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## Article

# Bulk food purchase: The effect of food package waste literacy, a deontic perspective of justice, anticipated emotions, and subjective norms

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## MARKETING | RESEARCH ARTICLE

# Bulk food purchase: The effect of food package waste literacy, a deontic perspective of justice, anticipated emotions, and subjective norms

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**Abstract:** This study aims to understand the forming mechanism of intention to buy bulk food at a bulk store. We examine the influence of positive and negative anticipated emotions and subjective norms on such intention. Further, we also investigate how anticipated emotions are influenced by a deontic perspective of justice and food package waste literacy. We conducted an online survey involving 301 respondents who had no prior experience of buying bulk food at a bulk store. Utilizing PLS-based structural equation modeling, we found that positive anticipated emotions and subjective norms directly influence intention. Further, we also found food package waste literacy to influence moral outrage, moral responsibility, and moral accountability which then partially influence positive and negative anticipated emotions. These findings contribute to the discussion of the dual mechanism to increase individual intention to buy bulk food at a bulk store. The positive approach suggests that literacy, a deontic perspective of justice, and positive anticipated emotions significantly influence intention. The stricter approach suggests the intensified influence of relevant others directly affects intention. These findings provide further guidance for government to increase environmental, specifically food package waste, literacy and to facilitate a community of practice to promote a positive view of pro-environmental behavior.

**Subjects:** Environmental Psychology; Consumer Psychology; Business, Management and Accounting;

**Keywords:** intention; literacy; deontic justice; anticipated emotions; food package waste; bulk store

### 1. Introduction

The importance of pro-environmental behavior has been examined in the marketing field since the 1970s. Previous researches has stated the variety of pro-environmental behavior, ranging from reducing consumption and waste, conserving water and energy, reducing the carbon footprint, supporting sustainable agriculture, reducing the use of plastic, making environmentally-conscious choices, or participating in environmental activism (Ertz et al., 2016; White et al., 2019). Among this variety of behaviors, reducing package waste has become one of the important focuses since the accumulation of package waste has been soaring in the past decade (Scharpenberg et al., 2021). In the US, 63 percent of the solid waste produced each year is derived from packaging

material (Marsh, 2021), with the greatest contribution being food package materials such as plastic, glass, styrofoam, and aluminum.

Similarly, Indonesia is also facing critical issues concerning package waste. In 2022, food and package waste (plastic, paper, cartons) became the highest contributors to national waste, accounting for approximately 41.8 percent and 28.0 percent, respectively (SIPSN, 2023). As the majority of the emerging market population comes from medium- and low-income levels, the proliferation of products utilizing small packages (sachets or smaller plastic bags) is popular among Indonesian consumers due to their practicality and affordability (Clay, 2005). Fast-moving consumer goods categories such as personal care, household cleaning supplies, and different types of foods product are typically sold in small roadside stalls (*warung*) or markets, alongside fresh produce and other bulk products. People typically purchase these items quite often, for example, two to three times a week (Clay, 2005). Although small packages are promoted as a solution for reducing waste (Petit et al., 2020), it requires more plastic and paper for packaging. Therefore, the utilization of sachet generates a higher amount of package waste and disposal problems as the waste is burned, discarded in the landfill, or disposed of in the rivers.

Packaging, however, has long been an integral part of marketing concepts, where a package ensures the quality of a product during transport and storage, and it has a preservation role (Sumrin et al., 2021). Product packaging has also become an important way for producers to influence consumers by providing product information and carrying out promotions (Cho & Baskin, 2018; Choidealbha & Lunn, 2020). Producers have utilized different packaging materials (such as plastic, paper, glass, wood, or metal) to comply with product quality requirements, sometimes excessively, meaning that it produces a significant amount of packaging waste. As consumers become more concerned with environmental degradation and adopt principled ideas regarding consumption (Rostiani et al., 2022), they are demanding that producers invent a more sustainable packaging strategy (Fuentes et al., 2019; Sumrin et al., 2021).

Previous research has identified various ways for producers to solve the conventional packaging problem (Calvo-Porrall et al., 2016) by moving toward greener packaging (Cheek & Wansink, 2016; Cho & Baskin, 2018; Seo & Scammon, 2017). Some of the strategies utilized by producers are changing to sustainable materials for the packaging (Prakash et al., 2019; Sumrin et al., 2021), using edible packaging (Cheek & Wansink, 2016), providing smaller and larger packaging (Petit et al., 2020), establishing bulk stores (Louis et al., 2021; Susthira & Sujatmoko, 2021) or using campaigns to urge consumers to “bring your own bag” when shopping (Gonzalez-Arcos et al., 2021; Karmarkar & Bollinger, 2015). This evidence highlights the importance of reducing package waste, yet scant studies have focused their investigations on food package waste. In fact, this particular kind of waste has become an important issue due to the emergence of food delivery services and takeaways (Calvo-Porrall et al., 2016), especially during the COVID-19 pandemic, which have caused a significant increase in the amount of food package waste (Liu & Chen, 2021).

Among the solutions that can reduce food package waste, the role of bulk stores is relatively underresearched. To date, we have found five studies specifically discussing package-free shopping as provided by bulk stores, namely the studies by Rapp et al. (2017), Fuentes et al. (2019), Coelho et al. (2020), Louis et al. (2021) and Scharpenberg et al. (2021). Rapp et al. (2017) and Fuentes et al. (2019) approach their research qualitatively and find that conventional shopping is relatively difficult to change; hence, individuals’ intention to change their shopping behavior is also lower. Coelho et al. (2020) focuses their study on the exploration of reusable packaging, and how bulk stores may drive the proliferation of reusable packages. Louis et al. (2021), further, find that, once consumers are exposed to the new way of shopping and are willing to engage it, it has tremendous benefits in terms of consumer satisfaction. Scharpenberg et al. (2021) have conducted a different study by comparing the environmental impact between the sustainable versus the conventional packaging and find that the sustainable packaging contributes more positively to the environment through a better supply chain process.

The results of these studies imply that investigating consumer intention to buy bulk food at bulk stores is important as it is a way to contribute to environmental protection as well as stimulate new shopping practices. While Louis et al. (2021) have provided empirical evidence on the importance of engaging in package-free shopping from the perspective of individual proximity (in terms of identity and relationships) and loyalty, no other research has tried to investigate the influence of personal and external factors on an individual's deontic perspective of justice which subsequently influences individual intention to buy bulk food at bulk stores. Understanding the influence mechanisms of personal and situational factors have on the intention to buy bulk food at a bulk store, thus, becomes crucial.

