

**Studies on the Influence of Customer Trait Psychological
Reactance on Customer Behaviour in the Context of
Green Loyalty Programs**

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Thesis Abstract

Trait reactance, which refers to the individual differences in how customers value their freedom of choice and react to being restricted, is an important influence on customers' responses towards marketing tactics. This thesis investigates the impact of customer trait reactance on customer behaviour in the context of green loyalty programs (LPs), focusing on (1) empirically assessing the boundary conditions of the impact of trait reactance on customer behaviour, (2) proposing and testing a new concept (i.e., *goal-reward congruity* hypothesis) that captures the influence of trait reactance on customer behaviour, and (3) empirically examining a situation where trait reactance might not necessarily be the key issue for marketing managers to address in order to influence customer behaviour. Three papers address each of these points in order to advance the current understanding of the effect of trait reactance on customer behaviour:

Paper 1: The first paper examines a three-way interaction effect among customers' trait reactance, customers' anticipated guilt about not joining the green LP, and frontline service employees' physical attractiveness. This paper provides insights into how to change the impact of the influence of trait reactance on customer behaviour.

Paper 2: The second paper develops and examines a *goal-reward congruity* hypothesis, which can explain how and why customers, especially those high in trait reactance, choose a preferred green LP reward. This paper provides a novel way to capture, firstly, customers' choices when influenced by their different levels of trait reactance and, secondly, the role of pro-environmental goals in their decision-making.

Paper 3: The third paper examines how a gain-framed message, when combined with a guilt appeal inducing the greatest level of experienced regret, can increase customers' future intentions to join a hotel's green LP. The above-mentioned effect still holds even when taking into consideration the influence of trait reactance. This paper contributes to the existing literature by supporting the view that when customers

experience regret, their trait reactance is not necessarily the key factor in influencing their future intentions.

Declaration

I confirm that none of the content included in this thesis has been previously submitted in fulfilment of the requirements for any other degree or qualification at this university or any other educational institution. The work presented here is my own. Some ideas presented in this thesis originated from insightful discussions with my supervisors, Dr. Ahmad Daryanto and Professor Margaret K. Hogg.

Author Contribution Statement

Dr. Ahmad Daryanto was my lead supervisor, and Professor Margaret K. Hogg was my second supervisor during my doctoral studies. For a brief period of time (November 2021-July 2022), Dr. Helen L. Bruce was also involved in my supervision team.

My first year of doctoral study was spent working closely with Dr. Daryanto on training in quantitative methods, so that by the time I reached my second year I had achieved complete independence and confidence in designing surveys and experimental studies which include data collection and analysis.

I designed all the studies for the three papers (Chapters 3-5), gathered all the data for this thesis, and conducted all the data analysis on my own. Dr. Daryanto gave feedback on the methodology and results of my analysis. Dr. Daryanto, together with Professor Margaret K. Hogg, discussed with me the line(s) of argument and the supporting narratives for each of the papers. The first full drafts of all three manuscripts were written by me. Specifically, I have contributed to 80% of the content in Paper 1 (Chapter 3) and Paper 2 (Chapter 4). Additionally, I take full responsibility for the entire content of Paper 3 (Chapter 5), having contributed 100% to its development. My supervisors were involved in critical revisions of the final drafts of Paper 1 (Chapter 3) and Paper 2 (Chapter 4). They provided some feedback as well as minor edits for Paper 3 (Chapter 5), however, they did not make any major revisions to this paper. We worked on the shape and content for the introductory (Chapter 1), methodology (Chapter 2) and conclusion (Chapter 6) together, as would have been done for a monograph thesis, but again I wrote all these chapters (and made the associated revisions) independently.

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Chapter 1: Introduction

This thesis examines the relationship between trait reactance and customer behaviour. Psychological reactance theory proposes that when individuals perceive their freedom to be threatened, limited or controlled by any external influence, they will experience psychological reactance as a negative motivational state (Brehm, 1966). This negative motivational state means that individuals react against any attempts to reduce their freedom of choice, and they work to restore the freedom of choice that they feel is threatened.

Studying psychological reactance holds significant importance in consumer research for two main reasons. First, this theory provides valuable insights into various aspects of consumer behaviour. It involves affective (e.g., feelings of anger) as well as cognitive components (e.g., a rejecting attitude toward a persuasion influence) that influence consumers' decision-making (Dillard and Shen, 2005; Rains and Turner, 2007). This theory not only explains the conditions under which consumers experience psychological reactance but also predicts their emotional and behavioural responses as they strive to regain their restricted freedom. In today's global landscape, where rising living costs place constraints on consumers' financial resources, consumers frequently encounter scenarios where their freedom of choice feels threatened. The negative emotions such as frustration, stress and anxiety associated with these financial constraints can intensify the perception of restricted freedom (Gupta and Mukherjee, 2022), making consumers more vulnerable to experiencing psychological reactance when exposed to marketing tactics. By examining consumer behaviour through the lens of psychological reactance, marketers can gain the tools to review their strategies, as psychological reactance has been identified as a main reason why their strategies (e.g., advertising) often fail to achieve their intended effects (Dimoff et al., 2021). This review can also help marketers to design more effective strategies, and thereby mitigate the likelihood of psychological reactance as consumers navigate the challenges posed by the current economic environment. Secondly,

psychological reactance theory offers a novel perspective for explaining the underlying mechanisms that influence behaviour. For example, psychological reactance has been discussed in relation to well-established theories such as prospect theory (Lee and Cameron, 2017; Quick et al., 2015) regulatory focus theory (Spanjol et al., 2011), and over-justification theory (Kivetz, 2005). This discussion allows researchers to gain a more comprehensive understanding of how psychological reactance interacts with other theories in explaining consumer behaviour. I will discuss psychological reactance theory in relation to other theories in this thesis to uncover the nuanced insights that contribute to a richer comprehension of the complex dynamics driving consumer decision-making.

Although psychological reactance can be influenced by various situational factors, Brehm (1966) acknowledged that individuals might vary in their tendency to experience psychological reactance across situations. Individuals' propensity to experience psychological reactance can be described based on their level of *trait* reactance (Brehm and Brehm, 1981; Dillard and Shen, 2005; Martin, Chrysochou and Strong, 2022). Research suggests that trait reactance is conceptualised as a trait-motivational characteristic of individuals who have a predisposition to experience psychological reactance (Dillard and Shen, 2005; Dowd, Milne and Wise, 1991; Hong and Faedda, 1996; Kelly and Nauta, 1997; Quick and Stephenson, 2008). Unlike state psychological reactance, which is triggered by situational factors such as advertising appeals (Åkestam, Rosengren and Dahlen, 2017) and communication style (Kavvouris, Chrysochou and Thøgersen, 2020), trait reactance is an individual's general predisposition (Hall et al., 2017; Russell and Alderman, 2022). That is, faced with the same stimuli that threatens their freedom of choice, individuals will vary on how they perceive or react towards the stimuli. For example, individuals who are high in trait reactance will respond more strongly to the stimuli compared to those with low trait reactance (Dillard and Shen, 2005).

In the field of consumer behaviour research, various personality traits have been explored for their influence on consumers' decision-making processes. Consumers' personality traits such as the Big Five personality traits (John and Srivastava, 1999; Shumanov, Cooper and Ewing, 2022; Tarka, Kukar-Kinney and Harnish, 2022), need for uniqueness (Henkel and Toporowski, 2022; Tian and McKenzie, 2001) and innovativeness (Demirciftci et al., 2023; Roehrich, 2004) have all received significant attention. However, it is crucial to note that while these consumer traits offer valuable insights into consumer behaviour, trait psychological reactance stands apart due to its important impact in today's economic landscape. The reasons are as follows. First, unlike other personality traits, trait reactance specifically focuses on consumers' differences in the face of perceived freedom threat. This differentiation becomes even more critical in times of financial strain, when consumers' autonomy and choices are often under greater restriction. Second, with the rising cost of living, the threat to consumers' consumption freedom might be enhanced. Therefore, consumers who are high (vs. low) in trait reactance may be more likely to resist changes in their consumption behaviours in response to marketing strategies. Understanding how consumers with varying levels of trait reactance will respond can help marketers to tailor their marketing strategies and product offerings for consumers who are high in trait reactance, ultimately leading to enhanced positive responses.

As indicated above, literature has recognised two types of psychological reactance: trait reactance and state reactance. Trait reactance and state psychological reactance are distinguishable and trait reactance is not a part of state psychological reactance. I provide a more detailed discussion of the distinctions between trait and state psychological reactance in Table 2 in the section on "Distinctions between trait reactance and state psychological reactance", which is presented later in this chapter. In the meantime, it is important to recognise the debate on the literature about the relationship between state and trait psychological reactance. For instance, some scholars suggest a positive association between trait reactance

and state psychological reactance (Quick and Stephenson, 2007; Wendlandt and Schrader, 2007), while others argue that there is no association between the two (Richards, Bessarabova, et al., 2021; Yost et al., 2019). While there is some evidence for the occurrence of state reactance in various (marketing) contexts (e.g., Åkestam et al., 2017; Kavvouris et al., 2020; Wendlandt and Schrader, 2007), rather more limited attention has been paid to trait reactance in the marketing literature (Amarnath and Jaidev, 2021; Wendlandt and Schrader, 2007).

This thesis acknowledges the importance of state psychological reactance. However, this thesis is primarily interested in understanding trait reactance in customer behaviour as customers with various levels of trait reactance may have different tendencies to experience state psychological reactance (Chan, 2020; Quick and Stephenson, 2008) (a more detailed discussion of this key point is given below in the section on “Trait Reactance and Customer Behaviour” in this chapter). Additionally, the *“intertwined model”* as proposed by Dillard and Shen (2005), incorporates anger and negative counterarguing as components of state psychological reactance and these are commonly used to measure state psychological reactance. However, in the context of this thesis, which explores green LPs (i.e., initiatives that reward customers for pro-environmental behaviour), it is possible that state reactance may be less applicable. This is because promoting green LPs might not elicit anger and counterarguing, but customers’ trait reactance can still capture their inclination to experience state psychological reactance in response to green LPs. That is, customers who are high (vs. low) in trait reactance will be more (vs. less) likely to react negatively toward green LPs. Hence, this thesis aims to investigate when, why, and how customers’ trait reactance influences their decisions, and proposes strategies that marketers might employ in order to mitigate the influence of customers’ trait reactance on their decision-making processes, thus minimising resistance to marketing initiatives (i.e., green LPs).

This chapter introduces the key concepts used in this thesis, including green LPs, trait reactance, and emotions. Following that, the research context is described and the three papers are outlined. This chapter concludes with a discussion of the theoretical and managerial contributions of this thesis.

Loyalty programs and green loyalty programs

In today's marketing landscape, it is important for businesses to attract and retain customers. One potential tool is to offer LPs that managers can use to identify and retain profitable customers (Chen, Mandler and Meyer-Waarden, 2021). LPs refer to "systemised marketing efforts that offer economical, psychological, and sociological benefits to customers, to enhance customer loyalty" (Kim et al., 2021, p. 74). The advent of LPs dates back to 1981, when American Airlines launched its first frequent flyer program, AAdvantage, to reward loyal customers. Over the past three decades, LPs have been known by a number of terms, such as reward programs, relationship marketing programs, and loyalty cards (Bruneau, Swaen and Zidda, 2018; Roy, Rabbanee and Sharma, 2016). The use of LPs has grown in diverse industries, especially in retailing (e.g., NikePlus) and leisure (e.g., hotels such as Marriot Bonvoy). Extensive research has documented the benefits of LPs, such as increasing purchase intensity (Meyer-Waarden, 2008), engaging consumers in habitual consumption (Wood and Neal, 2009) and enhancing brand loyalty (Yi and Jeon, 2003).

In line with the call for sustainable development, many businesses nowadays incorporate advocacy for sustainable practices into their LP design. These types of LPs are referred to as *green* LPs. For example, to address the negative impact of plastic packaging on environmental pollution (United Nations Environment Programme, 2018), UK pharmacy retailer Boots promotes its cosmetics recycling scheme by rewarding customers with 600 Advantage Card points for recycling five empty product bottles (Boots, n.d.). In addition, in an effort to change

customers' hotel consumption habits and help to save water and energy, Delta Hotels' *GreenSTAY* program (Delta Hotels by Marriott, 2017) encourages customers to opt out of housekeeping services during their entire stay in exchange for planting trees in Canada. Unlike traditional marketing tools that emphasise growing business profits while also satisfying customers' needs and wants, green LPs could help businesses sustain a longer-term relationship with their customers by using rewards to shift customers' behaviour towards more sustainable practices (Liu and Mattila, 2016). Notwithstanding the growing concern about environmental issues, not all customers react positively towards green LPs (e.g., the lack of customer engagement in Marriott's Make a Green Choice program (Ollila, 2020)). The discrepancy between customers' attitudes towards environmental issues and their actual consumption behaviour in the green LP might be because of the influence of psychological reactance (Wang, Krishna and McFerran, 2017). While the concept of psychological reactance might be relevant to the green LP context, little is known about how customers' trait reactance would influence their decision-making related to green LPs. The objective of this thesis is to develop insights into how and when the role of trait reactance affects customers' response to such programs. In the next section, more details describing the concept of trait reactance and how it influences customers' behaviours will be provided.

