://doi.org/10.3389/fpsyg.2016.00846
18. Boobalan, K., Nawaz, N., Harindranath, R.M., Gajenderan, V., "Influence of Altruistic Motives on Organic Food Purchase: Theory of Planned Behavior", Sustainability, May 2021, 13 (11), 6023. https://doi.org/10.3390/su13116023
19. Chekima, B., Syed Khalid Wafa, S.AW., Igau, O.A., Chekima, S., Sondoh, S.L., "Examining Green Consumerism Motivational Drivers: Does Premium Price and Demographics Matter to Green Purchasing?", Journal of Cleaner Production, January 2016, 112 (4), 3436–3450. https://doi.org/10.1016/j.jclepro.2015.09.102
20. Chen, S., Lin, L.L.C., Ma, C.T., "Factors Affecting Potential Consumers to Variable Life Insurance: Based on Theory of Planned Behavior", May 2020, 439-446. https://doi.org/10.2991/ASSEHR.K.200515.076
21. Dewi, W.W.A., Syauki, W.R., "Green Awareness of Female Consumers towards Sustainable Products in Indonesia", Jurnal Pengelolaan Sumberdaya Alam Dan Lingkungan (Journal of Natural Resources and Environmental Management), March 2023, 13 (1), 129-139. https://doi.org/10.29244/jpsl.13.1.129-139
22. Djafarova, E., Foots, S., "Exploring Ethical Consumption of Generation Z: Theory of Planned Behaviour", Young Consumers, July 2022, 23 (3), 413-431. https://doi.org/10.1108/YC-10-2021-1405
23. Dzage, E.J., Hussain, M.R., Dapaah, P.O., Mustapha, Y., "Corporate Social Responsibility, Sustainable Environmental Practices and Green Innovation; Perspectives from the Ghanaian Manufacturing Industry", International Journal of Corporate Social Responsibility, March 2024, 9 (4). https://doi.org/10.1186/s40991-024-00090-2
24. Esvandiari, M., Susan, M., Mulyaningsih, H.D., Muhardi, Oktini, D.R., Nurhayati, N., "The Effect of Eco-Friendly Packaging on Purchase Intention with Consumer Perception as an Intervening

Variable", International Journal of Entrepreneurship and Sustainability Studies, December 2023, 3 (2). https://doi.org/10.31098/ijeass.v3i2.1818

25. Ferreira, M.A., Santana, S. de M., "Low-Income People and Pro-Environmental Behavior: Beyond Money Issues, A Literature Review", Millenium - Journal of Education, Technologies, and Health, January 2021, 2 (14), 71–78. https://doi.org/10.29352/MILL0214.19981
26. Fretwell, K., Greig, A., "Towards a Better Understanding of the Relationship between Individual's Self-Reported Connection to Nature, Personal Well-Being and Environmental Awareness", Sustainability, March 2019, 11 (5), 1386. https://doi.org/10.3390/su11051386
27. Ghouse, S.M., Shekhar, R., & Chaudhary, M., "Sustainable Choices of Gen Y and Gen Z: Exploring Green Horizons", August 2024. https://doi.org/10.1108/msar-04-2024-0018
28. Gidaković, P., Zabkar, V., Zecevic, M., Sagan, A., Wojnarowska, M., Sołtysik, M., Arslanagić Kalajdžić, M., Dlacic, J., Askegaard, S., Cleff, T., "Trying to Buy More Sustainable Products: Intentions of Young Consumers", Journal of Cleaner Production, January 2024. https://doi.org/10.1016/j.jclepro.2023.140200
29. Gimena, K.L., Libot, L., Roble, I.Q., & Manala-O, S., "The Role of FoMO in the Purchase Intention of Aquaflask: The Case of a Public University", Journal of Global Business, May 2024, 13 (1), 2350-7179. https://www.researchgate.net/publication/384153207
30. Gökmen, A., "The Effect of Gender on Environmental Attitude: A Meta-Analysis Study", Journal of Pedagogical Research, March 2021, 5 (1), 243-257. http://dx.doi.org/10.33902/JPR.2021167799
31. Gul, S., Ahmed, W., "Enhancing the Theory of Planned Behavior with Perceived Consumer Effectiveness and Environmental Concern towards Pro-Environmental Purchase Intentions for Eco-Friendly Apparel: A Review Article", Bulletin of Business and Economics, May 2024, 13 (1). https://doi.org/10.61506/01.00270
32. Guo, Q., You, W., "Research on Psychological Attributions and Intervention Strategies of New Energy Hybrid Vehicle Purchase Behavior", Dental Science Reports, June 2023, 13 (1). https://doi.org/10.1038/s41598-023-35949-0
33. Hafiz, A., Permana, D., "Analysis of the Effect of Attitude toward Environment, Perceived Control Behavior and Ecological Packaging on Green Purchase Intention on Packaging Drinking Water (AMDK) Brand Cleo Eco Shape", European Journal of Business and Management, January 2021, 6 (1), 87–89. https://doi.org/10.24018/EJBMR.2021.6.1.689
34. Harjadi, D., Gunardi, A., "Factors Affecting Eco-Friendly Purchase Intention: Subjective Norms and Ecological Consciousness as Moderators", Cogent Business & Management, November 2022, 9 (1). https://doi.org/10.1080/23311975.2022.2148334
35. He, Z., Zhou, Y., Wang, J., Shen, W.X., Li, W., Lu, W., "Influence of Emotion on Purchase Intention of Electric Vehicles: A Comparative Study of Consumers with Different Income Levels", Current Psychology, June 2022, 42, 21704–21719. https://doi.org/10.1007/s12144-022-03253-1
36. Huddart-Kennedy, E., Krahn, H., Krogman, N.T., "Are we counting what counts? A Closer Look at Environmental Concern, Pro-Environmental Behaviour, and Carbon Footprint", Local Environment, October 2013, 20, 220–236. https://doi.org/10.1080/13549839.2013.837039
37. Hwang, J., Choi, J. K., "An Investigation of Passengers' Psychological Benefits from Green Brands in an Environmentally Friendly Airline Context: The Moderating Role of Gender", Sustainability, December 2017, 10 (1), 80. https://doi.org/10.3390/su10010080

