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Consumers' preference for eco-friendly packaged products: Pride vs. guilt appeal

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Consumers' preference for eco-friendly packaged products: Pride vs. guilt appeal

Abstract

Purpose – This paper aims to examine the influence of eco-friendly packaging on consumers' responses. A research framework is examined to identify significant antecedents of eco-friendly packaging behaviour, namely environmental responsibility, knowledge, attitudes, and message framing, to determine their relative importance.

Design/methodology/approach – A set of hypotheses are tested across two studies.

Findings – Study 1 (n = 160) shows that attitude is an important mediator between consumers' environmental responsibility and environmental knowledge and intentions when adopting eco-friendly packaging. Furthermore, study 2 (n = 132) finds that where eco-friendly packaging is concerned, the advertised message has to be framed with a particular emotional appeal congruent to a specific psychographic trait to stimulate pro-environmental behavioural intention.

Implications – Based on the findings of this research, advertisers and environmental practitioners can utilise the correct type of message appeals to implement pro-environmental campaigns and programs for appropriate consumer segments effectively.

Originality – Aligning with the United Nations Sustainable Development Goals (SDGs), in particular, SDGs 12 on ensuring “responsible consumption and production”, the research findings have highlighted the importance of individual's environmental knowledge (eco-literacy) and responsibility as they act as precursors toward sustainable and responsible consumption.

Keywords Eco-friendly packaging, environmental knowledge, environmental responsibility, purchase intentions, message appeal.

1. Introduction

Plastic production and buildup in today's natural environment is a chronic environmental problem (Ali et al., 2022; Kasavan et al., 2021), and this issue is occurring at an abnormal rate primarily because of the indiscriminate use of single-use plastics, inadequate recycling, and deposits in landfills (Phelan et al., 2022). Research has shown that plastic consumption has surged twenty-fold in the previous 50 years and is anticipated to double in the next 20 (World Economic Forum, 2018). In 2019, the worldwide output of plastic was 370 million tonnes, with just 9% being recycled, 12% being burnt, and the remainder being dumped in the environment or landfills (PlasticsEurope, 2019). The COVID-19 pandemic has fronted a plethora of recent environmental studies through the increase of single-use plastics (Parashar and Hait, 2021). From the increased use of personal protective equipment globally (such as disposable face masks, gloves, and gowns) (Prata et al., 2020) resulting in exponential amounts of plastic-based medical waste (Sangkham, 2020) to the suspension of recycling programs in the United States due to concerns about the risk of spreading the virus in recycling centres, the restrictions on sustainable waste management in the European nations (Zambrano-Monserrate et al., 2020), and the increase of packaged take-out meals, online food ordering and home-delivered groceries cited in Singapore (Bengali, 2020), all of which and many other pandemic related implications have significantly contributed to the reduction in waste recycling and an increase in global plastic packaging mainly due to pandemic response.

On a positive note, there are many national and international pledges to reduce plastic pollution, and this is becoming an essential agenda for governments, companies, and consumers. The United Nations Sustainable Development Goals (SDGs) are particularly significant in enhancing sustainability metrics and practices (United Nations, 2015). Although plastic pollution is not a central issue in any of the 17 SDGs, the link between the SDGs and

the need to reduce plastic pollution is evident. SDGs 12 (indicator 12.1.5 recycling rate and material recycled) on ensuring “responsible consumption and production” and 14 “life below water” (indicator 14.1.1b plastic debris density) are cited by studies to have the most relevance towards stopping plastic manufacturing and usage in an attempt to curb waste mismanagement and plastic pollution (Walker, 2021). In particular, SDG 12 alludes to “extraordinary efforts (such as dramatically decreasing production and consumption of plastics, developing circular economies where end-of-life plastics are valued rather than becoming waste and dramatically increase domestic recycling rates without relying on the global plastic waste trade) are required by the international community to achieve this Goal” (United Nations, 2015). This form of ecologically sustainable consumer behaviour is undeniably a crucial component of pro-social consumption activities (Halder et al., 2020), which benefits both the environment and society (Spielmann, 2021).