Trait reactance and customer behaviour

Psychological reactance has been conceptualised not only as a state variable but also as a personality characteristic — *trait reactance* — which refers to an individual's tendency to experience psychological reactance due to their strong need for autonomy and independence (Allison and Flaherty, 2020; Dillard and Shen, 2005; Hong and Faedda, 1996; Quick, Scott and Ledbetter, 2011). Earlier studies have found that customers who are high in trait reactance are

more likely to experience more state psychological reactance than those who are low in trait reactance (Quick, Scott and Ledbetter, 2011; Seibel and Dowd, 2001; Shen and Dillard, 2005). This is because high trait reactant customers have a stronger need for autonomy and a greater tendency to resist influences that limit their freedom (Dillard and Shen, 2005). In the disciplines of communication and psychology, trait reactance is often associated with less socially accepted behaviours, such as unhealthy behaviour (Miller and Quick, 2010; Quick and Stephenson, 2008), risky behaviour (Russell et al., 2014) and non-eco-friendly behaviour (Moyer-Gusé, Tchernev and Walther-Martin, 2019). For example, when a message contains a request for organ donation, customers who are high (vs. low) in trait reactance would perceive this message as an attempt to limit their freedom and exhibit higher negative responses toward the message (e.g., resist donating their organs) (Quick, Scott and Ledbetter, 2011).

Although the concept of trait reactance does vary from customer to customer, little empirical research has been conducted to examine the relationship between trait reactance and its impact on marketing tactics (Amarnath and Jaidev, 2021). For instance, LPs inherently create state psychological reactance due to their potential to restrict customers' future consumption freedom and limit customers' brand choice (Kivetz, 2005). While some research acknowledges the existence of psychological reactance in the context of LPs, most studies focus on customers' negative responses as manifestations of *state* psychological reactance (e.g., measuring customers' negative reactions toward a loyalty card (Wendlandt and Schrader, 2007)) and pay less attention to customers' responses that derive from *trait* reactance. A brief summary of the key LP studies on psychological reactance (state and trait) is provided in Table 1. This table identifies the consequence of how customers react to state psychological reactance and their trait reactance in traditional LP studies. For example, in response to state psychological reactance induced by LPs, customers tend to decrease their positive attitudes toward LPs (Chang and Wong, 2018) and engage in negative word-of-mouth (Wendlandt and

Schrader, 2007) as a means of restoring their perceived freedom. Note that previous studies (Kivetz, 2005; Tugut and Arnold, 2011; Wendlandt and Schrader, 2007) have examined how customers' trait reactance can influence their responses toward LPs. These earlier works, however, did not consider when and how trait reactance would influence customers' decision-making specifically related to *green* LPs. Moreover, research by Wendlandt and Schrader (2007) argued that customers' level of trait reactance could influence state psychological reactance, which, in turn, affects customer behaviour. However, in their study, many other factors (e.g., the importance of autonomous buying behaviour and perceived utility) could also be seen as triggering state psychological reactance¹ and their study is not limited to LP characteristics. Hence, this thesis argues that examining customer behaviour based on state psychological reactance in the context of LPs might be challenging. This is because multiple factors may simultaneously trigger state psychological reactance and I argue that variability in customer responses towards LPs can be explained by the level of trait reactance that customers have. In the next section, this thesis will illustrate the differences between trait psychological reactance and state psychological reactance and highlight the importance of studying trait reactance on customer behaviour in general, and in an LP context in particular.

¹ A seven-item scale was used here to measure state psychological reactance, which deviates from the previously utilised intertwined model (Dillard and Shen, 2005) that includes anger and counterarguing. Moreover, Wendlandt and Schrader (2007) did not provide additional evidence to establish the reliability and validity of their new measurement of state psychological reactance.

Table 1

Previous LP studies examining psychological reactance

Author (Year)	Outcome of responses to state psychological reactance	Findings	Journal
Chang and Wong (2018)	Level of program loyalty	When customers experience more psychological reactance, they will have less loyalty toward the LP.	<i>Service Business</i>
Ding et al. (2021)	Anger Attitude Behavioural intention	When customers perceive that their freedom is being threatened by LPs, it can trigger feelings of anger, generate a negative attitude towards the company, and decrease their intention to revisit the hotel. The impact of this effect is further intensified by the degree to which customers perceive their freedom is important.	<i>International Journal of Hospitality Management</i>
Sharma and Verma (2014)	Behavioural intention	When customers experience more psychological reactance, they will be less likely to enrol in an LP.	<i>Journal of Retailing and Consumer Services</i>
Shirai (2022)	Evaluation	Psychological reactance decreases customers' positive evaluations of an LP.	<i>Journal of Service Marketing</i>
Wendlandt and Schrader (2007)	Willingness to participate Word-of-mouth (WOM) Behavioural intention	When customers experience more psychological reactance, they will be less willing to participate in an LP, will generate more negative WOM and will have less repurchase intention.	<i>Journal of Consumer Marketing</i>
Author (Year)	Outcome² of responses to trait reactance³	Findings	Journal
Kivetz (2005)	Reward choice	Customers who are high (vs. low) in trait reactance will be more likely to choose rewards congruent with their efforts.	<i>Journal of Consumer Research</i>

² The "Outcome" here does not necessarily capture the causal effect, for example in the work by Wendlandt and Schrader (2007), the outcome is correlation.

³ i.e. individual differences in the tendency to experience state psychological reactance.

Tugut and Arnold (2011)	Reward choice	Customers who are high (vs. low) in trait reactance prefer utilitarian rather than hedonic rewards.	<i>Advances in Consumer Research</i>
Wendlandt and Schrader (2007)	The level of state psychological reactance	Customers' trait reactance is positively associated with state psychological reactance. When customers' trait reactance is high (vs. low), they will experience a higher level of state psychological reactance.	<i>Journal of Consumer Marketing</i>

Distinctions between trait reactance and state psychological reactance

To understand the importance of trait reactance in studying customer behaviour, I begin by clarifying the distinctions between state and trait. State is generally defined as “present activity, temporary states of mind and mood” (Allport and Odbert, 1936, p. 26). In contrast, trait is generally defined as “consistent and stable modes of an individual’s adjustment to his environment” (Allport and Odbert, 1936, p. 26). The concept of trait compares variability across individuals, whereas the state compares variability across situations (Higgins, 2000). Therefore, the definition of trait implies an enduring tendency to influence customer behaviour in a consistent manner across different situations (Endler and Kocovski, 2001; Monni et al., 2020). In contrast, state is viewed as being short-term in nature and influenced by situations (Hamaker, Nesselroade and Molenaar, 2007).

As can be seen from Table 2, two main dimensions can be used to distinguish state psychological reactance and trait reactance. The first dimension is source. State psychological reactance is presumed to result from situational factors, such as advertising appeals (Bambauer-Sachse and Heinzle, 2018), message framing (Miller et al., 2022) and communication style (Kavvouris, Chrysochou and Thøgersen, 2020). Conversely, trait reactance represents individual differences in behavioural responses to a situation that contains freedom threats and also reflects individuals’ general predisposition (Hall et al., 2017; Russell and Alderman, 2022).

The second dimension refers to consistency. State psychological reactance is malleable because a variety of factors can influence its magnitude (Chadee, 2022), including the availability of freedom and the perception of freedom threat (Brehm, 1966), the importance of freedom (Clee and Wicklund, 1980; Ding et al., 2021), and individual characteristics (e.g., gender, age, personalities) (Brehm and Brehm, 2013; Chadee, 2022). Previous research has shown that certain strategies can be effective in reducing state psychological reactance (Åkestam, Rosengren and Dahlen, 2017; Kavvouris, Chrysochou and Thøgersen, 2020; Wang, Krishna and McFerran, 2017), for example, if a firm demonstrates (vs. does not demonstrate) its green practices. In that case, it will trigger less state psychological reactance when promoting pro-environmental behaviour for consumers (Wang, Krishna and McFerran, 2017). In contrast, the magnitude of trait reactance is dependent on individual characteristics rather than on any external factors. Specifically, individuals with high levels of trait reactance tend to exhibit stronger responses to the same stimuli that are induced by state psychological reactance compared to individuals with low levels of trait reactance (Dillard and Shen, 2005). For instance, when exposed to green LPs, individuals high in trait reactance are more likely to demonstrate more negative reactions toward green LPs than those with low trait reactance.

Table 2

The state psychological reactance-trait reactance distinction

Dimension	State psychological reactance	Trait reactance
Source	Situation	Person
Consistency	Malleability (Variability)	Stability (Invariance)

This thesis focuses on trait reactance (rather than state reactance) for three main reasons. First, trait reactance is an enduring and stable character trait (Ehrenbrink and Möller, 2018; Hong and Page, 1989; Moreira, Cunha and Inman, 2020; Miller, Massey and Ma, 2020), which may have a longer lasting influence on customer behaviour compared with state psychological reactance (Ehrenbrink and Möller, 2018). Second, to examine the influence of state psychological reactance requires comparing how customers react across different situations

(which will or will not trigger state psychological reactance) (Chadee, 2022). For example, studying state psychological reactance induced by green LPs requires comparison of the situations where psychological reactance is activated or triggered. In contrast, this thesis examines the impact of trait reactance by investigating how customers with varying levels of trait reactance respond to the same persuasive influence (i.e., green LPs). By analysing customer behaviour in relation to their trait reactance, this thesis can shed light on why some customers are more likely to experience psychological reactance towards green LPs than others. Third, state psychological reactance is commonly measured in health communication contexts by counterarguing and anger (Dillard and Shen, 2005). However, green LPs are likely to be a topic that is not central to an individual's life and may not provoke strong affective reactions, such as anger and counterarguing. Although customers may experience psychological reactance induced by LP offerings (Kivetz, 2005), measuring counterarguing and anger as manifestations of state psychological reactance might not be relevant because customers are not forced to join the LP. Instead of focusing on state psychological reactance, it may be more accurate to consider trait reactance when examining how customers will respond to green LPs because trait reactance might be a stable predictor of how customers react toward green LPs. In summary, Chapters 3 and 4 of this thesis examine when and how customers' trait reactance will impact their behaviour, respectively. Moreover, Chapter 5 of this thesis identifies possible circumstances in which managers promoting green LPs may not need to consider the influence of trait reactance.

After clarifying the importance and relevance of studying trait reactance on customer behaviour in the context of green LPs, this thesis also argues that customers not only respond to their trait reactance but also experience negative emotions when they choose not to participate in green LPs (see more details in Chapters 3 and 5). For example, when customers choose not to participate in a green LP, this may elicit the feeling of guilt since they might

realize their behaviour is not good for the environment. Such a feeling of guilt would encourage them to engage in the behaviour which is good for the environment (i.e., join a green LP). While the importance and effectiveness of negative emotions in promoting pro-environmental behaviour are well-established (Amatulli et al., 2019; Kim, Njite and Hancer, 2013; Theotokis and Manganari, 2015), it is still unclear how negative emotions interact with trait reactance to influence customer behaviour. Thus, the aim of this thesis is to investigate whether and under what circumstances these negative emotions affect customers' trait reactance in the context of a green LP. In the following section, this thesis will explore in greater detail how negative emotions (i.e., guilt, shame, regret) are linked to trait reactance in the context of green LPs.

Negative emotions and trait reactance

In marketing, emotions are subjective feeling states that arise when customers are considering, purchasing, or using a product or service (Cohen and Areni, 1991). Emotions can significantly influence customers' responses to marketing communications (Cotte and Ritchie, 2005). The difference between positive and negative emotions is often determined by the consequences of achieving or failing to achieve a desired outcome (Bagozzi and Pieters, 1998). For example, when a consumer receives an LP reward, they may experience positive emotions such as happiness, while missing out on a chance to receive the reward may result in negative emotions such as regret.

This thesis concentrates on examining the role of negative emotions for three reasons. First, each emotion has unique functions and can help individuals to adapt to their environment (Lazarus, 1991). Positive emotions are beneficial for dealing with opportunities, whereas negative emotions are more effective in coping with threats (Griskevicius, Shiota and Nowlis, 2010). Considering the perception of the influence of a green LP as a threat to customers' consumption freedom and as inducing the unpleasantness of reactance, negative emotions may

be more appropriate than positive emotions within the scope of this thesis. Second, negative emotions can facilitate learning from failure or negative outcomes (Humphrey, Ashkanasy and Troth, 2022). When customers experience negative emotions, they are more likely to seek solutions (Aaker, Stayman and Hagerty, 1986; Cotte and Ritchie, 2005). Since the aim of this thesis is to encourage customers to engage in pro-environmental behaviour such as joining green LPs, negative emotions may be effective in motivating them to do so when they realise that not joining a green LP can have negative outcomes. For instance, if a customer initially decides not to participate in a green LP due to their trait reactance, but later realises that they could have benefited from it, they may experience regret (see Chapter 5 for more details). This feeling of regret can motivate customers to change their past decision to avoid future regret (Pieters and Zeelenberg, 2007). While regret and trait reactance may have opposite influences on customers' decision-making regarding green LPs, it is unclear from the literature how these two factors interact. Chapter 5 explores which of these factors is dominant in influencing customer behaviour. Finally, research suggests that negative emotions are more memorable than positive emotions (Baumeister et al., 2001). This indicates that negative emotions may have a more lasting impact on consumers' decision-making compared to positive emotions.

In addition, negative self-conscious emotions, such as guilt and shame, have been widely examined in promoting pro-environmental behaviour (Baek and Yoon, 2017; Mkono and Hughes, 2020; Theotokis and Manganari, 2015) and they are relevant to the green LP context. The key difference between self-conscious emotions and other basic emotions is that they must induce self-evaluations (Tracy, Robins and Tangney, 2007). This is because self-conscious emotions are rooted in self-awareness and self-representation (Tracy and Robins, 2004), which means that individuals are aware of their actions and how those actions reflect on themselves. When individuals experience a failure for which they are responsible, they may experience negative self-conscious emotions (Mesquita and Karasawa, 2004). These negative self-

conscious emotions can lead to a greater sense of responsibility (Tracy, Robins and Tangney, 2007) and self-blame (Carlsson, 2022). For example, when customers feel guilty about their non-eco-friendly behaviour, they could be motivated to change their past behaviour and become more environmentally-friendly (Theotokis and Manganari, 2015). Similarly, when customers feel ashamed because others have become aware of their non-eco-friendly behaviour, they might engage in green consumption behaviour to repair their image (Amatulli et al., 2019).