We propose that environmental literacy, especially that which is related to food package waste, is an important internal (personal) factor that would influence intention. Previous research has mostly investigated the antecedents of environmental literacy (Kaya & Elster, 2019; Salmon, 2000; Volk & Cheak, 2003); however, studies focusing on the consequence of environmental literacy are scarce. Understanding the role of environmental literacy in forming an individual's intention to be more environmentally friendly is crucial nowadays, especially with the escalation of environmental damage caused by humankind. We argue that environmental literacy would cause individuals to be more critical and attentive toward their environment and induce them to activate stewardship behavior in themselves (McBeth & Volk, 2010; Volk & Cheak, 2003; Wong et al., 2018). Further, we also propose the role of subjective norms as the external factor that influences an individual's critical thinking regarding environmental imbalance and which directly influences behavioral intention. Most research investigating the role of subjective norms has concluded that influence from others provides a strong drive for individuals to behave according to moral principles (Argo, 2020).

When critically evaluating what has happened to the environment, an individual utilizes certain points of reference such as moral principles (Ibrahim & Al-Ajlouni, 2018; Nicolai et al., 2022). Unfair actions affecting environmental stability stimulate a sense of deontic perspective individuals (Ibrahim & Al-Ajlouni, 2018) and this perspective further affects the cognitive process of considering right and wrong with regard to this issue. Further, the perception of justice and injustice is known to evoke individual emotions (Turner, 2007). These findings, however, can potentially be applied to the context of purchasing bulk food at bulk stores to reduce food package waste because waste is perceived as an injustice in terms of the environment in the minds of individuals. Turner (2007) utilizes general construct of justice and emotions. Another study in the context of service marketing stated that emotions, in general, mediate the relationship between perceived justice and repatronage intention (Asghar Ali et al., 2021). In the context of environmental damage, however, since the damage will worsen in the future, emotions that relate to future events (Baumgartner et al., 2008; Odou & Schill, 2020) are assumed to be more appropriate to explain the mechanism of individual intention.

Future-oriented emotions are the affective responses to the prospects of future events (Baumgartner et al., 2008) and could be in the form of anticipated or anticipatory emotions. Previous research has proposed the relevance of anticipated than anticipatory emotions to influencing ecological intention and behavior (Carrus et al., 2008; Onwezen et al., 2013; Rezvani et al., 2017). Rezvani et al. (2017) further argue the mediating role of anticipated emotions, in which personal norms could induce the presence of anticipated emotions that subsequently drive consumer intentions to adopt sustainable products. It is thus important to integrate the justice perspective and emotions and investigate their influence on other pro-environmental intention and behavior, such as the one in this study, namely the intention to buy bulk food at a bulk store.

This study has two aims: (1) investigating the factors that influence the intention to buy bulk food at bulk stores, and (2) understanding the mechanism of the relationship between those factors. We attempt to provide evidence on how food package waste literacy as the personal/internal factor and subjective norms as the external factors influence the mechanism that forms the intention to buy bulk food at bulk stores. Specifically, we describe the roles of a deontic

perspective of justice and anticipatory emotions to explain the cognitive and affective mechanisms that drive intention. The findings from this study extend our deeper understanding of cognitive theory and social learning theory in inducing a deontic perspective of justice/injustice regarding environmental damage and anticipatory emotions which subsequently influence the intention to buy bulk food at bulk stores. Practically, government and educators could benefit in terms of providing more appropriate educational programs to induce younger generations to be morally just and contribute to sustaining environmental protection. They can also take initiatives to stimulate the development of communities of practice that deal with package waste.

## 2. Theoretical background and hypotheses development

We base our theoretical background on a grand theory of behavior which asserts the primacy of individual learning through cognition and experience to stimulate intention and behavior. The cognitive part consists of problem-solving and decision-making processes while the experience part consists of direct and indirect (vicarious) experience obtained by an individual. In essence, vicarious learning is conducted by observing others' actions and their consequences. We acknowledge the importance of accommodating both the role of cognition and vicarious experience, and we utilize different concepts to explain the relationship between the variables.

Firstly, we utilize cognitive theory to explain the relationship between food package waste literacy and a deontic perspective of justice. We argue that food package waste literacy serves as the personal factor and the independent variable that positively influences individuals' perception of moral principles as reflected in a deontic perspective of justice which subsequently influences intention. We specifically base this study on the cognitive-emotional perspective (Eccles & Wigfield, 2002) to acknowledge affect (in the form of, for example, empathy and moral emotions) on individual cognitive process. More specifically, there is an increasing role of emotions in the regulation of the individual cognitive process to drive pro-environmental intention and behavior (Carrus et al., 2008). Secondly, we utilize social learning theory (Bandura, 2001) to explain the relationship between subjective norms (serving as the external factor) and behavioral intention. According to social learning theory, the key determinants of individual compliance include the opinions of peers and other social influence that surrounds the individual (Dean et al., 2008; Thøgersen, 2009). Such influence will then drive individual intention to behave according to what others think is appropriate.

We draw from deontic justice theory (DJT) (Beugré, 2012; Cropanzano et al., 2003) to explain the mechanism that links individuals' perceptions regarding fairness and morality, which subsequently influence their emotions regarding future events. DJT posits that fairness is achieved when certain behaviors are in congruence with an individual's and society's morality and are ethically appropriate (Beugré, 2012; Cropanzano et al., 2003; Ibrahim & Al-Ajlouni, 2018). A deontic perspective, thus, encourages individuals to see fairness as an end in itself. Evaluation of fairness and unfairness would then evoke emotional responses regarding behavior conducted by others.

According to Cropanzano et al. (2003), a deontic perspective of justice relates to three aspects. Moral outrage relates to an individual's responses upon witnessing injustice or unfairness toward the environment (Beugré, 2012). The individual will then attribute the responsibility for damaging the environment to the transgressor and will initiate actions to convict the violator. Moral obligation illustrates an individual's principle that every action must correspond to basic morality in order to avoid injustice. Individuals rely on their moral mandate (Ibrahim & Al-Ajlouni, 2018) as a moral obligation to act fairly towards the environment and no one should not violate it. Lastly, moral accountability deals with how individuals perceive that transgressors should be held accountable for their violations (Cropanzano et al., 2003). When an individual sees another person damaging the environment, then that individual will perceive that the violators should be held accountable for their wrongdoings and hence the violators should take responsibility.



Lastly, we use the concept of future-oriented emotions, more specifically, anticipated emotions (Odou & Schill, 2020; Onwezen et al., 2013; Rezvani et al., 2017), to argue that there is a relationship between positive and negative anticipated emotions and intention and therefore future behavior. Anticipated emotions are concerned with the pre-factual, expected experience of emotions after the occurrence of an event in the future (Baumgartner et al., 2008). The influence of anticipated emotions, however, differs between those that are positive and negative. Positive anticipated emotions are known to increase the pro-environmental intention while the negative anticipated emotions act as a barrier (Rezvani et al., 2017).