The primary goal of this study is to better understand customer attitudes and behaviours towards eco-friendly packaging, in particular, perceptions of environmental responsibility and environmental knowledge towards eco-friendly packaging, and how these perceptions can be utilised to shape pro-environmental behaviours. This research fulfils the gaps noted by Prakash and Pathak (2017) and Ketelsen et al. (2020) that additional investigation is necessary to examine consumers’ knowledge and marketing communication for eco-friendly packaging. Conceptually, the Social Ideal Theory (SIT) (Rawls, 2004; Farrelly, 2007; Robeyns, 2008) will play an intermediary role between consumer attitudes, environmental responsibility and environmental knowledge, which emphasises people’s desire to create an ideal society while acting in an ecologically sustainable way. On the other hand, the widely used Theory of Reasoned Action (TRA) (Judge et al., 2019; Paço and Rodrigues, 2016) suggests that attitude affects behavioural intent, while behavioural intent shapes actual behaviour. The current study

posits that consumer attitude toward environmental initiatives is a mediator between an individual's environmental knowledge, environmental responsibility and purchase intention (Liu et al., 2020; Liu and Niu, 2018). Furthermore, the nature of pro-environmental behavioural intention is likely to be affected by consumer emotions (Lu et al., 2020). Although past studies have found that a positive affective framing of the message can lead to enduring pro-environmental behaviour (Jaeger and Weber, 2020), lesser studies have delved into specific discrete emotions other than negative emotional states such as guilt (Wang and Wu, 2016). Therefore, this study investigates the interplay of pride and guilt appeals on the relationship between environmental responsibility, environmental knowledge, and behavioural intentions for eco-friendly packaging.

2. Literature review and hypotheses

2.1. Environmental knowledge

Environmental knowledge is a necessary prerequisite for consumer long-term intention/behaviour, and it demonstrates a person's capacity to grasp and model environmental ideas, challenges, and difficulties (Ramsey and Rickson, 1976; Liu et al., 2020). Environmental knowledge often aids in the activation of one's moral imperative to engage in pro-environmental action (Judge et al., 2019; Paço and Rodrigues, 2016); unequivocally, this sense of environmental awareness evokes a desire to contribute positively to the environment and avert further deterioration (Zameer and Yasmeen, 2022), resulting in positive green consumer behaviour. According to the SIT, the general supposition is that individuals anticipate an ideal society to exist (Rawls, 2004). In particular, individuals are compelled to respond in the same constructive manner by extreme positive expectations (Farrelly, 2007; Stemplowska, 2017). People care about society and want to contribute to it (Robeyns, 2008). This illustrates that an

informed individual acts responsibly to uphold the ideals of the society around them. More specifically, people desire to create an ideal society while acting in an ecologically sustainable way. Based on the above discussions, individuals with greater environmental awareness and concern are more likely to purchase environmentally friendly goods and services and exhibit pro-environmental behaviours through their desire to build an ideal society. Therefore, the following is hypothesised:

H₁: Environmental knowledge has a significant positive impact on purchase intention for eco-friendly packaged products.

2.2 Environmental responsibility

Environmental responsibility points to a consumer's desire to preserve and protect the environment, and it is influenced directly by environmental awareness (Kumar and Ghodeswar, 2015). People who care about the environment and believe they are responsible for environmental protection will choose green products (e.g., Liobikienė and Bernatoniene, 2017; Wu et al., 2020). Increasing demand for products with eco-friendly packaging is an example of the environmental consciousness of customers. When consumers understand the environmental impact due to their consumption habits, they will develop a strong sense of obligation, which might influence their decision to buy green products. As a result, a customer's concern for the environment will naturally motivate their purchasing decisions toward environment-friendly alternatives (Wang and Wu, 2016).

Furthermore, environmental responsibility has been found to manifest in consumers who have high self-efficacy about their pro-environmental contributions (Trivedi et al., 2018; do Paco et al., 2019). SIT supports this notion of altruistic outcomes such that individuals are motivated by a desire to benefit someone other than themselves for that person's sake. In this

case, this heightened level of pro-environmentalism is often demonstrated in consumers' willingness to pay more for products that are labelled as green and sustainable or that are ecologically friendly (de Medeiros et al., 2016). Individuals with higher levels of environmental responsibility are more likely to purchase environmentally friendly goods and services. Therefore, the following is hypothesised:

H₂: Environmental responsibility has a significant positive impact on purchase intention for eco-friendly packaged products.