38. Ignacio, L., "Cavite's green township becomes an exciting hub for these businesses", The Philippine Star, May 2019. https://www.philstar.com/other-sections/supplements/2019/05/08/1933893/cavites-green-township-becomes-exciting-hub-these-businesses
39. Im, H.H., "A Study on the Impact of Consumer Values of Sustainable Food Companies on Belief, Norms, and Green Purchase Intention : Focusing on the VBN Model", Oe'sig Gyeong'yeong Yeon'gu, October 2024, 27 (5), 25–50. https://doi.org/10.47584/jfm.2024.27.5.25
40. Iweala, S., Spiller, A., Nayga Jr., R.M., Lemken, D., "Warm Glow and Consumers' Valuation of Ethically Certified Products", Q Open, July 2022, 2 (2), qoac020. https://doi.org/10.1093/qopen/qoac020
41. Jebarajakirthy, C., Sivapalan, A., Das, M., Maseeh, H.I., Ashaduzzaman, M., Strong, C., Sangroya, D., "A Meta-Analytic Integration of the Theory of Planned Behavior and the Value-Belief-Norm Model to Predict Green Consumption", European Journal of Marketing, March 2024, 58 (4), 1141-1174. https://doi.org/10.1108/EJM-06-2021-0436
42. Jerit, J., Shin, H., Barabas, J., "Warm Glow Feelings Can Promote Green Behavior", PNAS Nexus, December 2024. https://doi.org/10.1093/pnasnexus/pgae509
43. Kaushal, S.K., Khanna, P., Gupta, P., "Understanding the Factors Affecting Green Purchase Behavior of Consumers with Special Reference to Uttar Pradesh, India", Adhyayan: A Journal of Management Sciences, June 2021, 11 (01), 1–7. https://doi.org/10.21567/adhyayan.v11i1.01
44. Kumar, N., Garg, P., Singh, S., "Pro-Environmental Purchase Intention towards Eco-Friendly Apparel: Augmenting the Theory of Planned Behavior with Perceived Consumer Effectiveness and Environmental Concern", Journal of Global Fashion Marketing, January 2022, 13 (2), 134–150. https://doi.org/10.1080/20932685.2021.2016062
45. Lavuri, R., "Extending the Theory of Planned Behavior: Factors Fostering Millennials' Intention to Purchase Eco-Sustainable Products in an Emerging Market", Journal of Environmental Planning and Management, July 2021, 65 (8), 1507–1529. https://doi.org/10.1080/09640568.2021.1933925
46. Liu, M.T., Liu, Y., Mo, Z., "Moral Norm is the Key: An Extension of the Theory of Planned Behaviour (TPB) on Chinese Consumers' Green Purchase Intention", Asia Pacific Journal of Marketing and Logistics, January 2020, 32 (8), 1823–1841. https://doi.org/10.1108/APJML-05-2019-0285
47. Luchs, M.G., Naylor, R.W., Irwin, J.R., Raghunathan, R., "The Sustainability Liability: Potential Negative Effects of Ethicality on Product Preference", Journal of Marketing, September 2010, 74 (5), 18–31. https://doi.org/10.1509/jmkg.74.5.18
48. Mahasuweerachai, P., Suttikun, C., "The Effect of Green Self-Identity on Perceived Image, Warm Glow and Willingness to Purchase: A New Generation's Perspective towards Eco-Friendly Restaurants", Sustainability, August 2022, 14 (17), 10539. https://doi.org/10.3390/su141710539
49. Maiorescu, I., Sabou, G.C., Bucur, M, Zota, R.D., "Sustainability Barriers and Motivations in Higher Education – A Students' Perspective", Amfiteatru Economic, March 2020, 22 (54), 362-375. https://doi.org/10.24818/EA/2020/54/362
50. Majeed, S. Kim, W.G., & Kim, T., "Perceived Green Psychological Benefits and Customer Pro-Environment Behavior in the Value-Belief-Norm Theory: The Moderating Role of Perceived Green CSR", International Journal of Hospitality Management, August 2023, 113 (1), 103502. https://doi.org/10.1016/j.ijhm.2023.103502