### **2.1. Literacy and a deontic perspective of justice**

Literacy refers to individual knowledge, the ability to communicate the knowledge, and action based on the knowledge (Kaya & Elster, 2019). More specifically, food package waste literacy refers to individual knowledge and ability to act on food package waste reduction. Some previous studies have stated that knowledge about the condition of the environment and ways to positively contribute to its protection has been researched in terms of it being one factor that drives pro-environmental intention (Carmi et al., 2015; Y. Kim et al., 2016; Thøgersen & Schrader, 2012) and behavior (P. Kumar & Utkarsh, 2023). Some other studies, however, have found that environmental knowledge rarely drives changes in pro-environmental behavior in individuals (Duan & Sheng, 2017; Polonsky et al., 2012). A new alternative is to look at literacy, which has been discussed extensively in the field of education, as the ultimate goal of education. Similarly, environmental literacy serves as the primary goal of environmental education as well as the creation of responsible citizens (Fang et al., 2018; Wong et al., 2018).

As environmental literacy leads individuals to reflect on the relationship between themselves and the environment, they will form a standard to judge whether certain behaviors are right or wrong with respect to the environment, which subsequently serves as moral principles (Kaya & Elster, 2019). Individuals who are environmentally literate will evaluate and choose between alternatives that have minimum negative impacts on the environment and confidently take action to correct environmental imbalance; this involves a keen sense of stewardship through which the environment will be passed to future generations (McBeth & Volk, 2010; Wong et al., 2018).

Individuals who are literate on food package waste tend to express anger and resentment when they see others producing more food package waste because it contributes negatively to the environment. This outrage emerges because individuals with moral principles believe every individual has responsibility for the environment by conserving it and not further burdening it by producing more food package waste (Fuentes et al., 2019). When others damage the environment, then, an ethical individual will attribute the wrongdoing to the transgressors and expect the transgressors to be punished (Rupp & Bell, 2010). Based on these discussions, we propose the following hypothesis:

**H1:** Literacy on food package waste has a positive influence on (a) moral outrage, (b) moral obligation, and (c) moral accountability

### **2.2. Subjective norms and a deontic perspective of justice**

Subjective norms focus on how relevant others influence individuals to make decisions that subsequently drive the intention to engage in certain behaviors (Sun et al., 2022). According to social learning theory, individuals would take into consideration the opinions of significant others—such as peers, friends, and those relevant to them—when making a decision. The opinions of others become important for individuals because they want to stay in the same group that shares a similar identity (Sun et al., 2022; Trudel et al., 2016). Since consumers are never alone during their consumption process, the presence of others can lead to various decisions and behaviors. This presence will induce social interaction and provide venues for information sharing and opinion giving, and therefore affect decisions, intentions, and behaviors (Argo, 2020).

In this study, the norms of others regarding environmental conservation are the context of reducing food package waste and they influence how individuals apply personal moral norms and principles. When the relevant others (such as friends and family) think that buying bulk food at bulk stores makes a positive contribution to reducing package waste, an individual will exhibit outrage due to irresponsible behavior that causes damage to the environment (Ibrahim & Al-Ajlouni, 2018). Further, individuals may feel the obligation to reduce food package waste by purchasing bulk food at bulk stores because they want to comply with the perceived expectations of others (Dean et al., 2008; Thøgersen, 2009). Conforming to others' expectations will ensure that individuals will continuously apply their moral principles to protect the environment (S. H. Kim & Seock, 2019). In addition, the opinions of others regarding solutions to reduce food package waste will lead individuals to attribute to others the responsibility to conserve the environment. In other words, all humankind must be responsible for protecting the environment by reducing food package waste and when someone violates this principle then this violator should be responsible for this wrongdoing (Beugré, 2012; Ibrahim & Al-Ajlouni, 2018). Based on these discussions, we propose the following hypothesis:

**H2:** Subjective norms have a positive influence on (a) moral outrage, (b) moral obligation, and (c) moral accountability

### **2.3. A deontic perspective of justice and anticipated emotions**

Previous research has argued that a deeper exploration of the implications of emotions is needed, especially regarding future events because understanding the emotions involved will produce important insights into behavioral change (Baumgartner et al., 2008; Bee & Madrigal, 2013). Due to the complex influence of emotions, however, it is impossible to study them in their entirety. Since parties working in the field of marketing are interested in changing individual behavior, insights into emotions that are more future-oriented are deemed crucial to understand how they play a part in behavioral change. As a result, some researchers have distinguished between anticipatory and anticipated emotions (Baumgartner et al., 2008), with anticipated emotions becoming the focus and theoretical basis for this study.

Previous studies connecting justice and emotions were positioned in a more general context. Turner (2007) argued that justice may induce emotional response which result is emotionally-driven behavior. Similarly, Barclay and Kiefer (2014) found that overall justice did relate positively with positive emotions, but negatively with negative emotions. Rezvani et al. (2017) also found the different effects of different anticipated emotions on behavioral intentions. Both studies argue for the importance of specifically differentiating the effect of positive and negative emotions. A more recent study by Martiskainen et al. (2020) involving climate change protesters shows that individuals who perceive climate change as unjust feel more negative emotions such as fear, anxiety, sadness, anger, concern, and despair. Their study also describes the divergent effect of perceived injustice on emotions. The similarities between these studies are that they utilize overall justice (as formed by distributive, procedural, and interactional justice) and general emotions without consideration of more specific types of justice such as a deontic perspective of justice and the more future-oriented emotions as the better driver of behavioral intention (Bagozzi et al., 1998; Baumgartner et al., 2008).

Theoretically, more research has been conducted on anticipated than anticipatory emotions (Oudou & Schill, 2020; Onwezen et al., 2013; Rezvani et al., 2017) due to the breadth of the self-conscious emotion types that are assumed to have better influence on intention and behavior (Baumgartner et al., 2008). More specifically, research conducted on the relationship between justice and anticipated emotions in the context of pro-environmental behavior is even rarer. One example is a recent experimental study by Nicolai et al. (2022) which investigates the influence of justice sensitivity, moral disengagement, and moral emotions on general pro-environmental intention. Their study concludes that the perception of injustice might elicit emotions which then lead to a tendency for individuals to engage in pro-environmental actions. Their study, however, separated



different emotions (such as guilt, shame, pride, and gratitude) into different variables, with only guilt becoming the significant consequence of a perception of injustice.

To the best of our knowledge, no previous research has investigated the relationship between deontic perspective of justice and anticipatory emotions, with the exception of a study by Turner (2007) relating justice and emotions in general. Other studies from Rezvani et al. (2017) and Lu et al. (2020) investigate the influence of moral norm on anticipated emotions. They found that violating moral norm such as not acting pro-environmental would lead them to respond emotionally as a defense mechanism. Similarly, deontic perspective of justice is the evaluation process that individuals undergo when confronted with phenomena (whether current or future) related to the environment. When the environment is damaged, with particular reference points in mind based on moral principles, individuals will evaluate whether the damage is just or unjust.