2.3. Attitude-intention relationship in green behavioural studies

The TRA is a social psychology theory that attempts to predict and understand particular behaviour of individuals (Ajzen, 1991), and more so emphasised in environmental behaviour research to predict altruistic intentions vis-à-vis participation in pro-environmental activities such as recycling behaviours and environment-friendly purchase behaviours (Prakash and Pathak, 2017). While this may be the case, the attitude-behaviour gap in green purchasing (i.e., green gap) refers to a situation where people are reluctant to acquire green products despite their favourable opinions toward environmental conservation (Mamun et al., 2018). This raises the question of why environmental concern does not always transfer into effective purchasing behaviour or why intentions do not always translate into ecologically beneficial behaviours or activities (do Paco et al., 2019). Several green behavioural studies have shown that consumer pro-environmental attitude varies when predicting behavioural intention. For instance, Magnier and Crié (2015) revealed support for a significant but relatively weak effect of attitudes toward eco-friendly packaging adoption. However, other studies in the context of green behaviour determined that the attitude-intention relationship prevails towards green products and eco-friendly packaging (Costa et al., 2021; Nguyen et al., 2020).

Furthermore, past literature suggests that the more favourable the attitude, the higher the adoption or purchase intention. For example, Prakash and Pathak (2017), examining consumers' values and adoption of eco-friendly packaged products, revealed that altruistic and egoistic values drive consumer attitudes to play a visible role in influencing purchase intention, even with the consideration of other moderators' frequency and moral determinants. An environmental activist, for instance, might demonstrate greater accountability by comparing the situation to others and critically examining it. Therefore, when a person perceives themselves as responsible individuals in comparison to the rest of society, their attitude towards their pro-environmental behaviour may also have an impact on their environmental responsibility, as well as environmental awareness and concern (Liu et al., 2020; Liu and Niu, 2018). Therefore, the following is hypothesised:

H₃: Consumer pro-environmental attitudes will mediate the positive relationship between environmental knowledge and purchase intention for eco-friendly packaged products.

H₄: Consumer pro-environmental attitudes will mediate the positive relationship between environmental responsibility and purchase intention for eco-friendly packaged products.

2.4. Anticipated Pride and Guilt

Anticipated pride and guilt are a subset of many positive and negative emotions that impact a consumer's long-term decision-making and actions (Coleman et al., 2020). Unlike other self-conscious feelings, anticipated pride and guilt are developed when a person feels

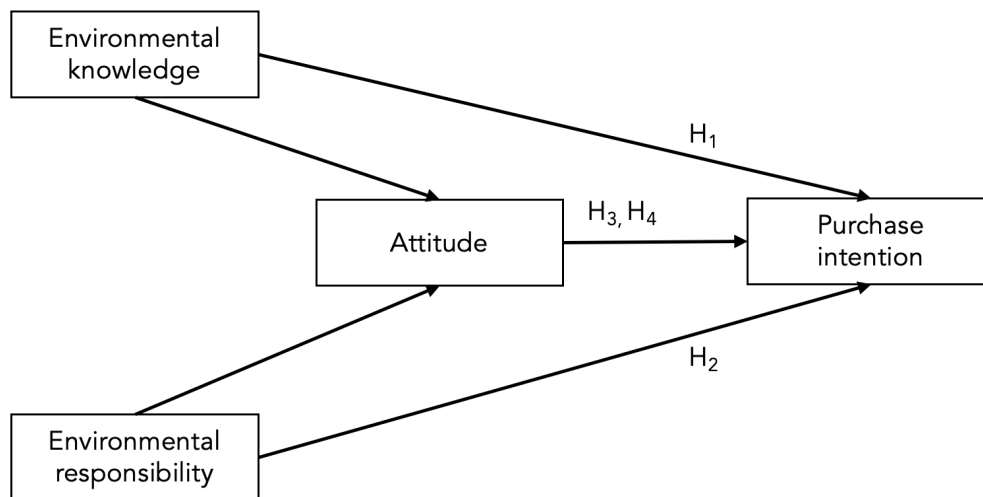
responsible for their actions and analyses them against their own ethical and societal norms (Harth et al., 2013). The feelings of pride, accomplishment, confidence, and worthiness are standard components of expected pride, whereas guilt, remorse, sorry, and awfulness are standard components of anticipated guilt (Han et al., 2017; Arli et al., 2021). Consumers are more inclined to engage in specific behaviours to achieve a pleasant mood while avoiding acts that may cause them to feel guilty. According to studies, guilt appeals may be divisive in green marketing, and moderate or low-level guilt appeals are more successful than intense guilt appeals in influencing consumers' sustainable decision-making and behaviour (Peloza et al., 2013; Coleman et al., 2020).