51. Mayer, F.S., Frantz, C.M., "The Connectedness to Nature Scale: A Measure of Individuals' Feeling in Community with Nature", Journal of Environmental Psychology, December 2004, 24 (4), 503–515. https://doi.org/10.1016/j.jenvp.2004.10.001
52. Moiceanu, G., Popescu, M., Barbu, A., Moiceanu, A.D., "Green Entrepreneurship Among Students", International Conference of Management and Industrial Engineering, 2023, 11, 100–104. https://doi.org/10.56177/11icmie2023.48
53. Ogiemwonyi, O., Alam, M.N., Alshareef, R., Alsolamy M., Azizan, N.A., Mat, N., "Environmental Factors Affecting Green Purchase Behaviors of the Consumers: Mediating Role of Environmental Attitude", Cleaner Environmental Systems, September 2023, 10 (1), 100130. https://doi.org/10.1016/j.cesys.2023.100130
54. PEMSEA, "The Situation and Causes of Plastic Pollution in the Imus River, Cavite", July 2020. https://www.pemsea.org/sites/default/files/2023-12/Imus%20River%20Basline%20Report%20202007%20mod%201.pdf
55. Pong, H.K., Fong, C.C., "The Impact of Personal Satisfaction on the Environmental, Social, and Governance Practices of Chinese Accounting Managers", Sustainability, July 2024, 16 (14), 5839. https://doi.org/10.3390/su16145839
56. Salleh, M.S.M., Misron, A., Musa, N.C., "Examining the Mediating Effects of Perceived Behavioral Control and Purchase Intention on Sustainable Consumer Behavior", International Journal of Academic Research in Business & Social Sciences, December 2024, 14 (12). https://doi.org/10.6007/ijarbss/v14-i12/23709
57. Sargisson, R.J., De Groot, J.I.M., Steg, L., "The Relationship Between Sociodemographics and Environmental Values Across Seven European Countries", Frontiers in Psychology, August 2020, 11. https://doi.org/10.3389/fpsyg.2020.02253
58. Shrum, T. R., Molokandov, R., "Learning to Love the Warm Glow: Endogenous Preferences and Intrinsic Motivation", Social Science Research Network, May 2021. https://doi.org/10.2139/SSRN.3837023
59. Soutschek, A., Burke, C.J., Raja Beharelle, A., Schreiber, R., Weber, S.C., Karipidis, I.I., Ten Velden, J., Weber, B., Haker, H., Kalenscher T., Tobler, P.N., "The Dopaminergic Reward System Underpins Gender Differences in Social Preferences", Nature Human Behavior, October 2017, 1, 819–827. https://doi.org/10.1038/s41562-017-0226-y
60. Stankevičiūtė, Ž., Jarmalavičiūtė, I., "The Perspectives of Women on Sustainable Fashion Consumption: Comparative Study of University Teachers and Students", PloS ONE, February 2025, 20 (2), e0314532. https://doi.org/10.1371/journal.pone.0314532
61. Stern, P. C., Dietz, T., Abel, T., Guagnano, G.A., Kalof, L., "A Value-Belief-Norm Theory of Support for Social Movements: The Case of Environmentalism", Human Ecology Review, 1999, 6 (2), 81e98. https://www.humanecologyreview.org/pastissues/her62/62sternetal.pdf
62. Su, C.H., Tsai, C.H., Chen, M.H., Lv, W.Q., "U.S. Sustainable Food Market Generation Z Consumer Segments", Sustainability, June 2019, 11 (13), 3607. https://doi.org/10.3390/su11133607
63. Sumesh, P.C., "Role of Perceived Consumer Effectiveness (PCE) on Green Purchase Behaviour with Reference to Kannur District", ShodhKosh Journal of Visual and Performing Arts, December 2023, 4 (2). https://doi.org/10.29121/shodhkosh.v4.i2.2023.2998