If the evaluation indicates an unjust situation, individuals will feel moral outrage (sad, disturbed, concerned). When there is such outrage, there are two possibilities that could occur. On the one hand, individuals could feel more positive anticipated emotions when imagining a more positive outcome to reduce food package waste. On the other hand, moral outrage could escalate into negative anticipated emotions when individuals are faced with the consequences of their inability to reduce food package waste. In addition, individual a sense of moral obligation could elicit positive anticipated emotions when such obligation is fulfilled, yet would elicit negative anticipated emotions when they fail to be fulfilled (Barclay & Kiefer, 2014). Lastly, moral accountability enables individuals to expect both positive and negative anticipated emotions when they know that the transgressors of environmental protection are held accountable for their actions. Knowing that justice will prevail, individuals will feel positive anticipated emotions when they are confronted with the future ability to contribute in reducing food package waste. Similarly, the perception of justice being upheld will induce negative anticipated emotions when individuals have failed to contribute positively to reducing food package waste (Lu et al., 2020). Based on these discussions, we proposed the following hypotheses:

**H3:** (a) Moral outrage, (b) moral obligation, and (c) moral accountability have a positive influence on positive anticipated emotions

**H4:** (a) Moral outrage, (b) moral obligation, and (c) moral accountability have a positive influence on negative anticipated emotions

#### **2.4. Anticipated emotions and intention to buy**

Intention, despite being studied extensively in the field of marketing, is relatively under researched in the context of pro-environmental behavior. Many of the studies have been interested in reducing the gap between intention and behavior in the hope of inducing more individuals to engage in pro-environmental behavior (B. Kumar et al., 2017; Park & Lin, 2020). Such an approach has been desirable when pro-environmental behavior was the norm and more people had already engaged in various types of pro-environmental behavior. In a condition where pro-environmental behavior is scarce, however, studying the behavior is challenging and so understanding intention is the reasonable approach. As an example, when electric vehicles were launched as a new mode of mobile transportation, research on the intention to use them was abundant. Then, after some time, research on the actual behavior or intention to continue using electric vehicles became more mainstream. Similarly, in the context of bulk food buying, there has been a scarcity of studies, with the exception of those by Fuentes et al. (2019), Louis et al. (2021), and Gonzalez-Arcos et al. (2021).

Fuentes et al. (2019), utilizing a shopping-as-practice approach, find that enhancing the intention to engage in package-free shopping, such as shopping at bulk stores, should be accompanied by alternatives since the new way of shopping requires changes in individuals in terms of values and norms. Louis et al. (2021) investigate the consequences of bulk consumption on the retailers'

side, and the result showed that providing package-free products could enhance the relational chain for future consumer behavioral intention. Lastly, the study by Gonzalez-Arcos et al. (2021) focuses more on the coping mechanism of consumers when confronted with package-free shopping because resistance emerges due to difficulties in conducting the new way of shopping (e.g., difficulties carrying the products bought, or customers forgetting to bring their own bags).

The results of the previous studies indicate the challenges that might hinder an individual's intention to buy bulk food at a bulk store. The challenges, added to an individual's deontic perspective of justice, may evoke anticipated emotions in an individual. Nicolai et al. (2022) find that guilt, as a negative emotion, positively predicts pro-environmental intention. Their findings correspond to the study conducted by Lu et al. (2020) stating that anticipated negative emotions would trigger an individual to engage more in pro-environmental behavior. Another study by Rezvani et al. (2017), however, finds that positive anticipated emotions function to increase individual pro-environmental intention while negative anticipated emotions hinder individual pro-environmental intention. Further, the effect of positive and negative anticipated emotions predict outcomes differently due to the prospective emotions felt after engaging or not engaging in certain behavior (Odou & Schill, 2020). Expecting a positive emotion after protecting the environment in the future, an individual tends to associate more with adaptive activities, such as buying bulk food at a bulk store. On the other hand, expecting a negative emotion as a result of the inability to protect the environment in the future, an individual is associated more with the tendency to avoid feeling negative and hence it stimulates them to contribute to the protection of the environment (Odou & Schill, 2020; Rezvani et al., 2017). Based on these discussions, we propose the following hypothesis:

**H5:** (a) Positive and (b) negative anticipated emotions positively influence intention to buy bulk food products at bulk stores

### **2.5. Subjective norms and the intention to buy**

While subjective norms are known to influence attitudes and other constructs preceding intention, we propose that subjective norms have a direct influence on intention. The opinions of others regarding environmental conservation, such as reducing food package waste, will directly influence how individuals take action (Park & Lin, 2020). Previous studies also argue for the direct influence of subjective norms on intention, such as the studies by Minton et al. (2018), Testa et al. (2018), Boßow-Thies et al. (2021) and Sun et al. (2022). Minton et al. (2018) and Testa et al. (2018) have stated that sustainable behavior is directly influenced by subjective norms because public opinion has a tremendous impact on behavior in accordance with the cultural context. Boßow-Thies et al. (2021) conducted a study on the intention to buy unpackaged food and found that relevant others provide a strong, positive influence that increases the intention to buy. Similarly, Sun et al. (2022) found that subjective norms in the form of social pressure or public opinion make an individual more vulnerable during the post-pandemic hence altering the intention to buy green products. Based on these discussions, we propose the following hypothesis:

**H6:** Subjective norms have a positive influence on intention to buy

Based on the hypotheses proposed, we have built a research framework as presented in Figure 1. The dashed line represents non hypothesized relationship in our study.

### **3. Method**

We approached this study quantitatively to test our hypotheses. We designed an online survey for Indonesians to investigate their perception regarding bulk stores which are an environmentally-friendly type of store that is yet to reach its maturity stage among Indonesians. There are currently only 39 bulk stores spread across the country which focuses on the mindful utilization of packaging when buying personal care or food products in bulk, such that consumers are encouraged to bring their own package or bag (Zerowaste, 2022). Despite the lofty idea of contributing positively to the

conservation of the environment by reducing package waste, not many people in Indonesia patronize bulk stores due to their relatively higher prices (Pratiwi, 2021) compared to conventional stores or conventional roadside stalls. Some consumers, however, understand that consuming sustainable products such as those sold in bulk stores enables them to contribute positively to the protection of the environment (Louis et al., 2021; Rostiani et al., 2022).