On the other hand, the use of pride appeals in environmental research is a relatively under-studied area, with only a few studies suggesting that when a positive emotion such as pride is triggered, consumers tend to be more engaged in altruistic behaviours and are subsequently more accountable when it comes to sustainable behaviours (Tracy and Robins 2007; Coleman et al., 2020). For example, the cosmetic retailer 'Lush' uses advertising taglines like "Help us stop global warming with our melting madness bath bomb," which creates a "us against environmental degradation" mentality that persuades consumers to be part of a community for the collective good, thus promoting pride. Based on the above discussions, anticipated pride and guilt appeal in framing environmental messaging or advertisement (Han et al., 2017) shares a significant causality with an individual's pro-environmental beliefs, actions and behaviours, subsequently determining one's green consumption. Therefore, the following is hypothesised:

H₅: Individuals with higher (vs. lower) environmental knowledge will have a stronger purchase intention for eco-friendly packaged products when exposed to a message with a guilt (vs. pride) appeal.

H₆: Individuals with higher (vs. lower) environmental responsibility will have a stronger purchase intention for eco-friendly packaged products when exposed to a message with a pride (vs. guilt) appeal.

Figure 1. Research model (Study 1)



3. Current research

The hypothesised relationships are tested across two studies. Study 1 examines the relationship between (a) environmental knowledge and purchase intention (H₁) and (b) environmental responsibility and purchase intention (H₂) for eco-friendly packaged products. Next, the mediating roles of consumer attitudes are assessed (H₃ and H₄). The postulated relationships are presented in Figure 1. Study 2 investigates whether purchase intentions for eco-friendly packaged products vary across consumers' knowledge and responsibility as well as the type of message (guilt vs pride) appeal (H₅ and H₆). We conducted a G*Power analysis

to determine the minimum sample size required to test the study hypothesis. Results indicated the required sample size to achieve 80% power for detecting a medium effect, at a significance criterion of $\alpha = 0.05$, was 142 for study 1 and 124 for study 2. Thus, the obtained sample sizes were adequate to test the hypotheses in our research.

4. Study 1

The two-fold aim of study 1 is to examine the direct impact of consumers' environmental knowledge and responsibility on purchase intention, as well as the mediating role of attitude on consumers' purchase intentions within the context of eco-friendly packaged products.

4.1. Participants and procedure

Study 1 involved one hundred and sixty participants in Australia (54% Male, 39% aged between 26-35 years, 31% had a university degree) recruited from a market research agency (i.e., Researchify). Data were collected through a self-administered online survey questionnaire. The first section of the questionnaire provided a brief about the survey administration, ethical approval, and privacy policy. Once the respondents agreed to participate, the following section enquired about their environmental knowledge (Mostafa, 2007) and responsibility (Paco and Rodrigues, 2016). The following section briefly outlined the notion of sustainable production and consumption to provide the context of the survey through a vignette that noted – *“Did you know that the 1,000 plastic bags and bottles that an average person discards will create more than 20kg of garbage every year? As a highly conscious and responsible consumer, you may consider rejecting plastic bottles and choose eco-friendly packaging”*. Then the participants were exposed to the stimuli of the research (i.e., an advertisement for *Boxed Water*). The advertisement portrayed *Boxed Water* as a better

choice that is sustainable by design, 92% plant-based packaging, and is the most renewable package in the water aisle. After reading the stimulus, the participants reported their attitudes (Kim and Seock, 2009) toward and purchase intention (Bian and Forsythe, 2012) for boxed water. The final section enquired basic demographic questions. All items were measured on a seven-point Likert scale (Table 1).