64. Suryanda, A., Sigit, D.V., Safitri, H., "Relationship Between Environmental Pollution Knowledge and Green Purchase Intention of Students", AIP Conference Proceedings 2331, April 2021, 050018. https://doi.org/10.1063/5.0041661
65. Sutikno, V., Indarini, Margaretha, S., "Young Consumer's Purchase Intention Toward Environmentally Friendly Products in Indonesia: Expanding the Theory of Planned Behavior", January 2020. https://doi.org/10.2991/aebmr.k.200127.008
66. Teixeira, S.F., Barbosa, B., Cunha, H., Oliveira, Z., "Exploring the Antecedents of Organic Food Purchase Intention: An Extension of the Theory of Planned Behavior", Sustainability, December 2021, 14 (1), 242. https://doi.org/10.3390/su14010242
67. Tengli, A., Srinivasan, S.H., "An Exploratory Study to Identify the Gender-Based Purchase Behavior of Consumers of Natural Cosmetics", Cosmetics, October 2022, 9 (5), 101. https://doi.org/10.3390/cosmetics9050101
68. Tian, Z., Sun, X., Wang, J., Su, W., Li, G., "Factors Affecting Green Purchase Intention: A Perspective of Ethical Decision Making", International Journal of Environmental Research and Public Health, September 2022, 19 (18), 11151. https://doi.org/10.3390/ijerph191811151
69. Tung, T., Koenig, H.F., Chen, H.L., "Effects of Green Self-Identity and Cognitive and Affective Involvement on Patronage Intention in Eco-Friendly Apparel Consumption: A Gender Comparison" Sustainability, October 2017, 9 (11), 1977. https://doi.org/10.3390/su9111977
70. Wadyatenti, M.A.D.V., "Niat Beli Produk Hijau Dan Faktor-Faktor Yang Mempengaruhinya Di Indonesia" Modus (Yogyakarta), March 2024, 36 (1). https://doi.org/10.24002/modus.v36i1.8462
71. Wijekoon, R., Sabri, M.F., "Determinants That Influence Green Product Purchase Intention and Behavior: A Literature Review and Guiding Framework", Sustainability, May 2021, 13 (11), 6219. https://doi.org/10.3390/su13116219
72. Witek, L., Kuźniar, W., "Green Purchase Behavior: The Effectiveness of Sociodemographic Variables for Explaining Green Purchases in Emerging Market", Sustainability, December 2020, 13 (1), 209. https://doi.org/10.3390/su13010209
73. Xian, Y.J., Wang, Q., Fan, W.R., Da, Y., Fan, J-L., "The Impact of Different Incentive Policies on New Energy Vehicle Demand in China's Gigantic Cities", Energy Policy, September 2022, 168, 113137. https://doi.org/10.1016/j.enpol.2022.113137
74. Yalçınkaya, E., Karataş, A., Talas, M., "A Study on the Environmental Attitudes of Candidate Teachers", Mediterranean Journal of Humanities, 2014, 4 (1), 275-284.
75. Yang, C.H., Chuang, M.C., Chen, D.F., "Role of Higher Education Students' Environmental Awareness and Environmental Concern in the Purchase Intention of Circular Economy Products", Sustainability, February 2024, 16 (5), 1979. https://doi.org/10.3390/su16051979
76. Yasa, B.M.A.S., Ekawati, N.W., "Peran Gender Dalam Menjelaskan Pengaruh Sikap Dan Norma Subyektif Terhadap Niat Beli", E-Jurnal Manajemen Universitas Udayana, June 2015, 4 (6), 1648-1660. https://www.neliti.com/publications/253648/peran-gender-dalam-menjelaskan-pengaruh-sikap-dan-norma-subyektif-terhadap-niat
77. Zhao, Z., Gong, Y., Li, Y., Zhang, L., Sun, Y., "Gender-Related Beliefs, Norms, and the Link With Green Consumption", Frontiers in Psychology, December 2021, 12. https://doi.org/10.3389/fpsyg.2021.710239

78. Zhou, L., Brick, C., Sachisthal, M.S.M., Aldoh, A., Sauter, D., "Warm Glow and Pro-Environmental Behavior: Supportive Evidence From Behavioral Tasks", July 2024. https://doi.org/10.31234/osf.io/wrvdz
79. Zvěřinová, I., Ščasný, M., Otáhal, J., "Bottled or Tap Water? Factors Explaining Consumption and Measures to Promote Tap Water", Water, October 2024, 16 (20), 3011. https://doi.org/10.3390/w16203011

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