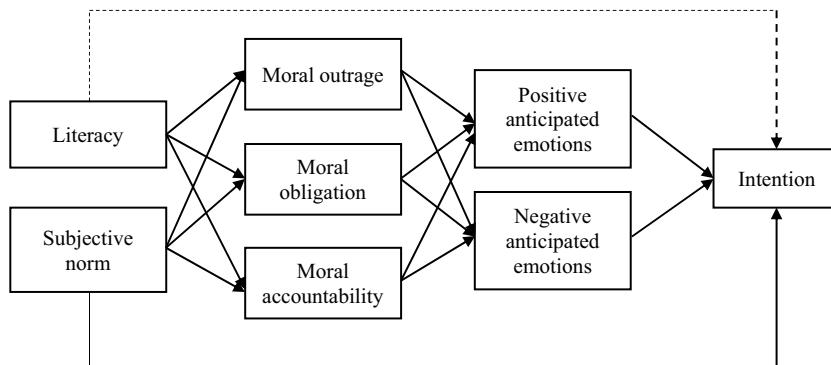
Due to the absence of a population frame, we utilized two main criteria to ensure the accuracy of information from respondents (Hulland et al., 2018). The two criteria were: (1) our respondents must have knowledge regarding bulk stores and bulk food, and (2) our respondents must be individuals who have no prior experience in buying bulk food at the bulk store. We put these two screening questions at the beginning of our questionnaires, hence only respondents who met the criteria could proceed to participate in the survey. We posted our survey invitation link on the researcher team's social media account (e.g. Instagram and Facebook) and online groups consisting of pools of potential respondents (e.g. Whatsapp group).

The data collection was performed in two months' time. We designed our online survey to ask respondents for their opinion about bulk stores. We asked them for their demographic information, followed by questions regarding the study's variables. There are eight focal variables in this study: intention to buy package-free food at bulk stores as the dependent variable while the other variables are anticipated emotions (positive and negative), a deontic perspective of justice (moral outrage, moral obligation, and moral accountability), food package waste literacy, and subjective norms. All scales were adapted from scales utilized in previous studies which were tested valid. The scales, however, were utilized in a different context and thus adapted to the bulk food and bulk store context. To ensure the accuracy of wording and conceptual equivalence (Brislin, 1970), the translation process was conducted by experts in the business and marketing field who are fluent in English and Indonesian.

Intention to buy package-free food from bulk stores was measured utilizing three items adapted from Sreen et al. (2018) such as "I intend to buy bulk food products in a bulk food store" and "I plan to buy bulk food products in a bulk food store". Positive and negative anticipated emotions were measured utilizing four items each which were adapted from Odou and Schill (2020). An example of an item to measure anticipated positive emotions is "I will be glad if, in the next few weeks, I can reduce the package waste from the food products I buy"; while an example of an item to measure anticipated negative emotions is "I will feel discontented if, in the next few weeks, I cannot reduce the package waste from the food products I buy".

Items to measure the deontic perspective of justice were adapted from Ibrahim and Al-Ajlouni (2018) with three variables: moral anger, moral obligation, and moral accountability. Moral outrage was measured utilizing four items, for example, "I feel very disturbed when I see the environment

Figure 1. Research framework.



is not protected” and “I am concerned about irresponsible actions towards the environment”. Moral obligation was measured utilizing five items such as “I have a moral obligation to protect the environment” and “It is important to me that the environment is protected”. Moral accountability was measured utilizing four items such as “A person who pollutes or destroys the environment must accept the consequences of his or her actions” and “Someone must be opposed when he or she pollutes or destroys the environment”.

Our independent variables reflect the personal and external factors: food package waste literacy and subjective norms. Food package waste literacy was measured by adapting five items from McBeth and Volk (2010) with examples such as “I really understand the pollution issues related to food product package waste” and “I understand how to reduce food product package waste”. Lastly, subjective norms as the external factor were measured utilizing three items adapted from Testa et al. (2018) with items such as “Most people I know think that buying bulk food products is a great way to reduce package waste”. All of the items were measured utilizing a 5-point Likert scale ranging from “strongly agree” to “strongly disagree”.

During the data collection stage, we received 301 responses which were complete and valid for further data analysis. We utilized the variance-based partial least-square method with the help of SmartPLS 4.0 (Ringle et al., 2022) to perform the data analysis.

## 4. Results

### 4.1. Respondents' profiles

Our respondents consist of 130 males (43.19%) and 171 (56.81%) females. The majority of respondents are between 18 and 29 years of age (103 respondents, 34.22%), followed by those aged between 40 and 49 (59 respondents, 19.60%), and those aged between 30 and 39 (54 respondents, 17.94%). The respondents are also mostly married (166 respondents, 55.15%) and are university graduates (133 respondents, 44.19%). Due to these characteristics, the results of this study will pertain to a population with similar characteristics, thus limiting its generalizability. The detailed information regarding respondents' characteristics is presented in Table 1.

### 4.2. Measurement assessment

Prior to hypothesis testing, we checked the presence of common method bias due to the nature of the survey technique to ensure the accuracy of the results of the data analysis. We identified the common method bias by checking whether the VIF score of the inner model was below 3.3 (Kock, 2015). The results from a factor analysis of consistent Partial Least Square (PLS<sub>c</sub>) indicated that all VIF scores for the inner model are below a value of 3, hence common method bias is not identified. We also conducted a Harman single test to check whether the variance was above 50 percent (MacKenzie & Podsakoff, 2012). The result indicated the absence of common method bias (variance of 33.58 percent), hence ensuring the accuracy of interpretation based on this study's results (Fuller et al., 2016).

We also performed validity and reliability analysis to ensure the robustness of our measurement instruments. In terms of validity, we tested the convergent and discriminant validity. The convergent validity was confirmed when the load factor score for each item was above 0.7 with all scores converging to their respective constructs (Hair et al., 2010). In addition, AVE scores above 0.5 are considered satisfactory for convergent validity (Hair et al., 2014). During the calculation, we had to delete one item from the food package waste literacy variable due to a very small load factors score (0.049). The item was “I understand the cause of pollution due to food package waste”. Table 2 summarizes these results, where all load factors were above 0.7 in their respective constructs and AVE scores above 0.5 and thus confirming the convergent validity.

The discriminant validity is determined when the square root of the AVE score is higher than the correlation score (Hair et al., 2014), the HTMT score is below 0.90 (Henseler et al., 2015), and the cross-loading score for each item is higher than its parent construct (Hair et al., 2014). Table 3 summarizes these scores, where square roots of the AVE scores were above the correlation score and the HTMT scores were below 0.9 for all constructs. In addition, the cross-loading scores for all items were higher than their parent constructs (differences higher than 0.10). These results confirmed the discriminant validity. Following the validity test, we also performed a reliability test. Reliability is confirmed when Cronbach’s Alpha score and the Composite Reliability scores are above 0.7 (Hair et al., 2014). In Table 2, we can see that these scores for all variables were higher than 0.7 and thus the measurement instruments are reliable.