Table 1. Measurement items with factor loading and reliability

Measurement constructs	Study 1	Study 2
	CFA Loading	CFA Loading
Attitudes (Kim and Seock, 2009)		
I believe eco-friendly packaged products are good for my health.	0.82	-
I believe that eco-friendly packaged products are more effective than conventional products.	0.73	-
I believe that there are substantial quality differences between eco-friendly packaged products and conventional products.	0.57	-
Environmental responsibility (Manzo and Winstein, 1987; Paco and Rodrigues, 2016)		
Supporting environmental protection makes me feel as an environmentally responsible person.	0.64	0.75
I should be responsible for protecting our environment.	0.71	0.86
Environmental protection starts with me.	0.76	0.85
I would say I am emotionally involved in environmental protection issues.	0.72	0.73
Supporting environmental protection makes me feel that I am an environmentally responsible person.	0.82	0.78
Environmental knowledge (Mostafa, 2007)		
I know more about recycling than the average person.	0.69	0.72
I know that I buy products and packages that are environmentally safe.	0.64	0.62
I know how to select products and packages that reduce the amount of waste ending up in landfills.	0.68	0.63
I understand the environmental phrases and symbols on product package.	0.64	0.65
I am very knowledgeable about environmental issues.	0.58	0.68
Purchase intention (Bian and Forsythe, 2012)		
The probability I would consider buying this eco-friendly packaged product is high.	0.78	0.89
If I were going to purchase a similar product, I would buy this eco-friendly packaged product.	0.78	0.87
I intend to buy green products in future.	0.82	0.74
If eco-friendly packaged products are available, I will buy them.	0.87	0.62

4.2. Results and discussion

Data were analysed through IBM SPSS 27. A confirmatory factor analysis (CFA) demonstrated the unidimensionality of the measurement constructs (Table 1). In addition, the reliability statistics were satisfactory as well. A simple linear regression was conducted to test H₁ and H₂. The result showed a significant positive impact of environmental knowledge ($\beta = 0.38, t = 2.98, p = 0.003$) and environmental responsibility ($\beta = 0.59, t = 6.58, p < 0.001$) on purchase intention for eco-friendly packaging. Next, the mediation tests were carried out utilising Hayes' PROCESS macro (Model 4) with 5000 bootstraps resample and a 95% confidence interval in SPSS (Hayes, 2017). The results, supporting H₁ and H₂, reveal that both environmental knowledge ($\beta = 0.60, t = 4.42, p < 0.001, CI: 0.33, 0.87$) and responsibility ($\beta = 0.56, t = 4.88, p < 0.001, CI: 0.33, 0.78$) have significant positive impacts on consumers' attitude.

The mediation analysis showed a statistically significant indirect effect of environmental knowledge on purchase intention through attitude (indirect effect = 0.24, CI = 0.12, 0.39). This mediation effects accounted for the total effect of 0.72, $SE = 0.12, t = 6.09, p < 0.001$ and CI: 0.48, 0.95. Furthermore, there was a significant indirect effect of environmental responsibility on purchase intention through attitude (indirect effect = 0.18, CI = 0.08, 0.30). This mediation effects accounted for the total effect of 0.70, $SE = 0.10, t = 6.91, p < 0.001$ and CI: 0.50, 0.89. Thus, H₃ and H₄ were supported.

Study 1 finds that consumers' environmental knowledge ($\alpha = 0.76$) and responsibilities ($\alpha = 0.85$) are positively related to their purchase intention ($\alpha = 0.81$) for eco-friendly packaged products. This finding supports the notion of consumers' moral imperatives, developed through awareness and obligations, for patronising environment-friendly initiatives ((Judge et al., 2019;

Paço and Rodrigues, 2016). In addition, the positive mediations of consumers' pro-environmental attitudes ($\alpha = 0.74$) explain the psychological mechanism whereby environmental knowledge and responsibility impact purchase intention through attitude within the context of eco-friendly packaged products (Yang et al., 2021).

5. Study 2

Study 2 examines the interaction of consumers' environmental knowledge/responsibility and message appeals (i.e., pride vs guilt) on purchase intention for eco-friendly packaging (H₅ and H₆).