Despite the fact that trait reactance may cause customers to resist green LP initiatives, customers may also anticipate (or experience) negative self-conscious emotions in the form of guilt or shame, which can motivate them to engage in pro-environmental behaviour (Amatulli et al., 2019; Graton, Ric and Gonzalez, 2016; Theotokis and Manganari, 2015). This suggests that customers may experience a conflict between their desire to restore their restricted freedom and their sense of moral obligation to behave in an environmentally responsible manner. Therefore, understanding how trait reactance and negative self-conscious emotions are related to green LP promotion can provide a more comprehensive understanding of the role of trait reactance in customer behaviour. Chapter 3 and Chapter 5 aim at improving this understanding.

Research context

This thesis focuses on Chinese consumers, and the reasons are as follows. First, earlier research has suggested that psychological reactance is more prevalent in individualistic cultures than in collectivistic cultures (Jonas et al., 2009; Song, Noone and Mattila, 2018). This might be because collectivist cultures place less importance on individuality and autonomy than individualistic cultures (Hofstede, 1984). Most of the customer reactance research has been conducted in individualistic cultures, such as the United States, and relatively few studies have explored collectivistic cultures, such as China (Amarnath and Jaidev, 2021). Accordingly, more

research is needed in the Chinese context in order to get a deeper understanding of the role of their trait reactance on their consumption behaviours (Guillet et al., 2022).

Second, most of the LP research has originated from individualistic cultures, especially from the United States, which represented 47% of LP research over the past three decades (Chen, Mandler and Meyer-Waarden, 2021). The majority (66%) of Chinese consumers belong to more than one membership program, 25% belong to three or more (Colloquy, 2017). The considerable amount of Chinese LP memberships made it imperative to examine the behaviour of Chinese consumers in the LP context.

Third, China is an emerging market with a large population and is experiencing rapid economic development (Dermody et al., 2018). China has seen rapid industrial and urban development that has led to severe environmental degradation in China. For example, China accounts for the greatest greenhouse emissions around the world (Shao, 2019). China is also facing increased demand for natural resources such as water (Zhang, Wang and Liu, 2021) as well as experiencing energy shortages (Zhang et al., 2017). Therefore, it is essential to understand how to reduce environmental pressures and how to promote sustainable behaviours in China.

Finally, according to the report *Sustainable Consumption in China 2021* (Statista Global Consumer Survey, 2021), 17%-19% of Chinese customers will resist purchasing a brand or goods from a retail store (bricks and mortar or online) which have inadequate sustainability practices. All the growing concerns shown by these pro-environmental initiatives highlight the importance of understanding how Chinese consumers perceive and respond to the design and implementation of green LPs. Some of the findings from my study can help Chinese businesses to develop effective green LPs that are tailored to the needs and preferences of Chinese consumers.

Research aims

This thesis aims to provide insights into how trait psychological reactance influences customer behaviour. The overall research question was: To what extent does customers' trait psychological reactance influence their consumption behaviour?

Three specific research questions are addressed.

Question 1: Under what conditions does a customer's trait reactance lead to negative consumption behaviour?

Question 2: How does customers' trait reactance influence their consumption behaviour?

Question 3: When is trait reactance likely be a key factor in influencing consumer behaviour, and when will it not be?

To address these three specific research questions, three independent empirical research studies were conducted. The next section briefly outlines the concept and idea of each paper.

Research outline

In this thesis, I compiled three papers to answer the overall research question. The overview of the three chapters is displayed in Figure 1.

Chapter 3 (corresponding to specific research question 1): The growing use of hotels' green LPs as a green practice creates a pressing need to understand how to effectively persuade customers to join such programs. This research proposes the existence of a three-way interaction effect among customers' trait reactance, customers' anticipated guilt about not joining a hotel's green LP, and the frontline service employees' physical attractiveness. This research presents the first application of attention narrowing theory (Wilcox and Prokopec, 2019) when examining the influence of trait reactance on customer behaviour; it is also the first study to identify the boundary condition of the negative influence of trait reactance on customers' responses. The results of this research can help hotel managers and marketers

design suitable green LP promotion strategies and select the appropriate employees to promote green LPs.

Chapter 4 (corresponding to specific research question 2): Many retailers' green LPs provide various types of rewards which include eco-friendly rewards and non-eco-friendly rewards. This research focuses on how customers' trait reactance would influence their reward preference. Previous research has proposed an effort-reward congruity preference that explains how customers would choose which type of reward (i.e. eco-friendly rewards or non-eco-friendly rewards) they prefer. However, it is unclear how customers' salient pro-environmental goals would influence their preference. This paper aims to enrich the existing studies by proposing a new concept, namely, goal-reward congruity preference, to capture customers' reward preference when influenced by their trait reactance and salient pro-environmental goals. The findings from this research can guide green LP marketers or managers about what to consider when designing effective reward schemes.

Chapter 5 (corresponding to specific research question 3): The low participation rate in hotels' green LPs might be attributed to customers' psychological reactance. The aim of this research is to examine how the joint effect of green LP advertising message frames (gain vs. loss) and negative emotional appeals (guilt vs. shame) would influence customers' future intentions. Drawing on regret regulation theory, this research proposes a framework that shows a situation in which trait reactance might not be the key factor influencing customers' future intention to join a hotel's green LP. This research adds insights into the role of trait psychological reactance in customer behaviour and suggests how hotel managers and marketers of green LPs might frame and design their green LP advertising messages.

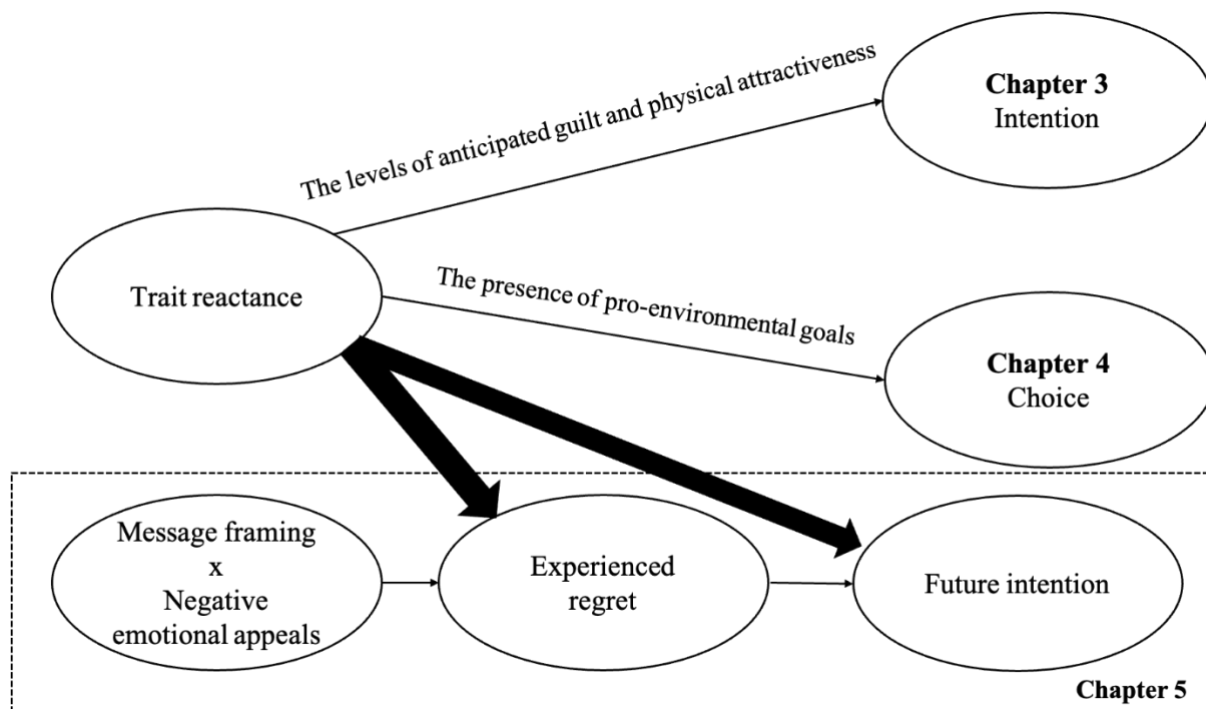


Fig. 1. Thesis Overview

Theoretical contributions

In addition to the specific contributions that each paper provides, I believe this thesis makes two key contributions to theory. First, psychological reactance has been operationalised in the extant body of literature as a motivational state which is context-specific (e.g., Chen et al., 2019; Lee and Lee, 2009; Shoenberger et al., 2021). This thesis extends the process of understanding how psychological reactance works by looking at psychological reactance as a personality trait (Chapters 3-5). It identifies the conditions under which trait reactance should be taken into account (Chapter 3 and Chapter 5) and identifies customers' responses toward trait reactance (Chapter 4). This thesis provides a valuable theoretical extension of research on psychological reactance by examining how customers react to trait reactance, as well as when and how strategies to reduce psychological reactance can be effective, depending on the level of trait reactance. Second, the findings from this thesis can also enrich the understanding of how to integrate other theoretical domains (e.g., attention narrowing theory (Wilcox and Prokopec, 2019) in Chapter 3, effort-reward congruity hypothesis (Kivetz, 2005) in Chapter 4,

framing effect and regret regulation theory (Pieters and Zeelenberg, 2007) in Chapter 5) with psychological reactance theory in order to generate novel theoretical insights for understanding customer behaviour.

Chapter 2: Methodology

This thesis takes the philosophical position of positivism. Positivism involves working with the observable elements of social reality to develop law-like generalisations (Saunders, Lewis and Thornhill, 2019). Based on this position, this thesis expects to explain the influence of customers' trait reactance on customer behaviour, and to generalise the research observations to the proposed conceptual model (Figure.1). This thesis applies a quantitative research method that examines the relationship between variables, which are measured numerically and analysed using statistical techniques (Saunders, Lewis and Thornhill, 2019). In terms of data collection techniques, survey and experimental research are mainly used to ensure the data is free from subjective bias (McGregor and Murnane, 2010). In the following sections, I will first introduce the different types of variables used in this thesis (e.g., independent variables, dependent variables, mediators and moderators). Then, I will discuss the difference between survey and experimental design. Finally, I will synthesize and explain the data analysis software and sampling method from the three studies.

The types of variables in this thesis

When conducting quantitative research, researchers seek to understand how a set of variables are related to other variables (Saunders, Lewis and Thornhill, 2019) that are represented in a research model for empirical testing. Thus, it is important to understand what variables are and how to distinguish one variable from others in a research model. A variable is synonymous with a research construct, which cannot be observed or measured directly, but is inferred from observable behaviours or responses of participants in a study (McDaniel Jr and Gates, 2018). In general, there are five types of variable that can be distinguished from a research model: independent variable, dependent variable, mediating variable, moderating

variable and control variable. Table 3 compares the five different variables and summarises them based on their definitions.

Table 3

Types of variables

Variable	Definition
Independent variable	Variable that is measured or manipulated in order to observe its effect on a dependent variable.
Dependent variable	Variable that can be influenced by changes in other variables and is the observed outcome or result of manipulating another variable.
Mediating variable	Variable that serves as an intermediary between the independent and dependent variables, and transmits the effect of the independent variable to the dependent variable.
Moderating variable	A new variable that is introduced that will affect the strength of the relationship between the independent variables and dependent variables.
Control variable	Additional observable and measurable variables that need to be held constant to prevent them from influencing the effect of the independent variables on the dependent variables.

Source: Adapted from Saunders et al. (2019, p.191).

By employing quantitative research methods, this thesis can contribute to current knowledge by identifying possible moderators and mediators of the influence of trait reactance on customers' behaviour. Previous research suggests that behavioural intentions could strongly determine a customer's actual behaviour in the context of LPs (Evanschitzky et al., 2012). As Evanschitzky et al. (2012) have already demonstrated that customers' behavioral intention is a strong predictor of their actual behaviour, this thesis mainly utilizes customers' intention to join a green LP as the dependent variables for the studies (in Chapter 3 and Chapter 5). The details of the variables used in the three chapters are summarised below in Table 4.

Table 4
Types of variables used in this thesis

Chapter	Independent variable	Dependent variable	Mediator	Moderator	Control variable
Chapter 3	Trait reactance	Intention		Anticipated guilt; physical attractiveness	Hotel's motive(s); pro-environmental attitudes; the impact of COVID-19; the value of green LP points; gender
Chapter 4	Trait reactance; pro-environmental goal	Reward preference			Gender, age, pro-environmental goal orientation
Chapter 5	Message frames (gain vs. loss)	Future Intention	Experienced regret	Negative emotional appeals (guilt vs. shame)	Gender, age, environmental concern, trait reactance

Survey and experimental research design

Surveys and experiments are two common methods used in the quantitative research realm. In this thesis, scenario-based surveys are used in Chapter 3 and Chapter 4's studies 2 and 3, and scenario-based experiments are conducted in Chapter 4's study 1 and Chapter 5. In order to enhance the reality and relevance of LP management, simulating the effects of LPs in real-life situations such as hotel and retail settings can be beneficial (Steinhoff and Palmatier, 2016). After respondents read the scenario, and then imagine themselves in the context of the scenario, they can provide a more reliable and valid measure for their behavioural intentions based on the scenario (Wall and Warkentin, 2019). Additionally, since this thesis utilised scenario-based research it was necessary to determine the participants' meta-comprehension, which is their understanding of the scenario description (Rawson and Dunlosky, 2002). When

information is easy to process, it is also easy to remember (Kornell et al., 2011). Thus, this thesis measures participants' perception of the ease of processing in all three papers. In addition, if the scenarios are not perceived as reliable, psychological responses may not be as accurate as those experienced in reality (Wall and Warkentin, 2019). Thus, a realism check is also included.