The adjusted-R<sup>2</sup> score for intention to buy bulk food at bulk stores is 0.189 showing a relatively low effect of its predictors (Henseler et al., 2009), namely positive anticipated emotions and subjective norms. The low explanations of intention variance by its predictors, however, become very substantial when there are only two predictors (Henseler et al., 2009) and thus should be considered important. Further, most studies explaining human behavior have a relatively low adjusted-R<sup>2</sup> score due to the complexity of human behavior as affected by many more factors than those in the model. Further, the Q<sup>2</sup> score showed positive value above the value of 0, indicating a good predictive power of the model (Hair et al., 2017).

#### 4.3. Hypotheses testing

To test the hypotheses, we performed a bootstrapping process with 5,000 resamples to run our model. The results of the hypotheses testing are presented in Table 4. From the 15 proposed hypotheses, nine hypotheses are supported. The hypotheses testing results showed positive and significant relationships between food package waste literacy and moral outrage (coef=0.306, p-value = 0.000), moral obligation (coef=0.357, p-value = 0.000), and moral accountability (coef = 0.327, p-value = 0.000). These findings support H1a, H1b, and H1c. Subjective norms, as the independent variable, were found to have no significant influence on moral outrage (coef = 0.063, p-value = 0.293), moral obligation (coef = 0.082, p-value = 0.133), and moral accountability (coef = 0.079, p-value = 0.178). These findings could not support H2a, H2b, and H2c.

In terms of the relationship between a deontic perspective of justice and positive anticipated emotions, the hypotheses testing results provided partial support. Moral outrage (coef = 0.171,

**Table 1. Demographic characteristics of the respondents**

Demographic	n	%	Demographic	n	%
<i>Gender</i>			<i>Status</i>		
Male	130	43.19	Single	135	44.85
Female	171	56.81	Married	166	55.15
<i>Age range</i>			<i>Education</i>		
Below 18 years old	9	2.99	Junior High School	6	1.99
18 to 29 years old	103	34.22	High School	67	22.26
30 to 39 years old	54	17.94	University graduate	133	44.19
40 to 49 years old	59	19.60	University postgraduate	95	31.56
50 to 59 years old	39	12.96			
60 years and older	37	12.29			

**Table 2. Items descriptive and reliability test results**

<b>Variables and items</b>	<b>Mean</b>	<b>SD</b>	<b>Factor loading</b>
<i>Intention to buy bulk food product at a bulk store</i> (Alpha = 0.948, CR = 0.951, AVE = 0.906, Adj-R <sup>2</sup> = 0.189, Q <sup>2</sup> = 0.096)	3.244	1.071	
I intend to buy bulk food products at a bulk store.	3.252	1.128	0.952
I think of start buying bulk food products at a bulk store.	3.279	1.121	0.954
I plan to buy bulk food products at a bulk store.	3.199	1.124	0.949
<i>Positive anticipated emotions</i> (Alpha = 0.939, CR = 0.945, AVE = 0.845, Adj-R <sup>2</sup> = 0.219, Q <sup>2</sup> = 0.158)	4.213	0.744	
I will be glad if, in the next few weeks, I can reduce package waste from the food products I buy.	4.196	0.822	0.888
I will be happy if, in the next few weeks, I can reduce package waste from the food products I buy.	4.223	0.815	0.936
I will be proud if, in the next few weeks, I can reduce package waste from the food products I buy.	4.226	0.787	0.915
I will be delighted if, in the next few weeks, I can reduce package waste from the food products I buy.	4.223	0.779	0.937
<i>Negative anticipated emotions</i> (Alpha = 0.962, CR = 0.966, AVE = 0.897, Adj-R <sup>2</sup> = 0.177, Q <sup>2</sup> = 0.089)	3.395	0.991	
I will feel angry with myself if, in the next few weeks, I cannot reduce package waste from the food products I buy.	3.312	1.058	0.933
I will feel discontented with myself if, in the next few weeks, I cannot reduce package waste from the food products I buy.	3.429	1.024	0.949
I will feel unsatisfied with myself if, in the next few weeks, I cannot reduce package waste from the food products I buy.	3.405	1.032	0.961

(Continued)



<b>Variables and items</b>	<b>Mean</b>	<b>SD</b>	<b>Factor loading</b>
I will feel disappointed if, in the next few weeks, I cannot reduce package waste from the food products I buy.	3.439	1.069	0.946
<i>Subjective norm</i> (Alpha = 0.883, CR = 0.893, AVE = 0.810)	3.295	0.917	
Most of my friends think that buying bulk food products is a great way to reduce package waste.	3.362	1.011	0.876
Most of the people I know think that buying bulk food products is a great way to reduce package waste.	3.329	0.966	0.878
Most of my family members think that buying bulk food products is a great way to reduce package waste.	3.203	1.045	0.932
<i>Moral outrage</i> (Alpha = 0.935, CR = 0.936, AVE = 0.837, Adj-R <sup>2</sup> = 0.103, Q <sup>2</sup> = 0.053)	4.532	0.611	
I feel sad when I see others pollute or damage the environment.	4.532	0.679	0.908
I feel very disturbed when I see that the environment is unprotected	4.512	0.670	0.911
I feel saddened by irresponsible behavior towards the environment.	4.558	0.658	0.923
I am concerned about irresponsible behavior towards the environment.	4.542	0.644	0.918
<i>Moral obligation</i> (Alpha = 0.904, CR = 0.905, AVE = 0.723, Adj-R <sup>2</sup> = 0.144, Q <sup>2</sup> = 0.071)	4.582	0.542	
I have a moral obligation to protect the environment.	4.581	0.675	0.851
Protecting the environment should be a moral obligation to everyone.	4.661	0.581	0.855
It is important for me that the environment is protected.	4.651	0.583	0.878
For me, protecting the environment is a moral duty.	4.585	0.618	0.862

(Continued)

**Table 2. (Continued)**

<b>Variables and items</b>	<b>Mean</b>	<b>SD</b>	<b>Factor loading</b>
I deeply care about the environment.	4.449	0.712	0.805
<i>Moral accountability</i> (Alpha = 0.861, CR = 0.866, AVE = 0.706, Adj-R <sup>2</sup> = 0.121, Q <sup>2</sup> = 0.055)	4.265	0.705	
People who pollute or damage the environment should be held accountable.	4.342	0.832	0.838
It is important to hold people accountable for their failure to protect the environment.	4.133	0.905	0.843
People should be confronted when they pollute or damage the environment.	4.246	0.870	0.829
It is important to identify the violators of environmental protections.	4.346	0.752	0.850
<i>Food package waste literacy</i> (Alpha = 0.844, CR = 0.853, AVE = 0.682)	4.009	0.724	
I know how to deal with food package waste.	3.841	0.930	0.879
I really understand the issues related to food package waste.	4.106	0.796	0.769
I understand how to reduce food package waste.	4.050	0.867	0.871
I know how to choose and to buy food products that can reduce food package waste.	3.950	0.930	0.844

**Note:** Estimated model: SRMR = 0.047; NFI = 0.859, d\_ULS = 1.078, d\_G = 0.621, Chi-square = 1,170.304

p-value = 0.030) and moral obligation (coef = 0.308, p-value = 0.000) were proven to have positive and significant relationships with positive anticipated emotions, hence providing support to H3a and H3b. The results, however, could not provide support for the relationship between moral accountability and positive anticipated emotions (coef = 0.056, p-value = 0.373) and therefore H3c is not supported.