5.1. Participants and procedure

One hundred thirty-two Australians (57% male, 42% aged between 26-35 years, 44% had a university degree) participated in study 2. Data were collected through a self-administered online survey questionnaire with the assistance of Researchify. The first section of the questionnaire provided a brief about the research and recorded the respondents' agreement to participate in the survey. Then the respondents reported their perceived environmental knowledge (Mostafa, 2007) and responsibility (Paco and Rodrigues, 2016). All items were measured on a seven-point Likert scale. Next, the respondents were randomly exposed to an advertisement reflecting either pride or guilt appeal. In this regard, we created two advertisements of *Boxed Water* inducing pride (i.e., *Be proud, say no to plastic*) and guilt (i.e., *No plastic, no guilt*) appeal in the message. After reading the advertisement, the respondents reported their purchase intention for *Boxed Water*. The final section included demographic questions. We employed a 2 X 2 between-subjects design to test the H₅ and H₆.

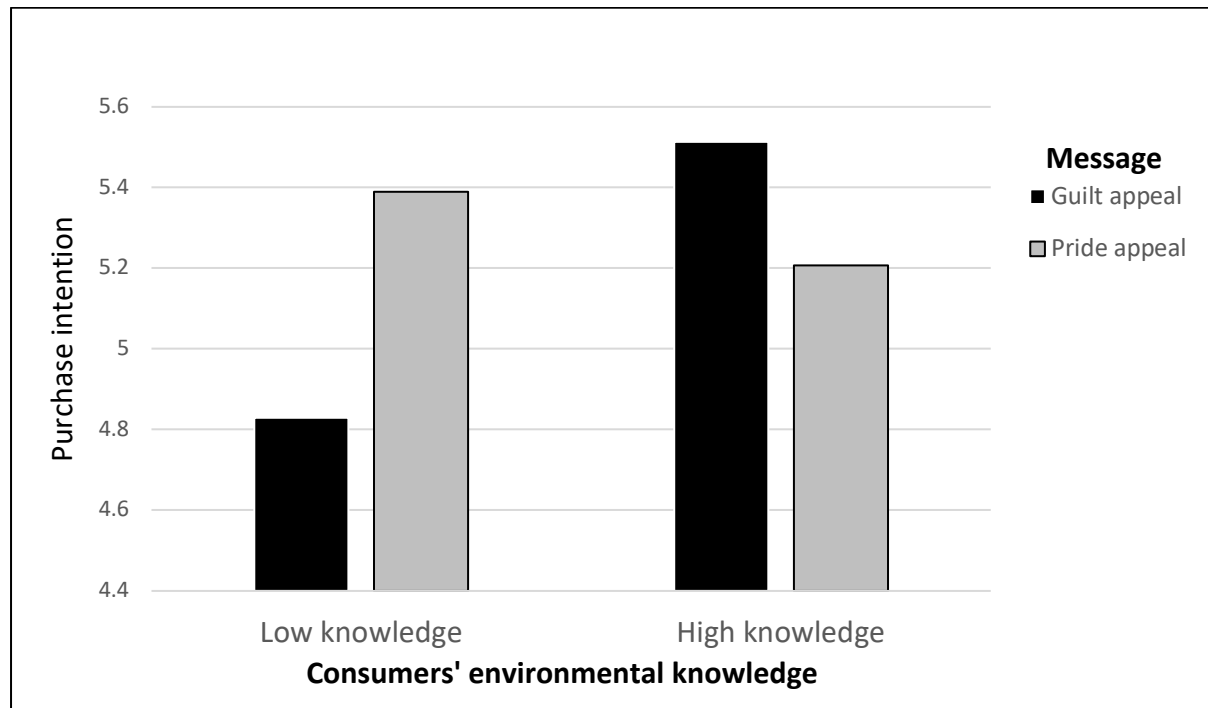
5.2. Manipulation check for message appeal

We tested the manipulation of the message appeal with the statements: “*This advertisement shows that people will feel guilty if they buy plastic bottled water instead of eco-friendly packaged Boxed Water*” and “*This advertisement shows that people will feel proud through buying eco-friendly packaged Boxed Water*”. The participants reported their (dis)agreement with these statements on a seven-point Likert scale (1 = Strongly disagree, 7 = Strongly agree). As expected, participants evaluating the advertisement with a guilt appeal reported a significantly higher “perceived guilt” than the participants evaluating the advertisement with a pride appeal ($M_{guilt} = 5.65, SD = 1.05$ vs $M_{pride} = 2.75, SD = 1.43$; $F(130) = 9.22, t = 13.45, p < 0.001$). By contrast, participants evaluating the advertisement with the pride appeal reported a significantly higher “perceived pride” than their counterparts ($M_{pride} = 5.84, SD = 0.98$ vs $M_{guilt} = 3.19, SD = 1.64$; $F(130) = 19.53, p < 0.001$).