The difference between experiments and surveys is related to the way independent variables are treated. In the experiment, the independent variables are manipulated and this precedes the dependent variable; in surveys, the independent variable and dependent variable are collected simultaneously (collected through a self-reported questionnaire) (Bell, Bryman and Harley, 2022). However, as previous research argues, the interrelationships among variables in survey research can only be inferred and cannot be observed (Bell, Bryman and Harley, 2022; Creswell et al., 2003), resulting in the question of the validity of survey research. In the case of this thesis, the reason why experiments were not conducted in Chapter 3 and Chapter 4's studies 1-2 was the difficulties associated with manipulating independent variables. For example, in order to conduct an experiment in Chapter 3 it would be necessary to manipulate frontline service employees' physical attractiveness into high attractiveness and low attractiveness. But the perception of physical attractiveness is subjective (Fang, Zhang and Li, 2020) which makes the manipulation of this variable challenging. In the survey, variables were measured simultaneously using a self-reported questionnaire, and this may be prone to common method bias (CMB). CMB refers to "the variance that is attributable to the measurement method rather than to the constructs the measures represent" (Podsakoff et al., 2003, p. 879). When conducting survey research, this thesis follows the suggestions of Podsakoff et al. (2003) to mitigate the influence of common method bias.

Data analysis software and sampling method

The data analysis of this thesis was done by SPSS version 27 and R studio (version 2022.12.0+353). The R studio software is free and open source (Misra, 2020) and has been applied in various studies. As illustrated in Chapter 1, the target participants in this thesis are Chinese customers. By focusing on the Chinese market, this thesis aims to provide new empirical evidence on whether and how Chinese customers' trait reactance would influence their decision-making related to green LPs. To collect data, the researcher cooperated with a professional research agency located in Shenzhen, China. The participants were volunteers and did not receive any incentives in exchange for their participation. The panel members from this agency received invitations to complete surveys, based on whether they satisfied the criteria (i.e., resident in China in Chapters 3-5; and have stayed in a hotel in the past two years in Chapter 3 and Chapter 5). Therefore, a purposive sampling method was used. As for the sample size, this thesis employs G*Power 3.1 to conduct a prior analysis in order to determine the minimum sample size with a power of .95 and a small effect size. The overview of the research design of the three papers is displayed in Table 5.

Table 5

Overview of the three papers

Chapter	Research focus	Research Context	Methodology	Sample size	Analytical technique (main)
Paper 1 (Chapter 3)	(1) How to reduce the negative influence of new customers' trait reactance on their intention to join the hotel's green LP. (2) To examine the three-way interaction effect among trait reactance, anticipated guilt and frontline service employees' physical attractiveness This chapter aims to expand the research on psychological reactance by identifying the boundary condition(s) when customers' trait reactance would not influence their intention to join a green LP.	Hotel	Scenario-based survey	836	Software: SPSS version 27 Analysis: Slope difference test (Dawson and Richter, 2006), Spurious moderation check using SPSS macro <i>ModLR</i> (Daryanto, 2022).
Paper 2 (Chapter 4)	(1) How to leverage green LP members' reward preferences to reduce the psychological reactance induced by green LPs. (2) To investigate the boundary condition of the effort-reward congruity hypothesis proposed by Kivetz (2005). This chapter aims to enrich the understanding of how customers' trait reactance influences their reward preference, thus providing insights for hotel managers and marketers about ways to reduce customers' psychological reactance induced by green LP offerings.	Retail	Experimental design with survey Scenario-based survey	Study 1: 331 Study 2: 205 Study 3: 516 Total: 1052	Software: SPSS version 27 Analysis: Binary logistic regression and <i>D2prop</i> macro (Daryanto, 2022).

Paper 3
(Chapter 5)

(1) How does the interplay between message frames (gain vs. loss) and negative emotional appeals (guilt vs. shame) influence customers' regret and future intention to join the green LP?
(2) To explore a situation when customers' trait reactance would not influence their future intention, that is, when customers feel regret about their decision on not joining the green LP in the first place.

This chapter aims to examine when and how customers' trait reactance would not reduce their positive responses toward a green LP in the future.

Hotel

Experimental design with survey

Study 1: 103
Study 2: 362
Total: 465

Software: SPSS version 27
Analysis: Multivariate analysis of variance (MANOVA) and *PROCESS* macro (Hayes, 2013).

Chapter 3

Should I Join the Hotel's Green Loyalty Program?

Customer Reactance, Anticipated Guilt, and Physical Attractiveness

Abstract

Hotel green LPs are increasingly popular. Yet, many such programs experience a low participation rate. My research seeks to offer one possible answer. Drawing on psychological reactance theory and attention narrowing theory, I investigate a three-way interaction effect among customers' trait reactance, their anticipated guilt about not joining the green LP and the frontline service employees' physical attractiveness on the customer's intention to join a hotel's green LP. I collect data from 836 Chinese customers using an online scenario-based survey. I find that the negative influence of trait reactance on customers' intention to join a green LP is strongest when customers anticipate less guilt and perceive frontline service employees to be less attractive. Interestingly, when customers anticipated more guilt about not joining the green LP, trait reactance did not influence their intentions regardless of their perception of the frontline service employees' physical attractiveness. My findings imply that hoteliers might use marketing promotions to seek to increase customers' anticipated guilt; and the hoteliers might place less emphasis on the importance of the frontline service employee's physical attractiveness in promoting a hotel's green LP.

Keywords: Green loyalty programs; Customer reactance; Anticipated guilt; Physical attractiveness; Attention narrowing; Hotel industry.

1. Introduction

Many hoteliers implement green LPs that offer their customers reward points –which can be redeemed in a future booking– for exhibiting pro-environmental behaviour (e.g., reusing towels) while staying in the hotel. Nevertheless, anecdotal evidence reveals that many hoteliers cancel their LPs due to a low participation rate (e.g., the closure of Marriot’s Make a Green Choice LP (Ollila, 2020)). Recent research demonstrated that customers’ trait reactance – which is a personality characteristic that describes customers’ tendency to resist any attempt to control their consumption behaviour or limit their consumption freedom (Dillard and Shen, 2005) – might explain consumers’ tendency not to join green LPs. However, little research has examined how to reduce the negative impact of customers’ reactance in affecting the promotion of a hotel’s green LP to encourage pro-environmental behaviour. There is evidence that suggests that customers’ anticipated guilt, i.e., the anticipated negative emotion that arises from not saving the environment, can motivate customers’ intention to engage in pro-environmental behaviour (Theotokis and Manganari, 2015). Therefore, the aim of this research is to examine how customers’ trait reactance and their anticipated guilt jointly influence their intention to join a hotel’s green LP.

The promotion of the benefits of a hotel’s green LP is typically done by a hotel’s frontline service employees. During their interaction, the physical attractiveness of front-line service employees might influence how customers process the information. Past research in tourism settings has shown the positive influence of front-line service employees’ physical attractiveness on customers’ engagement and consumption behaviour (Wan and Wyer Jr, 2015). However, some studies found that having attractive front-line service employees does not necessarily generate positive customer engagement. This might be because during the interaction with front-line service employees, customers’ attention has been narrowed (e.g., when filing a complaint). This means that the physical attractiveness of front-line service

employees under such conditions has no influence on persuasion (Li, Zhang and Fang, 2022). Despite these mixed findings it is still unclear how the physical attractiveness of front-line service employees works, especially in the context of hotels' green LPs. To contribute to this debate and to endeavour to reach a clearer understanding of the effect of physical attractiveness, I examine a three-way interaction effect among customers' trait reactance, anticipated guilt, and front-line service employees' physical attractiveness. By doing so, I aim to explore the conditions under which customers' trait reactance would influence their intention to join the green LP.

To address the above research gaps, I utilise attention narrowing theory (Wilcox and Prokopec, 2019) that suggests that customers might pay less attention to other information in the surroundings that are less relevant when they anticipate negative emotions (Wilcox and Prokopec, 2019). My research shows that the negative influence of customer trait reactance was strongest when customers anticipated less guilt (vs. more guilt) about not joining the green LPs, and when frontline service employees were perceived to be less attractive (vs. attractive). Interestingly, when customers anticipated more guilt, the influence of trait reactance on their intentions was diminished regardless of the physical attractiveness of frontline service employees. I hope that these findings will add to a more nuanced understanding of the influence of customers' trait reactance on their intention to join a hotel's LP.

The remainder of this article is structured as follows. First, in the literature review, I begin by introducing psychological reactance theory followed by a discussion of anticipated guilt and physical attractiveness. I then introduce attention narrowing theory to further develop the hypotheses. Second, I explain the design of my scenario-based survey. Next, I present the results about the three-way interaction effects. Finally, I discuss the theoretical contributions of my research, their managerial implications, and the limitations.

2. Literature review and hypotheses development

Several studies have examined the negative influence of psychological reactance on LP members, such as decreasing positive attitudes toward LPs (Ding et al., 2021). To the best of my knowledge, no studies have explored how to reduce customers' psychological reactance when inviting them to join green LPs. Since engaging in green LPs (i.e., environmental protection) can be regarded as prosocial behaviour (Graton, Ric and Gonzalez, 2016; Tang, Li and Su, 2022), anticipated guilt could be elicited by the potential violation of customers' views in favour of environmental protection and this might influence customers' pro-environmental behavioural intentions. However, the relationship between anticipated guilt and the influence of psychological reactance is unclear. In addition, earlier research has shown the importance of the physical attractiveness of service employees, for instance in increasing customer engagement (Fang, Zhang and Li, 2020), but current research has largely failed to capture the effect of the physical attractiveness of service employees on psychological reactance.

In the remaining sections, I focus on the effects of anticipated guilt and physical attractiveness when customers are offered invitations to join green LPs. I specifically draw on the attention narrowing theory (Wilcox and Prokopec, 2019) to understand how anticipated guilt and physical attractiveness can be influential in reducing the negative association between trait reactance and customers' intention to participate in hotels' green LPs.

2.1 Trait reactance and intention to join a hotel's green LP

The promotion of LPs can provoke negative responses from some customers (e.g., less intention to revisit a hotel) (Ding et al., 2021). A possible explanation for this may be due to customers' psychological reactance (Kivetz, 2005). Psychological reactance theory (Brehm, 1966) asserts that customers may avoid engaging in an action that threatens their behavioural freedom. Specifically, when customers perceive an influence or promotion that is attempting

to restrict or control their behavioural freedom (e.g., consumption freedom), that influence or promotion generates an aversive state of arousal (i.e., psychological reactance). Therefore, such a motivational state will stimulate customers to restore their sense of freedom by moving in the opposite direction away from the persuasive influence or promotion (e.g., by refusing the persuasive influence or promotion) (Brehm and Brehm, 1981; Clee and Wicklund, 1980).

Although psychological reactance was initially thought to be situation-specific (Brehm, 1966), it is also considered as a personality trait. That is, trait reactance reflects an individual's proneness to experience psychological reactance as induced by different situations (Loebnitz, Frank and Otterbring, 2022). For example, customers who differ in trait reactance may react differently to reactance arousal (Dillard and Shen, 2005; Hong and Faedda, 1996; Reynolds-Tylus, 2019). The influence of the threat to their customers' consumption freedom would be magnified when customers have more trait reactance compared to those customers who have less trait reactance (Kivetz, 2005; Shen, 2015). In this research, I argue that when customers have more trait reactance, they would be more likely to perceive that their consumption freedom has been threatened by the green LP offers. Thus, the more trait reactance customers have, the less intention they will have to participate in green LPs. Thus, I propose the following:

H1. Customers' trait reactance is negatively related to their intention to participate in a green LP.

2.2 Anticipated guilt and its interaction with trait reactance

A feeling of guilt (or guilt hereafter) is a self-conscious emotion that has been shown to play an essential role in promoting pro-environmental behaviour (Baek and Yoon, 2017; Graton, Ric and Gonzalez, 2016; Mkono and Hughes, 2020). Guilt is a negative emotion experienced when a person thinks he or she is doing something inconsistent with his or her

own standards (Hurst and Sintov, 2022; O’Keefe, 2002). In addition, some studies (Bagozzi and Pieters, 1998; Han, 2021; Onwezen, Bartels and Antonides, 2014) have identified anticipated guilt, which refers to an individual’s anticipated feelings about an action that might violate their personal standards. When customers experience anticipated guilt, they might engage in a coping mechanism aimed at regulating their behaviour in order to avoid the feeling of guilt in the future (Duhachek, Agrawal and Han, 2012; Theotokis and Manganari, 2015). For example, customers can anticipate the feeling of guilt when they think that their behaviour during their stay in the hotel is not environmentally-friendly (e.g., not joining the hotel green LP). Therefore, in order to avoid the feeling of guilt, they would alter their decision.

Moreover, another self-conscious emotion that is frequently and simultaneously examined with anticipated guilt in empirical studies is anticipated shame (Amatulli et al., 2019; Kotabe, Righetti and Hofmann, 2019). I have two key reasons for differentiating guilt from shame. First, compared to shame, guilt is linked to a specific behaviour rather than to the global evaluation of self (Duke and Amir, 2019; Niedenthal, Tangney and Gavanski, 1994). Individuals feel guilty when they make a negative assessment of their conduct (e.g., “I lied”), while they feel shame when they make a negative evaluation of their self-image (e.g., “I am a dishonest person”) (Tracy, Robins and Tangney, 2007). Moreover, guilt is controllable and blamed on effort, whereas shame is uncontrollable and is blamed on one’s ability (Tracy, Robins and Tangney, 2007). Thus, I argue that a customer can anticipate guilt but would not anticipate shame if he or she refuses to join the green LP. This is because joining the LP is a specific controllable behaviour and not joining the LP does not lead to the devaluation of one’s self (e.g., feeling powerless).