Partial support is also found for the relationship between a deontic perspective of justice and negative anticipated emotions. Moral outrage (coef = 0.070, p-value = 0.324), surprisingly, does not have a significant positive relationship with negative anticipated emotions, hence H4a is not supported. The relationship between moral obligation (coef = 0.136, p-value = 0.038) and moral accountability (coef = 0.290, p-value = 0.000) towards negative anticipated emotions is supported and therefore provides support for H4b and H4c. In terms of H5a and H5b, the results provide support for the positive and significant relationship between positive anticipated emotions and intention to buy bulk food at bulk stores (coef = 0.231, p-value = 0.000) but a non-significant result

**Table 3. Discriminant validity test results**

	<b>int</b>	<b>pae</b>	<b>nae</b>	<b>mout</b>	<b>mobl</b>	<b>macc</b>	<b>lit</b>	<b>norm</b>
int	<b>0.952</b>	0.267	0.136	0.097	0.129	0.131	0.162	0.389
pae	0.280	<b>0.919</b>	0.397	0.410	0.451	0.317	0.285	0.171
nae	0.143	0.397	<b>0.947</b>	0.334	0.332	0.402	0.259	0.318
mout	0.101	0.434	0.351	<b>0.915</b>	0.667	0.599	0.326	0.170
mobl	0.137	0.486	0.351	0.723	<b>0.850</b>	0.516	0.383	0.207
macc	0.140	0.345	0.441	0.663	0.578	<b>0.840</b>	0.353	0.192
lit	0.179	0.319	0.284	0.363	0.433	0.408	<b>0.826</b>	0.328
norm	0.421	0.177	0.334	0.171	0.212	0.201	0.265	<b>0.896</b>

Note: numbers in *italics* below the diagonal are HTMT scores, **bold** numbers in the diagonal are square-roots of AVE scores, numbers above the diagonal are the correlation scores; int = intention, pae = positive anticipated emotions, nae = negative anticipated emotions, mout = moral outrage, mobl = moral obligation, macc = moral accountability, lit = literacy, norm = subjective norms

**Table 4. Hypotheses testing results**

<b>Path</b>	<b>Coef*</b>	<b>SD</b>	<b>sig.</b>	<b>Conclusion</b>
Literacy → Moral outrage	0.306	0.056	0.000	H1a Supported
Literacy → Moral obligation	0.357	0.060	0.000	H1b Supported
Literacy → Moral accountability	0.327	0.057	0.000	H1c Supported
Subjective norms → Moral outrage	0.063	0.060	0.293	H2a Not Supported
Subjective norms → Moral obligation	0.082	0.055	0.133	H2b Not Supported
Subjective norms → Moral accountability	0.079	0.059	0.178	H2c Not Supported
Moral outrage → Positive emotions	0.171	0.079	0.030	H3a Supported
Moral obligation → Positive emotions	0.308	0.072	0.000	H3b Supported
Moral accountability → Positive emotions	0.056	0.063	0.373	H3c Not supported
Moral outrage → Negative emotions	0.070	0.071	0.324	H4a Not supported
Moral obligation → Negative emotions	0.136	0.066	0.038	H4b Supported
Moral accountability → Negative emotions	0.290	0.066	0.000	H4c Supported
Positive emotions → Intention	0.231	0.059	0.000	H5a Supported
Negative emotions → Intention	-0.066	0.062	0.283	H5b Not supported
Literacy → Intention	-0.007	0.064	0.912	Non hypothesis
Subjective norms → Intention	0.374	0.065	0.000	H6 Supported

**Note:** Coef refers to original sample coefficient



accountability is related to how the transgressor is supposed to be held accountable when damaging the environment, buying bulk food at the bulk store could not make an individual expect a positive emotion when seeing others not being responsible for their misbehavior. No formal or social punishments currently exist for individuals who do not buy bulk food at a bulk store. Hence, an early stage of the role of the bulk store hinders the influence of moral accountability on positive anticipated emotions.

Individuals who see injustice towards the environment will feel moral outrage which, interestingly, will lead them to expect felt positive emotions instead of negative emotions. Since anticipated emotions are concerned with expected felt emotions regarding future events, individuals' sense of moral outrage will feel mitigated when envisaging their contribution to reducing food package waste in the future. Moral outrage is not able to induce negative anticipated emotions in this study because individuals perceived the injustice to be distant from them (Ryoo et al., 2017; Xu et al., 2020). As a result, individuals would not expect to feel negative emotions because the impact of the environmental damage caused by not buying bulk food at a bulk store is not significant for them. In addition, when individuals expect that everyone will fulfill their moral obligation (reducing food package waste) by buying bulk food at bulk stores then they will feel positive emotions, hence, further confirming the previous study by (Barclay & Kiefer, 2014).

Although not explicitly stated among its hypotheses, this study has found the effect of serial mediation between food package waste literacy and intention to buy bulk food at bulk stores through moral obligation and positive anticipated emotions. This distinctive path provides an extended understanding of the role of food package waste literacy to drive higher intention to buy bulk food at bulk stores. When individuals' food package waste literacy is high, they will have a greater sense of moral obligation towards the environment and hence would expect to feel happy, pleased, and proud when perceiving future contributions to environmental protection. Such positive expectations will then drive individual intention to buy bulk food at bulk stores. These results provide further explanation of the findings in a study by Ibrahim and Al-Ajlouni (2018) and S. H. Kim and Seock (2019), which state that moral obligation induces intention. This study contributes by explaining the indirect effect of moral obligation on intention through positive anticipated emotions.

A more ethical decision will require an individual to engage in a deeper cognition process and hence the role of internal or personal factors is more prominent. Previous studies have stated that literacy is not directly related to intention (Al Mamun et al., 2018; Chen et al., 2018); instead, the relationship is through attitude or other cognitive and affective mechanisms. Literacy functions to induce individuals to change their mindset and hence it modifies the cognitive process (McBeth & Volk, 2010; Wong et al., 2018). More specifically, Eccles and Wigfield (2002) also stated the cognitive-emotional perspective, in which once the cognitive process is finished, individuals can enter the affective state. Their feelings regarding certain behavior will then drive their intention to engage in the behavior. As supported by this study, food package waste literacy strongly induces individuals to have a sense of deontic justice. Individuals who are literate on food package waste will have a stronger sense of deontic justice because they have better reference points when evaluating the conditions of the environment (Ibrahim & Al-Ajlouni, 2018; Nicolai et al., 2022). Having a strong sense of deontic justice, individuals will feel a more positive anticipated emotion that will lead them to engage in a particular behavior.