5.3. Results and discussion

To test the H₅, we divided the participants into high and low environmental knowledge ($\alpha = 0.79$) based on the median split (median score: 4.2). A 2 X 2 ANOVA (high vs low environmental knowledge X pride vs guilt appeal) was conducted. The results revealed that the interaction of the level of knowledge and message appeal was statistically significant: $F(3, 128) = 8.49, p = 0.004$. However, the main effect of appeal type ($F = 0.73, p = 0.39$) and level of knowledge ($F = 2.84, p = 0.09$) was non-significant. The results for the consumers with higher environmental knowledge showed that they have a stronger purchase intention ($\alpha = 0.84$) when exposed to a message inducing guilt appeal ($M = 5.52, SD = 0.81$) than a message with pride appeal ($M = 5.21, SD = 0.96$). By contrast, consumers with lower environmental knowledge indicated a stronger purchase intention for a message with pride appeal ($M = 5.39, SD = 0.79$) than the guilt appeal ($M = 4.83, SD = 0.82$). Thus, H₅ was supported (Figure 2)

Figure 2. The influence of consumers' environmental knowledge and message appeal on purchase intention



To test the H_6 , we divided the participants into high and low in the perceived environmental responsibility ($\alpha = 0.78$) construct based on the median split (median score: 4.6). Then, a 2 X 2 ANOVA (high vs low environmental responsibility X pride vs guilt appeal) was conducted. Against our prediction, the interaction of the level of responsibility and message appeal was non-significant: $F(3, 128) = 0.25, p = 0.618$. Although the main effect of the level of environmental responsibility on purchase intention was significant ($F = 19.23, p < 0.001$), the main effect of message appeal on purchase intention was non-significant ($F = 0.90, p = 0.34$). Therefore, H_6 is not supported.

The results of study 2 show that guilt appeal in an advertisement is more effective when consumers have a higher level of environmental knowledge. By contrast, consumers with a lower level of environmental knowledge are more willing to buy an eco-friendly packaged product when they are exposed to an advertisement with a pride appeal. However, while interacting with consumers' environmental responsibility, the pride and guilt appeal did not have any differential effect on the purchase intentions. This indicates the power of consumers' perceived responsibility that motivates them to take a pro-environmental decision regardless of the message appeal in an advertisement.

6. General discussion

The findings of this research show that consumers' environmental knowledge and responsibility are positively related to pro-environmental attitudes, which subsequently impact the relevant purchase intentions (study 1). In addition, environmental knowledge and responsibility mediated the relationship between attitudes and purchase intentions. These findings are consistent with the notion of civic environmentalism (Paco and Rodrigues, 2016), suggesting that a higher level of citizen recognition and acceptance of their role in the environmental problem will make them willing to participate in the solution and engage in environmentally friendly behaviours. The findings of study 2 reveal that the specific message appeal in an advertisement can have differential effects on behavioural intentions. In particular, advertising messages eliciting a guilt (vs pride) appeal generate a stronger purchase intention for eco-friendly packaged products among consumers with higher (vs lower) environmental knowledge. This reflects the theoretical expectation that a greater level of environmental knowledge induces guilt when knowledgeable individuals feel that their behaviour may transgress a moral standard (Peloza et al., 2013; Tracy and Robins, 2007). In line with past studies (e.g., Antonetti and Maklan 2014), it can be intuitively argued that consumers with

lower environmental knowledge feel a greater sense of self-appraisal (i.e., taking pride) while making an environment-friendly consumption decision. Notwithstanding, while interacting with environmental responsibility, the non-significant impact of message appeal on purchase intentions can be explained by the notion that environmentally responsible consumers will demonstrate their accountability toward the environment while making consumption choices (Yang et al., 2021; Liu et al., 2020), disregard of the message appeal. Per case, consumers who are committed to environmentally responsible behaviour develop an ecological identity, and as a subsequent cognitive process, they demonstrate behavioural intention (Dong et al., 2020).