Second, generating shame requires concern for other people’s evaluation of the subject’s self, whereas guilt is about the concern with one’s own effect on others (Tangney and Dearing, 2003). The focus of my research is on how to encourage customers to join green LPs in the

context of the hotel industry. Saving the environment is a prosocial behaviour (Theotokis and Manganari, 2015; Pelozo, White and Shang, 2013). If the customers anticipate shame about not joining the green LPs, then this might be because they feel other people would think that they might be indifferent to the environment. However, engaging in green LP activities (e.g., reusing towels) would not necessarily incur the judgement of others as it is carried out in a non-public space. Nevertheless, when the activities (e.g., reusing towels) are considered to be important by others and society in general, this might influence how customers assess their own behaviour. Based on the above arguments, I examine the feeling of anticipated guilt in my research.

In the context of a green LP promotion, I argue that customers would anticipate feelings of guilt when they imagine how they would feel if they decided against joining the green LP. This is because not joining the green LP would be inconsistent with their goal to save the environment. Indeed, previous research has shown that feelings of guilt can be aroused if customers' decisions go against their personal goals (e.g., saving the environment) (Bagozzi and Pieters, 1998). Furthermore, research on reactance and anticipated guilt suggests that anticipated guilt can help customers to avoid experiencing psychological reactance (Lindsey, 2005).

Therefore, when customers anticipate feelings of guilt about not joining a green LP, they will take action to avoid the negative feelings (i.e., by deciding to join the green LP). Therefore, the negative association between customer trait reactance and their intention to participate in the green LP would be mitigated if anticipated guilt is present. I propose the following:

H2. Customers' anticipated guilt about not joining the green LP moderates the negative relationship between trait reactance and customers' intention to participate in the green LP such that the negative relationship would be diminished when customers' anticipated guilt is high.

2.3 Physical attractiveness

The evaluation of physical attractiveness largely depends on an individual's subjective perception of a target's facial appearance (Fang, Zhang and Li, 2020). It is defined as "the degree to which a stimulus person's facial features are pleasing to observe" (Patzner, 1983, p. 229). This has generated much research attention in hospitality settings (Li, Zhang and Fang, 2022; Wu, Liang and Gursoy, 2021). Studies have shown that attractive-looking service employees are effective in evoking positive evaluations of customer-employee interactions (Čivrić et al., 2013; Fang, Zhang and Li, 2020; Knežević et al., 2015). This is because attractive service employees are believed to possess many positive traits (Langlois et al., 2000) and this belief leads to customers' desire for social interaction with them (Fang, Zhang and Li, 2020). This perception is clearly consistent with the "what is beautiful is good" stereotype (Eagly et al., 1991). The last phrase is akin to the well-known halo effect (Lucker, Beane and Helmreich, 1981), which refers to the phenomenon when a person's physical attractiveness can lead to a positive evaluation of the person's attributes (e.g., persuasion, trustworthiness, and performance) (Chaiken, 1979; Wu et al., 2019).

Furthermore, previous literature has suggested that physical attractiveness is often more salient for female communicators than for male communicators (Alaei et al., 2022; Li, Zhang and Fang, 2022). This is because females are commonly rated more highly on beauty than males (Fisher and Ma, 2014), and when both males and females are equally physically attractive as receptionists, females were rated higher in terms of physical attractiveness than males because being a receptionist is regarded as a "feminine" job (Pinto, Vieira and Fernandes, 2020). Therefore, for these reasons, my research focuses on the influence of female hotel employees' physical attractiveness in this hotel service setting.

The customer-employee interaction is fundamental in hotel service settings (Fang, Zhang and Li, 2020; Li, Zhang and Fang, 2022). As a way of promoting a green LP, the service

employee's physical attractiveness is a visible cue that can influence customers' decision-making. This is because physical attractiveness could enhance the persuasiveness of a promotion (Kang and Herr, 2006). I argue that when customers perceive service employees' facial features as attractive, they will be more likely to comply with service employees' enjoiners to join the hotel's green LP. Thus, the negative influence of psychological reactance could be mitigated. However, being highly attractive is not always positive (Fisher and Ma, 2014; Li, Zhang and Fang, 2022). For example, Wu, Liang and Gursoy (2021) proposed that when service employees wear facemasks, the halo effect of their physical attractiveness will be eliminated. Although service employees' physical attractiveness has been widely considered to be a key factor in influencing customers' decision-making, there are still mixed findings about the physical attractiveness stereotype. Hence, the boundary conditions of physical attractiveness are discussed as a part of the following account of the attention narrowing theory.

2.4 The attention narrowing theory and information processing

The attention narrowing theory suggests that when customers regulate their behaviour by anticipating negative emotions (e.g., anticipated guilt), their attentional focus is narrowed (Wilcox and Prokopec, 2019). In my research context, the information about the benefits of joining a green LP is relevant information, whilst the physical attractiveness of hotel employees is less relevant information with respect to either joining or not joining the hotel LP. Therefore, when customers anticipate guilt, the physical attractiveness of the hotel frontline service employees will not influence their decisions regarding either joining or not joining the LP. Note that the hotel frontline service employees' physical attractiveness might still be noticed by these customers but have little role in affecting their decisions as to whether to join or not join the program.

Nevertheless, customers who anticipate less guilt would pay more attention to less relevant information e.g., the physical attractiveness of service employees, which may create a halo effect (i.e., the effect of “what is beautiful is good” stereotype) – which might increase the persuasiveness of the green LP promotion. Therefore, the customers who perceive the service employee as less (vs. more) attractive, would be less (vs. more) likely to join the green LP.

In sum, I suggest that the effect of physical attractiveness on reactance reduction is more likely to work under the condition that anticipated guilt is low. In contrast, the effect of physical attractiveness on reactance reduction is less influential when anticipated guilt is high. Accordingly, I propose the following hypotheses:

H3. There is a three-way interaction effect of trait reactance, anticipated guilt and physical attractiveness on customers’ intention to participate in a green LP. The negative relationship between trait reactance and intention to participate in green LPs is strongest when both anticipated guilt and service employees’ physical attractiveness is low.

My conceptual model and hypotheses are graphically presented in Fig.1.

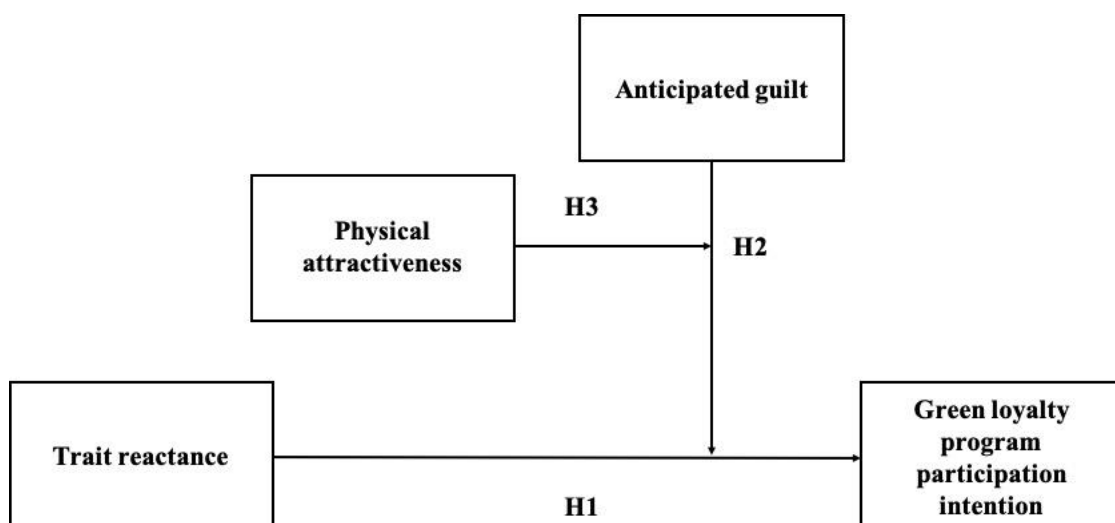


Fig.1. Proposed research model.

3. Research methods

3.1 Sample and data collection

I collected data via a Chinese research agency located in Shenzhen. Participation was voluntary. The respondents were those who had stayed in a hotel during the past two years, held Chinese nationality and currently lived in mainland China. I targeted only Chinese customers because Chinese consumers contribute significantly to outbound tourism worldwide, becoming a key growth driver for many destinations (Persnikov, 2023) and contributing to significant environmental problems (Jiang, Wang and Zhou, 2022).

The initial sample size was 898. However, 62 cases were removed due to inattentive and careless responses calculated using the longstring index and the Mahalanobis distance (DeSimone, Harms and DeSimone, 2015). Specifically, I detected careless responses using the R package *careless* (Yentes, 2021), leaving an effective sample size of 836. Of the respondents, 56.2% were female, while the average age of respondents was 32 years old (ranging from 23 to 56 years). Most respondents (77.4%) had a bachelor's degree and the majority of them were employed full-time (89.6%). The demographic information of respondents is displayed in Table 1.

Table 1
Demographic information of respondents

Characteristics	n	Percent (%)
Gender		
Male	366	43.8
Female	470	56.2
Age		
More than 18 but less than 25	16	1.9
26-30	343	41
31-35	324	8.8
36-40	116	3.8
41-45	32	3.8
More than 45	5	0.6
Education		
Secondary	7	0.8
High school	50	6
Associate/College degree	132	15.8
Bachelor's degree	552	66
Master's degree	82	9.8
Doctoral degree	13	1.6
Employment status		
Employed full-time	749	89.6
Employed part-time	58	6.9
Unemployed	20	2.4
Retired	6	0.7
Student	3	0.4

3.2 Scenario

My research used a hypothetical scenario of the check-in process at a middle-market international hotel chain. I had two reasons for using this stimulus: first, the scenario material about middle-market international hotel chains has been commonly used in earlier tourism literature and furthermore, some of the middle-market hotels globally operate green LPs (e.g., IHG and Marriott). Second, the hypothetical scenario allowed this research to avoid the respondents having any pre-existing knowledge of a hotel brand (Hang, Aroean and Chen, 2020).

Respondents were presented with a scenario which had a description and an image of a female receptionist at a fictitious middle-market international hotel chain (ABC). The scenario

described a situation where the respondents were first-time visitors to the ABC hotel for leisure purposes. A female receptionist helped with the check-in process and introduced the ABC hotel's green LP to respondents. The female receptionist was smiling, wearing a uniform and standing behind a counter (see Appendix). After going through the scenario, respondents were asked to answer a realism check question (i.e., "Please indicate that the scenario described above is", (1 = very unrealistic; 5 = very realistic)) and reported their understanding of the scenario [i.e., "I can imagine myself in the scenario", (1 = strongly disagree; 5 = strongly agree)).

3.3 Measures

All constructs were measured using a seven-point Likert scale, ranging from 1 = strongly disagree to 7 = strongly agree, except where otherwise mentioned. To avoid common method bias, which is a potential issue related to the questionnaire (MacKenzie and Podsakoff, 2012), we used page breaks to distance the measurement of predictors and criterion variables and informed respondents that there were no right or wrong answers in the questionnaire (Podsakoff et al., 2003). A translation and back-translation process was utilised to ensure the accuracy of the Chinese translation of the original English measures.

An 11-item scale ($\alpha = 0.97$) in Hong and Faedda (1996) was used to measure trait reactance. A sample item was "It irritates me when someone points out things which are obvious to me". The anticipated guilt scale consisted of three items ($\alpha = 0.89$) adopted from Amatulli et al. (2019). A sample item was "Think about your feelings if you do not join this green LP. I feel guilty". I measured respondents' perceptions of the physical attractiveness of the receptionist using a three-item scale ($\alpha = 0.79$) from Ki and Kim (2019), the sample item was "I find this female receptionist is good-looking". A three-item scale by Bamberg, Rees and Seebauer (2015)

was used to measure intention to participate in green LPs ($\alpha = 0.76$). The sample item was “My intention to participate in this green LP is strong”.

For control variables, I measured respondents’ perception of the ABC hotel’s motive by using a single item scale from Gao and Mattila (2014) (“Please determine your perceived motivation of ABC hotel for promoting the green LPs” (from 1 = self-interested to 7 = environment interested)). I used this single item because earlier literature had indicated that customers’ perception of a hotel’s underlying motives could influence intention (Chernev and Blair, 2015; Wang, Krishna and McFerran, 2017). A three-item scale ($\alpha = 0.76$) measuring pro-environmental attitudes was adopted from Zhang et al. (2021). The sample item was “I find the idea of being pro-environmental pleasing”. These three items were included because prior literature had demonstrated that pro-environmental attitudes would influence customers’ green behaviour (Graton, Ric and Gonzalez, 2016).

4. Results

4.1 Realism checks and ease of processing

I calculated the mean scores of the realism check question (i.e., “Please indicate that the scenario described above is”) and the ease of understanding (i.e., “I can imagine myself in the scenario”). A one-sample t-test indicated that the mean realism score ($M = 4.23$, $SD = 0.71$) was greater than the midpoint on the 5-point bipolar scale of 3 ($t(835) = 50.27$, $p < 0.001$). Thus, the realism of the scenario was demonstrated. In addition, the one-sample t-test results revealed that the mean score of the ease of processing question ($M = 4.18$, $SD = 0.71$) exceeded the mid-point on the 5-point multi-category ordinal answer format ($t(835) = 48$, $p < 0.001$), showing that participants did not perceive any difficulty in processing the scenario.