Secondly, this study has found that external factors in the form of subjective norms directly influence the intention to buy food at bulk stores. The theory of planned behavior and social learning theory state that individuals learn from their environment by listening to what relevant others say regarding certain issues. Individuals will internalize this information to make sense of their surroundings (Goldsmith & Goldsmith, 2011) and subsequently form attitudes and new behaviors. According to social learning theory, the opinions of others can function as input to cognitive and affective processes, which should correspond to Hilgard's concept of human mental

activities. The results of this study, interestingly, are not able to provide evidence on how subjective norms provide information to be utilized in individuals' cognitive processes. Instead, we have highlighted the direct influence of subjective norms on intention.

Social learning theory states that individuals will strive to conform to others who are relevant to their life and serve as the reference group (Goldsmith & Goldsmith, 2011; Salazar et al., 2013). Individuals will be concerned with their own reputations and hence try to avoid becoming an outcast. While information is utilized initially to deliberate on how others should contribute to protecting the environment and how buying bulk food at bulk stores could do this, it transforms into something that has the power to directly influence behavioral intention (Boßow-Thies et al., 2021; Goldsmith & Goldsmith, 2011). The changes, therefore, create pressure on individuals who are concerned with their social image to think directly about changing their behavior. Further, since pro-environmental behavior is included in behavior that is challenging and requires significant effort, the social influence evolved into an intensified influence (i.e. pressure). As a result, pro-environmental behavior is not purely voluntary but also requires pressure to ensure that the change in behavior occurs.

These findings lead to our third contribution to deepening and sharpening the understanding of social learning theory. The model investigated in our study has shown that pro-environmental behavior for a good cause needs acts of voluntarism (Y. Kim et al., 2016; Peifer et al., 2020) and external pressure (Park & Lin, 2020; Salazar et al., 2013). The voluntarism side is explained by the path that connects the effect of individual environmental literacy to a deontic perspective of justice to positive anticipated emotions and intention to buy bulk food at bulk stores. In addition, the external pressure side explains the direct effect of subjective norms on intention. Although individuals see themselves as good persons contributing to a good cause, their pro-environmental behavior is not only voluntary but is also forced by external factors.

## **5.2. Practical implications**

The results of this study provide guidance, especially to the government, to increase individual literacy regarding environmental protection in general and specifically the issue of food package waste. With literacy proven to provide an impetus to behavior that may prevent pollution, enhancing environmental literacy becomes an important policy. As the intention to change into a more sustainable behavior does not only originate from individuals, education for students is as important as for family and community (Calvo-Porrall et al., 2016; Volk & Cheak, 2003), especially because socialization could take the form of reversed socialization and intergenerational influence (Essiz & Mandrik, 2022; Singh et al., 2020). Providing appropriate curriculums would provide better paths to developing an individual's sense of environmental literacy (Frisk & Larson, 2011; Sidiropoulos, 2014).

Secondly, the government should also provide an economic incentive as positive reinforcement of pro-environmental behavior (Bénabou & Tirole, 2006; Li et al., 2021). The findings of this study highlight the importance of a positive approach to pro-environmental behavior and thus providing incentives instead of fines or penalties would be more effective in driving behavioral change. The incentives could be in a monetary or non-monetary form as individuals have different motives for engaging in pro-environmental behavior. Lastly, the government should encourage the emergence of social pressure to adopt pro-environmental behavior. The government could form informal groups and communities of practice to influence their members to engage in pro-environmental behavior (Castaneda et al., 2015; Kennedy, 2010), specifically to patronize bulk stores. Informal groups and communities of practice may function to penetrate local communities and disseminate information and influence members of the community (Claudy & Peterson, 2014). In addition, the government should ensure the scarcity of conventional products compared to the abundant availability of sustainable products. Making the cost of obtaining non-sustainable products higher would systematically cause consumers to switch to choosing more sustainable products, hence increasing the collective pro-environmental behavior (Guyader et al., 2017; Sana, 2020).



## 6. Limitations and future research avenues

We acknowledge some limitations embedded in this particular study. Firstly, the results of this study are limited to individuals who are knowledgeable about bulk stores and bulk food, hence limiting the generalization to the population. This study, however, still reflects the characteristics of the emerging market which is considered to be highly populated with the majority of its population having medium- and low-level incomes. To cater to the needs, such individual consumers prefer to buy in small packages (sachets or smaller plastic bags), especially for the FMCG category. As a result, the FMCG category (including the food category) become the most significant pollution contributor to the country.

Secondly, we acknowledge the presence of individual differences when assessing just or unjust situations due to differences in individual characteristics, circumstances, and relationships. Future research would need to include variables that are consistent in different contexts and situations such as justice sensitivity (Nicolai et al., 2022). Justice sensitivity would be able to make differentiations based on individual points of view, such as the individual as a perpetrator, the individual as a victim, the individual as a bystander, or the individual as a beneficiary which would influence the different valence of deontic judgment.

Thirdly, the cross-sectional nature of the survey hindered our investigation of the causal relationship between variables empirically. Although the relationship and the influence between variables are conceptualized based on previous studies and on established theoretical underpinnings, the utilization of an experimental (Muralidharan & Sheehan, 2018) or longitudinal study (Grønhoj & Hubert, 2021) might provide a further contribution, especially because anticipatory emotions deal with future events. Furthermore, the addition of a self-construal concept (Kavvouris et al., 2020) and psychological distance (Maiella et al., 2020; Xu et al., 2020) might also contribute to an explanation of how individuals perceive future events to gain a better understanding of the conditions that might evoke anticipatory emotions.

Fourth, because social norms have significant, direct effects on behavioral intention, we highlight the importance of categories of social groups for future research. Since not all members of a particular social group have an equal level of relationships, social proximity would provide a different degree of social pressure (Salazar et al., 2013). Information provided by those with higher social proximity is considered to be more relevant and reliable and hence such perceptions would affect how individuals perceive the degree of social pressure they felt.

Lastly, we argue for the evolution of social influence into social pressure and, hence, identifying the mechanism of such a shift would provide avenues for future research. For some individuals, influence from relevant others would lead to acceptance of new behavior through an internalization process. For some others, however, such influence might not be able to drive individuals into the acceptance stage and, instead, only induce the admit stage.

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### Disclosure statement

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