7. Implications

7.1. Theoretical implications

Our research is grounded in behavioural science, which provides a multidisciplinary perspective concerning a more accurate understanding of consumer behaviour towards eco-friendly packaging. Conceptually, this is one of the few pieces of research that examined consumers' psychological traits (i.e., knowledge and responsibility), message appeals (guilt vs pride), and their impact on pro-environmental behaviour (i.e., purchase intention for eco-friendly packaged products). Underpinned by SIT, the research examines the social-psychological factors, in particular, the cognitive processes of one's environmental responsibility and environmental knowledge towards adopting an altruistic behaviour in adopting eco-friendly packaging. This research adds to the current understanding of the attitude-intention paradigm by exploring the psychological mechanisms through which the relationship is operationalised. Given that attitudes alone may not always significantly impact purchase intentions for eco-friendly products, the importance of generating consumer knowledge and developing consumer responsibility is pronounced in our research.

Furthermore, we investigate emotion elicitation (positive and negative affective framing forms) in message framing for pro-environmental behaviours. This adds value to existing sustainability studies where fewer studies have delved into specific discrete emotions other than negative emotional states such as ‘guilt’. In line with SIT, this finding suggests that consumers with lower environmental knowledge will take pride in their actions in relation to pro-environmental consumption choices. In contrast, consumers with high environmental knowledge will experience negative evaluations of the self and feelings of failure (i.e., guilt) if their actions do not reflect their knowledge concerning pro-environmental behaviour.

7.2. Managerial implications

For the practitioners, aligning with the United Nations Sustainable Development Goals (SDGs), in particular, SDGs 12 on ensuring ‘responsible consumption and production’, the research findings have highlighted the importance of individual’s environmental knowledge (eco-literacy) and responsibility as they act as precursors toward sustainable and responsible consumption. Of interest to advertisers and public health advocates is the derived consumer insights and strategies such as environmental interventions in closing the ‘attitude-intention’ green gap (e.g., reduction in single-use plastics), which is an integral part of efforts to improve health in populations (Kautish et al., 2020). In addition to closing the attitude-behaviour gap, enhancing the involvement and motivating consumers to buy eco-friendly products has been emphasised in extant research as well (Nguyen et al., 2020). This research further contributes to the current body of eco-friendly consumption in several ways. This paper extends the research on eco-friendly packaging from behavioural intentions to communication strategy. While understanding consumers’ attitudes, knowledge, and responsibility is critical in green consumption, applying appropriate message appeal is also essential for green marketing success. Noteworthy, most green business initiatives have been unsuccessful over the past

years, and experts have called for a better understanding of consumer attitudes and crafting an effective communication strategy (e.g., Khan et al., 2021). In addition to examining consumers' psychological traits that induce purchase intention, this research provided strategic directions for marketing communication which is challenging for eco-friendly packaged products (Ketelsen et al., 2020).

Our research suggests that environmental education in building ecological knowledge and a sense of responsibility would amplify green consumption. Past research indicates that most consumers do not willingly search for an eco-friendly product. Therefore, informing and pursuing the consumers with communication messages fitting the target audiences' characteristics is also necessary. Thus, marketing communication for eco-friendly packaging should consider product attributes that would fall within the target consumers' purchase criteria. We also argue that developing consumers' environmental knowledge, encouraging environmentally responsible behaviour, and communicating with appropriate emotional appeals in advertising messages will mitigate the ongoing consumer scepticism about the value of eco-friendly packaging and potential greenwashing. This research is expected to facilitate advertisers and environmental practitioners in utilising the correct type of message appeal to implement pro-environmental campaigns and programs for appropriate consumer segments effectively. Taken together, the findings of this research will be helpful to practitioners in developing effective strategies for inspiring consumers to decrease the global ecological footprint of packaging.

7.3. Limitations and future research

A few limitations of the current research might be addressed in future research. For example, we conducted studies within the context of eco-friendly packaging of water.

However, other product categories (e.g., food, technology, readymade wear) and the corresponding brand name might influence attitudes and purchase intentions. We also call for additional research by adding moderators/mediators and employing a psychophysiological approach to examine other emotional appeals (e.g., joy and sadness) within our research framework to validate and generalise our findings.

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