4.2 Confirmatory factor analysis

I conducted Confirmatory factor analysis (CFA) using the R package lavaan (Rosseel, 2012) to assess the psychometric properties of each construct and inspected their discriminant and convergent validity. The results yielded an acceptable model fit to the data [Chi-square (χ^2) = 906.80, degrees of freedom (df) = 163, comparative fit index (CFI) = 0.95; Tucker–Lewis Index (TLI) = 0.94, root mean square error of approximation (RMSEA) = 0.07, standardised root mean square residual (SRMR) = 0.04, $p = 0.00$], according to the cut-off criteria (Hu and Bentler, 1999). All item factor loadings exceeded 0.60 (see Table 2). Composite reliability for each scale was greater than 0.70 (Fornell and Larcker, 1981) (ranging from 0.76 to 0.97).

Table 2

Measurement items and loadings

Construct	α	Item	Wording	SL
Trait reactance	0.97	TR1	As a customer, I become frustrated when I am unable to make free and independent decisions.	0.85
		TR2	It irritates me when someone points out things which are obvious to me.	0.83
		TR3	I find contradicting others stimulating.	0.86
		TR4	I resist the attempts of others to influence me.	0.86
		TR5	When something is prohibited, I usually think “that’s exactly what I am going to do.”	0.87
		TR6	I become angry when my freedom of choice is restricted.	0.83
		TR7	As a customer, regulations trigger a sense of resistance in me.	0.87
		TR8	It makes me angry when another person is held up as a model for me to follow.	0.85
		TR9	When someone forces me to do something, I feel like doing the opposite.	0.86
		TR10	I consider advice from others to be an intrusion.	0.86
		TR11	Advice and recommendations induce me to do just the opposite.	0.87
Anticipated guilt	0.89	GUI1	Think about your feelings if you do not join this green LP. I feel guilty.	0.84
		GUI2	Think about your feelings if you do not join this green LP. I feel culpable.	0.89
		GUI3	Think about your feelings if you do not join this green LP. I feel remorseful.	0.83
Physical attractiveness	0.79	PA1	I find this receptionist is good-looking.	0.76
		PA2	I find this receptionist is attractive.	0.78
		PA3	I find this receptionist is visually appealing.	0.71
Green loyalty program participation intention	0.76	GPI1	My intention to participate in this green LP is strong.	0.69
		GPI2	My desire to participate in this green LP is strong.	0.79
		GPI3	I am very likely to join this green LP.	0.68

Notes: TR= trait reactance; GUI = anticipated guilt; PA = physical attractiveness; GPI = green LP participation intention; SL = standardised loadings; α = Cronbach’s alpha; CFA model fit indices: $\chi^2(163) = 906.80$, CFI = 0.95; TLI = 0.94, RMSEA = 0.07, SRMR = 0.04, $p = 0.00$.

Furthermore, convergent validity assessed by Average Variance Extracted (AVE) indicated that all constructs have a higher AVE than the benchmark of 0.50 (Bagozzi and Yi, 2012) (ranging from 0.52 to 0.73). To assess discriminant validity, I calculated the square root of the AVE for all constructs. The results showed that the square root of the AVE for all constructs was greater than all corresponding correlations, indicating good discriminant validity (Fornell and Larcker, 1981) (see Table 3).

Table 3
Psychometric measures and correlation among key constructs

Construct	Mean	SD	CR	AVE	TR	GUI	PA	GPI
TR	4.11	1.61	0.97	0.73	0.85			
GUI	4.45	1.52	0.89	0.73	0.13**	0.94		
PA	5.15	1.11	0.79	0.56	-0.25**	0.15**	0.89	
GPI	5.24	1.01	0.76	0.52	-0.26**	0.22**	0.66**	0.72

Note: $p < 0.01^{**}$; square root of the average of variance extracted (AVE) is in bold in the main diagonal. CR = composite reliability; AVE = Average Variance Extracted; SD = standard deviation; TR= trait reactance; GUI = anticipated guilt; PA = physical attractiveness; GPI = green LP participation intention.

In addition, the moderation can be spurious when a predictor highly correlates with a moderator (Daryanto, 2019; Daryanto and Lukas, 2022). My results reveal that anticipated guilt and physical attractiveness were not highly positively correlated ($r = 0.15$, $p < 0.01$). The result revealed no threat to the validity of the moderation tests.

Moreover, I also checked for common method bias by creating a latent method factor that included all the items in the conceptual model (Podsakoff et al., 2003). My results revealed a good fit in line with the original CFA model without the unmeasured latent factor ($\chi^2 = 441.27$, $df = 139$, CFI = 0.98, TLI = 0.97, RMSEA = 0.05, SRMR = 0.02, $p = 0.00$). Thus, common method bias should not affect my research.

4.3 Hypothesis testing

To test my hypotheses, I conducted a hierarchical regression using SPSS version 27. First, I mean-centred the key psychometric constructs (i.e., trait reactance, anticipated guilt, physical attractiveness) prior to generating the proposed interaction term to produce meaningful interpretation (Hayes, 2013). Next, I created three two-way interaction terms (i.e., trait reactance \times anticipated guilt, trait reactance \times physical attractiveness, anticipated guilt \times physical attractiveness) as well as a three-way interaction term (trait reactance \times anticipated guilt \times physical attractiveness). In my analysis, I first entered the covariates (i.e., perceived hotel motive and pro-environmental attitude; Model 1). Next, I entered trait reactance as the main effect variable (i.e., Model 2) followed by the two-way interaction terms (i.e., Model 3) and finally the three-way interaction term (i.e., Model 4).

My results are presented in Table 4. The results revealed that the two control variables perceived motive ($b = 0.15$, $p < 0.001$), and pro-environmental attitude ($b = 0.74$, $p < 0.001$), as expected, both had a significant positive influence on customers' intention (i.e., Model 1). The main effect of customers' trait reactance on intention to join the green LP (i.e., Model 2) was significant ($b = -0.03$, $p < 0.05$), supporting H1 that respondents' trait reactance has a negative association with the intention to join ABC hotel's green LP. According to Model 3, the interaction between trait reactance and anticipated guilt was significant ($b = 0.05$, $p < 0.001$), supporting H2. Moreover, Model 4 shows that the three-way interaction among trait reactance, anticipated guilt and physical attractiveness was negative and significant ($b = -0.03$, $p < 0.05$), supporting H3. To control for the spurious moderation effect (i.e., the predictor and moderator are highly correlated) (Daryanto, 2019; Daryanto & Lukas, 2022), I created three quadratic terms on moderators and predictors (i.e., trait reactance, anticipated guilt and physical attractiveness). I then used SPSS Macro ModLR (Daryanto, 2022) to check potential spurious moderation. By controlling the quadratic terms, the interaction effect among trait reactance,

anticipated guilt and physical attractiveness was still significant, thus the interaction effect should not be spurious ($b = -0.04$, $t = -2.58$, $p = 0.01$, effect size = 0.01).

Table 4

Regression analysis

Variable	Model 1		Model 2		Model 3		Model 4	
	b	se	b	se	b	se	b	se
(Constant)	0.607**	0.20	2.34***	0.25	2.65***	0.25	2.68***	0.25
Control variables								
Perceived motive	0.15***	0.04	0.11**	0.03	0.09**	0.03	0.09**	0.03
Pro-environmental attitude	0.74***	0.03	0.46***	0.04	0.40***	0.04	0.41***	0.04
Main effects								
Trait reactance			-0.03*	0.02	-0.51**	0.02	-0.04*	0.02
Anticipated guilt			0.06***	0.02	0.12***	0.02	0.12***	0.02
Physical attractiveness			0.31***	0.03	0.30***	0.03	0.30***	0.03
Two-way interaction								
Trait reactance × anticipated guilt					0.05***	0.01	0.06***	0.01
Trait reactance × physical attractiveness					-0.01	0.02	-0.01	0.02
Anticipated guilt × physical attractiveness					-0.06***	0.02	-0.05**	0.02
Three-way interaction								
Trait reactance × anticipated guilt × physical attractiveness							-0.03*	0.01
R ²	0.50		0.56		0.598		0.59	
ΔR ²	0.50***		0.06***		0.02***		0.00*	

Notes: b = unstandardized coefficient and one-tailed test of significance were used; se = standardized error. *p < 0.05, **p < 0.01, ***p < 0.001. Perceived motive = respondents' perception of the ABC hotel's motives.

4.4 Group analysis

Following the same procedure described by Song, Daryanto and Soopramanien (2019), I conducted two-way interaction between trait reactance and anticipated guilt under high or low physical attractiveness conditions as low and high based on the above or below one standard deviation to the mean. My results revealed that in both conditions (high and low physical attractiveness), the two-way interaction effects were significant (low physical attractiveness: $b = 0.08$, $t = 2.69$, $p = 0.01$, $f^2 = 0.02$; high physical attractiveness: $b = 0.08$, $t = 2.69$, $p = 0.01$, $f^2 = 0.02$). Specifically, at a low level of physical attractiveness, the effect of trait reactance and green LP participation intention was only significant at the low level of anticipated guilt but was insignificant in the high level of anticipated guilt ($b = -0.27$, $t = -4.89$, $p = 0.00$ at low anticipated guilt, $b = -0.09$, $t = -1.75$, $p = 0.08 > 0.05$ at high anticipated guilt).

Moreover, at a high level of physical attractiveness, the effect of trait reactance and green LP participation intention was significant at the low level of anticipated guilt but was insignificant in the high level of anticipated guilt ($b = -0.07$, $t = -2.86$, $p < 0.001$ at low anticipated guilt, $b = 0.01$, $t = 0.41$, $p = 0.68 > 0.05$ at high anticipated guilt). Therefore, the negative effect of trait reactance on green LP participation intention was the strongest among four groups when anticipated guilt and physical attractiveness were both low, supporting H3.

4.5 Slope difference test

To further test the three-way interaction, I tested for the difference among the slopes of the lines (Dawson and Richter, 2006). Table 5 displays the slope difference tests for all the simple

slopes graphically shown in Fig.2. Specifically, the results support our argument. The negative association between customers' trait reactance and green LP participation intention was strongest when both anticipated guilt and physical attractiveness were low (condition 4: slope = -0.13; $t = -3.42$; $p < 0.001$). In comparison, when anticipated guilt was low and physical attractiveness was high, the effect was less strong but still significant (condition 3: slope = -0.08; $t = -2.80$; $p < 0.01$), supporting H3. In other cases (conditions 1 and 2), the relationship between trait reactance and green LP participation intention was insignificant.

Table 5
Simple slope analysis for three-way interaction

Pair of comparisons	Green LP participation intention	
	Slope	t
(1) High anticipated guilt, High physical attractiveness	-0.02	-1.18
(2) High anticipated guilt, Low physical attractiveness	0.06	1.40
(3) Low anticipated guilt, High physical attractiveness	-0.08	-2.80**
(4) Low anticipated guilt, Low physical attractiveness	-0.13	-3.42***
<i>Slope difference</i>		
(1) and (2)		-1.64
(1) and (3)		2.29*
(1) and (4)		2.388**
(2) and (3)		2.63**
(2) and (4)		4.19***
(3) and (4)		1.01

Note: Pair numbers correspond to the numbers listed in Fig.2.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

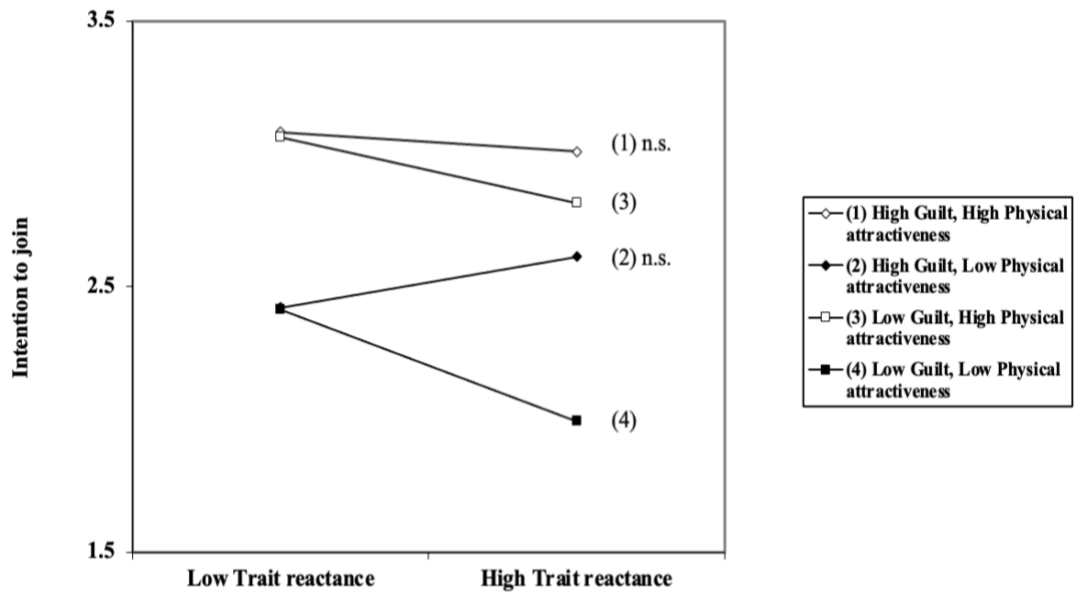


Fig.2. Moderating effect of anticipated guilt and physical attractiveness on the relationship between trait reactance and green loyalty program participation.

5. Discussion and conclusion

Hotels' green LPs are essential for encouraging customers' pro-environmental behaviour. However, despite hotels putting great effort into promoting and operating their green LPs, the negative influence of trait reactance can reduce customers' intentions to engage in pro-environmental behaviour. As mentioned in the introduction, some hotels have even closed their green LPs because of lack of interest or support from customers. My research seeks to understand under what conditions the negative influence of customers' trait reactance might be mitigated. In particular, I examine the influence of customers' trait reactance on their intentions to join green LPs using different levels of anticipated guilt and taking into consideration the physical attractiveness of frontline service employees. My results reveal a significant three-way interaction effect among trait reactance, anticipated guilt, and physical attractiveness. This three-way interaction effect will provide a more nuanced understanding of how these constructs influence customers' intention to join a green LP. To the best of my knowledge, this research is the first to uncover the three-way interaction effect. Specifically, my research not only demonstrates the negative impact of trait reactance on customers' intentions to join a hotel's green LP but also provides insights for scholars and hoteliers regarding how to reduce the negative influence of psychological reactance on customer's decision-making in the context of green LPs (see discussion below). In the next section, I discuss in detail the theoretical as well as the practical implications of my research, along with the limitations.

5.1 Theoretical implications

The role of trait reactance on customer responses towards the promotion of green LPs has been rarely examined in the LP literature. As far as I know, my research is the first to empirically demonstrate the boundary conditions of the influence of customers' trait reactance on their intentions to join green LPs. Although previous literature reveals that psychological reactance induced by LP offers leads customers to react negatively (e.g., Ding et al., 2021), one contribution of my research is that I find the conditions when negative influence of customers' trait reactance does not occur. Consequently, my research provides evidence that whether customers are high or low in trait reactance, they will respond in the same way to green LP promotion if they expect more anticipated guilt about not joining the green LP. I illustrate the need to go beyond merely studying the negative consequences of psychological reactance and highlight the need for a better understanding of what other factors could potentially change the outcome from the customers' trait reactance on their decision-making in the context of green LPs.

While previous research has suggested anticipated guilt is effective in encouraging hotel customers to behave in a more sustainable way (e.g., Theotokis and Manganari, 2015), no tourism research so far has considered how the role of anticipated guilt might affect customers' psychological reactance when it is induced by green LP offers. My research offers new insights into this part of the sustainable tourism research field. I find that the level of anticipated guilt matters. In particular, high anticipated guilt is the key to persuading customers to join green LPs, whereas low anticipated guilt is not sufficient to help to promote green LPs to customers

who are high in trait reactance. My research is among the first to associate the levels of anticipated guilt with customers' trait reactance and helps address the question of how best to increase the promotional effectiveness of green LPs.

In terms of the effect of frontline service employees' physical attractiveness, as explained in the literature review section, the findings are mixed (Fang, Zhang and Li, 2020; Li, Zhang and Fang, 2022; Wu, Liang and Gursoy, 2021). I find that the main effect of frontline service employees' physical attractiveness is significant and positively influences customers' intention to join a hotel's green LP (see Table 2). This finding is consistent with the halo effect of frontline service employees' physical attractiveness (Fang, Zhang and Li, 2020), supporting the advantage of having attractive frontline service employees in the hotel setting to encourage customers to join green LPs. Interestingly, however, the halo effect of frontline service employees' physical attractiveness has no impact on green LP persuasion when customers anticipated more guilt about not joining the hotel's green LP. This finding offers a new insight into understanding the halo effect of frontline service employees' physical attractiveness.

My research demonstrates the boundary condition of the effect of frontline service employees' physical attractiveness which has not been shown before. Furthermore, I looked at the joint effect of physical attractiveness and anticipated guilt from the perspective of the attention narrowing theory (see Wilcox and Prokopec, 2019). This theory cannot be applied to explain the findings of the previous research mentioned above (e.g., Li et al., 2022) because the attribution of the wrongdoing in Li et al.'s (2022) context (e.g., service failure) does not stem from customers. Li et al. (2022) examined how frontline service employees' physical

attractiveness influences customers' attitude towards a firm following a service failure. In my research, anticipated guilt arises when customers see that their decision and thus their behaviour might not contribute to their own environmental goals. This finding also represents another novel contribution to the earlier studies by showing the joint effect of a service employee's physical attractiveness and anticipated guilt in affecting customers' decision to join a hotel's LP.

Building on a synthesis of psychological reactance theory (Brehm, 1966) and attention narrowing theory (Wilcox and Prokopec, 2019), I propose and confirm a significant three-way interaction effect among trait reactance, anticipated guilt and frontline service employee's physical attractiveness. My research expands the application of attention narrowing theory into a novel domain—the green LP context. My research uncovers the ways consumers allocate their attention resources when processing the message that encourage them to engage in pro-environmental behaviour. Furthermore, my research showcases how the attention narrowing theory (Wilcox and Prokopec, 2019) can be effectively integrated with psychological reactance theory, offering a boundary condition on the influence of trait reactance on customer behaviour. By investigating the joint influence of customers' anticipated guilt related to not joining a green LP and the physical attractiveness of frontline service employees, my study unravels a multifaceted relationship that exerts a profound impact on customers' intentions regarding green LP participation.

5.2 Managerial implications

My research has two important implications for managers and for the marketing of hotels when promoting green LPs that encourage customers' pro-environmental behaviour. First, my results revealed that hotels' promotion of green LPs might not be successful when customers feel less anticipated guilt about not joining the green LP. To improve the persuasiveness of green LP promotions, managers and marketers should consider thinking about ways to make customers feel more guilty about not protecting the environment. My results further supported the view that when customers feel more anticipated guilt about not joining green LPs, then the relationship between trait reactance and green LP participation is diminished. Thus, I suggest that hotel managers might include the assessment of customers' anticipated guilt in their pre-arrival survey to gain some initial insights into how customers score their own anticipated guilt about not joining the hotel green LPs. This can be done before customers check in, and thus the promotion appeals can be adjusted accordingly to encourage customers to join the hotel's green LP. To deal with customers who have less anticipated guilt, hotel managers could provide vocational training to improve frontline service employees' pro-environmental knowledge. For example, frontline line service employees can increase customers' anticipated guilt by providing more information about natural resource scarcity and highlighting the responsibility or relevance of customers' efforts in helping to avoid environmental deterioration.

Second, I suggest that when considering the role of the facial appearance of service employees, customers' anticipated guilt should also be taken into consideration. My results

identified that beauty is not always effective in promoting green LPs. This is because, as the findings of my study suggest, the halo effect of physical attractiveness depends on customers' anticipated emotions. In particular, the positive influence of frontline service employees' physical attractiveness can only be associated with less anticipated guilt (linked to not joining the green LP) when trying to affect the association between customers' trait reactance and their intention to join a green LP. However, in this case, the physical attractiveness stereotype can reduce the influence but cannot suppress the impact of trait reactance on intention to join the green LP because anticipated guilt also influences the relationship (see Table 2). Thus, I suggest hoteliers could leverage the frontline service employees' physical attractiveness to encourage customers to join the green LP but hotel promotions have also to take into account the level of the anticipated guilt of the potential customers. For example, if the pre-arrival survey indicates potential customers have less anticipated guilt, hotel managers can utilise their frontline service employees' physical attractiveness when promoting hotel's green LPs to customers. However, when the customers have more anticipated guilt about not joining the green LP, the frontline service employees' physical attractiveness should not be the strategy used to increase the effectiveness of the persuasiveness of the hotel's green LP for these particular customers.

5.3 Limitations and future directions

My research has some limitations, which could provide directions for future research. First, I only considered respondents' gender as a control variable. However, future research could

consider the gender congruence effect between customers and hotels' service employees (Li, Zhang and Fang, 2022). More specifically, future research could add male receptionists to the scenario and test customers' responses when the service providers are of the same or of a different gender to the customer. Second, anticipated guilt would not necessarily always reduce psychological reactance. For example, if customers perceive guilt to be a manipulative intent on the part of the service provider, psychological reactance will be aroused (Graton et al., 2016). Future research could consider the boundary condition of anticipated guilt in the promotion of hotels' green LPs. Third, I only focus on a specific culture (i.e., China). However, the standards and importance of physical attractiveness in service contexts vary in different cultures (Sugiyama, 2015). Future research could further examine my findings in different cultures. Fourth, my research pertains to the likelihood of joining the hotels' green LP and does not observe actual participation. Due to the attitude-behaviour gap in pro-environmental literature, not all pro-environmental behavioural intention will automatically translate into actual pro-environmental behaviour (Miao and Wei, 2013). Thus, future research could extend my findings into a real world field setting to further examine the interrelationship between intention to join green LPs and actual participation.

Chapter 4

Promoting Green Loyalty Program Rewards:

The Role of Effort–Reward Congruity and Goal–Reward Congruity

Abstract

Many green LPs provide their members with various types of reward which include eco-friendly rewards and non-eco-friendly rewards. Inherent in any LP is the risk of inducing psychological reactance which might affect LP members' reward preferences. Building on psychological reactance theory, I demonstrate how LP members process the above two types of rewards. Across three studies, I show that LP members are more likely to choose non-eco-friendly rewards that are congruent with the LP effort as an attempt to reduce psychological reactance when they do not have a salient pro-environmental goal, providing supporting evidence for the effort-reward congruity hypothesis. However, as predicted by the goal-reward congruity hypothesis, I find that LP members who have a salient pro-environmental goal are more likely to choose eco-friendly rewards and this preference is strengthened by psychological reactance.

Keywords: Goal-reward congruity; Effort-reward congruity; Psychological reactance theory; Pro-environmental goal; Eco-friendly reward; Loyalty programs

1. Introduction

In line with the calls for the United Nations' Sustainable Goals (United Nations, 2015), environmental conservation has become embedded in today's business. Packaging is regularly criticised for contributing to the largest plastic waste due to insufficient recycling (Chhabra, 2022). Nowadays, many retailers are starting to develop green LPs to reward and motivate LP members' pro-environmental behaviour. For example, UK cosmetics retailer *LUSH*'s "BRING IT BACK" program encourages LP members to recycle plastic packaging, and it had achieved over 70k pieces of returned packaging in 2022 (LUSH, 2022). Such green LPs with pro-environmental initiatives offer their members different rewards, often with a mixture of eco-friendly and non-eco-friendly products (Li et al., 2021; Yang and Thøgersen, 2022). However, designing a green LP reward scheme is an ongoing challenge (Hailstone, 2022) and eco-friendly rewards might not always be preferred by LP members (Yang and Thøgersen, 2022). Thus, my research aims to investigate the circumstances under which LP members make their reward choices.

LPs can inherently produce psychological reactance, and that is when LP members feel that their consumption freedom is threatened (Kivetz, 2005). As a consequence, LP members might respond negatively toward LP offerings in order to restore their threatened freedom (Ding et al., 2021). For example, LP members can decrease their loyalty toward LPs (Chang and Wong, 2018) or generate negative word-of-mouth (Wendlandt and Schrader, 2007). Moreover, LP members' personality traits (i.e., trait reactance) can also influence how they react toward the LP offerings. For instance, LP members who are high (vs. low) in trait reactance would be more (vs. less) likely to re-establish their consumption freedom since they have a greater tendency to experience psychological reactance induced by LPs (Kivetz, 2005). Thus, given the potential negative effect of psychological reactance induced by green LPs, it is vital for researchers and marketers to understand how to design green LP rewards to help

reduce the negative influence of LP members' psychological reactance, especially for those who are more sensitive to restrictions on their consumption freedom.

The *effort-reward congruity preference* proposed by Kivetz (2005) suggests that LP rewards can be used to reduce LP members' psychological reactance. Specifically, by choosing the reward congruent with the effort (e.g., collecting 10 empty shampoo bottles and redeeming these for a full bottle of shampoo), LP members might believe that "they are engaging in the effort activity for its own sake and not in order to attain some extrinsic goal" (Kivetz, 2005, p. 725). This misattribution reduces their feelings that their freedom is threatened by the LP offerings. However, in so far as I know, the literature on how LP members react to psychological reactance induced by green LPs is scarce. Furthermore, it is unclear why and how a particular type of LP reward works better to reduce psychological reactance. To address this gap, I employ the effort-reward congruity hypothesis (Kivetz, 2005) to explain why green LP members choose non-eco-friendly rewards despite the fact that eco-friendly rewards are also offered. In my research, I demonstrated that non-eco-friendly rewards are preferred when they are congruent with the green LP effort (i.e., the *effort-reward congruity hypothesis*).

In previous research, pro-environmental goals have been identified as salient goals behind engaging in green behaviour (Yang and Thøgersen, 2022). In the green LP context, LP members might have pro-environmental goals whose levels are varied, and these goals can be made more salient via priming. The goal compatibility effect argues that consumers are more likely to make choices based on the compatibility between their salient goals and the choices used to achieve those goals (Chernev, 2004; Pena - Marin and Yan, 2021). Therefore, when green LP members hold a salient pro-environmental goal, they may select the rewards (e.g., eco-friendly rewards) congruent with their needs for pro-environmental goal pursuits (i.e., the *goal-reward congruity hypothesis*). My research demonstrated that eco-friendly rewards are preferred when they are compatible with LP members' pro-environmental goals. Interestingly,

further, I show that LP members' psychological reactance can strengthen the preference for eco-friendly rewards.

My research aims to make two main theoretical contributions. First, I contribute to psychological reactance theory (Brehm, 1966) and the LP literature by demonstrating effort-reward congruity and goal-reward congruity hypotheses in the context of green LPs in a situation when LP members' pro-environmental goal is absent vs. present. Importantly, my study provides a boundary condition for the effort-reward congruity hypothesis (Kivetz, 2005). That is, I show that effort-reward congruity preference, as revealed in past research (Kivetz, 2005), did not occur when LP members' pro-environmental goals were made salient. Instead, LP members would be more attracted to the congruity between the type of reward and their pro-environmental goals. Second, I add a novel finding to the goal literature by identifying that psychological reactance can strengthen the goal-reward congruity preference, a notion that is subsumed in the goal literature as goal compatibility effect. In addition to the preceding theoretical contributions, my research is relevant for the management of LP. My findings suggest that green LP marketers and managers could leverage the LP reward scheme effectively to cope with the negative influence of psychological reactance induced by green LP offerings.

The remainder of this paper is organised as follows. First, I discuss the theoretical background of my research (i.e., psychological reactance theory) and develop my hypotheses. Next, I explain an overview of my studies (including one experiment and two scenario-based surveys), followed by my presentation of the design and analysis of the studies. Then, I discuss my findings and the theoretical contributions and managerial implications of my research. Finally, in the last section of the paper, I present my conclusions.

2. Theoretical background and hypotheses development

LPs can create psychological reactance by limiting LP members' consumption freedom. However, Kivetz (2005) demonstrated that LP members prefer effort-congruent rewards as a way to reduce psychological reactance. Note that LP members are not aware of the reason why they make the choice because the process appears to be subconscious (Kivetz, 2005, p.727). This finding might explain why green LP members prefer non-eco-friendly rewards to eco-friendly rewards. Moreover, in the context of green LPs, I consider the role of pro-environmental goals in green LP members' reward preferences. Earlier research suggests that consumers' salient goals could direct choice preferences (Bryksina, 2020; Pena - Marin and Yan, 2021), and consumers would prefer rewards compatible with their salient goals (Chernev, 2004; Pena - Marin and Yan, 2021). But it is unclear whether green LP members' pro-environmental goals might lead them to choose eco-friendly rewards congruent with their goals and how this preference contributes to reactance reduction. In the section below, informed by psychological reactance theory (Brehm, 1966) and the effort-reward congruity hypothesis (Kivetz, 2005), I propose that the goal-reward congruity hypothesis may explain the influence of LP members' salient pro-environmental goals on their preference for eco-friendly rewards. I also explain under which circumstances choosing eco-friendly rewards can be used as a way to reduce the negative influence of psychological reactance induced by green LP offerings.

2.1 Psychological reactance theory

Psychological reactance theory (Brehm, 1966) posits that consumers can experience an unpleasant motivational state of psychological reactance if they encounter what they perceive to be an attempt to control or threaten how and what they want to consume. The experience of psychological reactance can motivate consumers to try to restore or re-establish their consumption freedom, which they feel is threatened (Clee and Wicklund, 1980). Past research

also documents that psychological reactance is not only context-specific but also can be influenced by individuals' personality traits (termed *trait reactance*) (Hong and Faedda, 1996). Specifically, consumers could experience more psychological reactance and would be more motivated to reduce psychological reactance when they are high in trait reactance and, therefore, have a greater tendency to experience psychological reactance (Dillard and Shen, 2005).

Perceptions of the complexity of using the LP and evaluating LP requirements have been identified in the literature as potential triggers of psychological reactance, for example, perceptions about the preferential treatment between non-members and LP members (Ding et al., 2021); the difficulty in understanding how the LP works (Chang and Wong, 2018); the effort required to get LP rewards; and the limited range of options within the LP rewards that LP members can choose from (Kivetz, 2005). In this research, I focus on green LPs that reward LP members for engaging in pro-environmental behaviour (Liu and Mattila, 2016). I aim to examine how green LP members can reduce the negative influence of psychological reactance that they experience as induced by the green LP offerings.

2.2 Effort-reward congruity preference

Past research on LPs has emphasised that LP members reduce reactance in two ways. First, LP members could resist LP offerings either attitudinally (e.g., forming a negative attitude toward the LP (Ding et al., 2021)), or behaviourally (e.g., decreasing their intention to use the LP, or generating negative-word-of mouth (Wendlandt and Schrader, 2007)). Second, LP members might accept LP offerings (i.e., choosing the LP reward that is congruent with the effort as required by LPs (Kivetz, 2005)). Specifically, Kivetz (2005) showed that members prefer LP rewards that are congruent with their LP efforts. As an illustration, if LP members are required to purchase 10 boxes of cereal as an LP effort and are prompted to choose either three boxes of cereal or 500 frequent flyer miles as their reward, they would then prefer three

boxes of cereal. This is because the former reward (boxes of cereal) is congruent with their efforts, termed by Kivetz (2005) as *effort-reward congruity preference*, whereas the latter (frequent flyer miles) is not congruent with their efforts. The explanation for the effort-reward congruity preference is that when LP members choose an effort-congruent reward, they attribute their engagement in the LP as being intrinsically motivated rather than as being extrinsically motivated (i.e., where the extrinsic motivation is seen as being driven by the attractiveness of the LP reward).

Another consideration when examining green LP members' reactance reduction, is that many consumption activities are goal-directed (Bagozzi and Dholakia, 1999). My research focuses on the role of salient pro-environmental goals that green LP members have when they are engaging in pro-environmental behaviour (Kalamas, Cleveland and Laroche, 2014; Wong et al., 2021). This research examines how green LP members' salient pro-environmental goals could influence their preferences for green LP rewards, as a way of reducing psychological reactance. The role of green LP members' salient pro-environmental goals in reducing psychological reactance has not been examined in past studies. Specifically, I propose that when LP members have a salient pro-environmental goal, they will seek compatibility between their pro-environmental goals and the reward in order to achieve their pro-environmental goals. Therefore, in this case, green LP members are more likely to choose eco-friendly rewards compatible with their salient pro-environmental goals. I term this *goal-reward congruity preference*. In the next section, I will explain this in more detail.

2.3 Goal-reward congruity preference

Goals are desired end states that direct consumer behaviour (Bagozzi and Dholakia, 1999; Higgins, Nakkawita and Cornwell, 2020). Consumers often have multiple goals at one time, competing for limited time and attention (Etkin, Evangelidis and Aaker, 2015; Fishbach and

Dhar, 2005; Lu, Park and Nayakankuppam, 2022). It has been demonstrated that consumers' consumption behaviour is largely influenced by their salient goals, which are the highest levels of goal activation within their minds (Bryksina, 2020; Laran and Wilcox, 2011; Ratneshwar, Pechmann and Shocker, 1996). As such, examining a salient goal is one of the keys to understanding consumption behaviour (Bagozzi and Dholakia, 1999; Bryksina, 2020). Moreover, goals can become salient through priming since priming can shift consumers' attention to cues relevant to a goal (Walsh, 2014). In the green LP context, LP members might vary in their pro-environmental goals when they engage in pro-environmental behaviour as required by green LPs, and such goals can be made salient by priming. Consumers often pursue their salient goals through seeking compatibility between the reward choices and their salient goals (Chernev, 2004; Nowlis and Simonson, 1997; Pena - Marin and Yan, 2021; Sokolova and Krishna, 2021; Tversky, Sattath and Slovic, 1988). Importantly, making a choice of reward that is compatible with their salient goal (termed as goal-congruent rewards) can make LP members "feel right" (Aaker and Lee, 2001; Higgins et al., 2003), which leads to the perception of progress towards achieving the goals (Etkin and Ratner, 2013; Sharif and Woolley, 2020). Accordingly, previous LP literature suggests that LP members prefer rewards congruent with their consumption goals (Lee et al., 2021; Suh and Yi, 2012), yet no research has examined how such a preference might contribute to the reduction of reactance. Based on the preceding discussion, I argue that when green LP members have salient pro-environmental goals, they seek the reward congruent with their these goals as suggested by the goal compatibility effect. Non-eco-friendly rewards in this situation are likely to be disregarded by the LP members, despite such rewards being congruent with the green LP efforts, because these non-eco-friendly rewards are not congruent with LP members' pro-environmental goals and do not help LP members' pro-environmental goal pursuits.

The present research proposes effort-reward congruity preference (Kivetz, 2005) and goal-reward congruity preference to explain green LP members' reward preferences. Specifically, when green LP members do not have a salient pro-environmental goal, they are more likely to choose non-eco-friendly rewards congruent with the green LP effort in order to reduce psychological reactance – a phenomenon described as effort-reward congruity hypothesis (Kivetz, 2005). In contrast, when green LP members have salient pro-environmental goals, they are more likely to choose eco-friendly rewards compatible with those goals, a phenomenon that can be described as goal-reward congruity preference. My rationale is that when LP members consciously want to protect the environment, their pro-environmental goals are highly prioritised and become salient (Margetts and Kashima, 2017). Thus, green LP members can see choosing eco-friendly rewards as achieving their salient pro-environmental goals and thus restore their consumption freedom and thereby they reduce the psychological reactance induced by green LP offerings. I hypothesise:

H1. Green LP members will prefer non-eco-friendly LP rewards congruent with green LP efforts if their pro-environmental goals are not salient. In contrast, they will prefer eco-friendly LP rewards congruent with their goals if their pro-environmental goals are made salient.

As predicted above, when the pro-environmental goal is not made salient, green LP members will choose the reward congruent with the green LP effort. Nevertheless, green LP members have different levels of trait reactance, which means they can react differently when their consumption freedom is threatened (Dillard and Shen, 2005). Therefore, there is a need to test directly whether the trait reactance influences the preference for effort-reward congruity. In line with Kivetz's (2005) finding, "...the preference for effort-reward congruity reflects consumers' attempt to reduce the reactance aroused by external inducements. This explanation

implies that consumers who are more predisposed to experiencing psychological reactance should be particularly sensitive to the correspondence between effort and reward” (Kivetz, 2005, p. 728), thus, the preference for effort-reward congruity will be greater for those who are high in trait reactance. In the green LP context, I contend that green LP members will be motivated to choose non-eco-friendly rewards that are congruent with green LP effort when they are high (vs. low) in trait reactance. Therefore, I hypothesise:

H2. When green LP members’ pro-environmental goals are not salient, trait reactance is positively related to the effort-reward congruity preference.

When green LP members hold a salient pro-environmental goal, they may be more likely to be attracted to the eco-friendly reward. The reason is that such a reward is compatible with their salient pro-environmental goal. As there are variations in the level of green LP members’ trait reactance, the question is how trait reactance influences green LP members’ preference for goal-reward congruity. I argue that choosing an eco-friendly reward can facilitate green LP members to pursue their salient pro-environmental goals. And this might help to reduce the psychological reactance that is induced by the green LP offerings. Those green LP members who are high in trait reactance will be more likely to experience the psychological reactance compared to those who are low in trait reactance. As a consequence of this, I predict that green LP members who are high (vs. low) in trait reactance will be more sensitive to the compatibility between the type of LP reward and their salient pro-environmental goals. Thus, I propose the following:

H3. When green LP members’ pro-environmental goals are salient, trait reactance is positively related to the goal-reward congruity preference.

2.4 Overview of the current research

Across three studies, I demonstrated the occurrence of the goal-reward congruity preference and effort-reward congruity preference (Kivetz, 2005) in the green LP context. In Study 1, I had two objectives. First, I aimed to examine whether the effort-reward congruity preference (Kivetz, 2005) could explain LP members' preference for non-eco-friendly rewards that were congruent with green LP effort when their pro-environmental goals were not made salient (i.e., no goal condition). Second, I aimed to examine whether making LP members' pro-environmental goals salient would lead them to prefer eco-friendly rewards that were congruent with their pro-environmental goals (i.e., pro-environmental goal condition). In Study 2, replicating the no goal condition of Study 1, I aimed to examine whether effort-reward congruity preference can also be attributed to reactance reduction in the context of a green LP. Specifically, I wanted to test whether trait reactance can help explain green LP members' preference for non-eco-friendly LP rewards that are congruent with green LP effort over eco-friendly rewards. Finally, in Study 3, replicating the pro-environmental goal condition of Study 1, I sought to examine whether goal-reward congruity preference can also be attributed to reactance reduction.

3. Study 1

In this study, I aimed to test H1. That is, that the preference for effort-reward congruity (Kivetz, 2005) would hold when participants do not have a salient pro-environmental goal. In contrast, when participants have a salient pro-environmental goal, they would show a goal-reward congruity preference. I used two types of green LP reward: eco-friendly rewards vs. non-eco-friendly rewards. I predicted that when participants were not primed with a pro-environmental goal, they would exhibit a greater preference for the effort-congruent reward regardless of the type of green LP reward (i.e., eco-friendly vs. non-eco-friendly). In contrast, I predicted that participants would prefer rewards compatible with their goals (i.e., eco-friendly rewards) if their pro-environmental goals were made salient through priming.

3.1 Method

I cooperated with a professional research agency in China to collect data from a total of 331 Chinese participants (47.4% females, $M_{\text{age}} = 30$). To ensure that only residents of mainland China participated, the agency utilised a filtering system before sending the questionnaires to its panel members. All participants signed the consent form. Participation was voluntary and none of the participants received any financial incentive. The questions were translated into Chinese and embedded in a Qualtrics link (<https://www.qualtrics.com/>). I randomly allocated participants to one of the two experimental conditions in a one-factor (prime: pro-environmental goal vs. no goal) between-subject design (using the “Question Randomization” function to present only one of two scenarios).

In both experimental conditions, participants were asked to read a fictitious scenario (see Appendix A). They were informed that they were attracted by a green LP that supported pro-environmental behaviours (e.g., recycling). Next, participants were informed that they could engage in a green LP activity to earn LP reward points by collecting empty laundry liquid

bottles. Subsequently, they were told that they had accumulated 10 LP reward points. Participants could choose either a bottle of laundry liquid or a package of 100% recycled toilet paper as their reward. I randomized the presentation order of reward choices (using the “Choice Randomization” function in Qualtrics) to avoid the order effect. The monetary value of the two green LP rewards was kept identical (i.e., worth 100 Chinese Yuan).

While the scenario in both conditions was kept identical, however, one additional sentence was added to the scenario of the pro-environmental goal condition (i.e., “Your goal is to protect the environment”) to prime participants’ pro-environmental goal (see Appendix for details). In the pro-environmental goal condition, after reading the scenario, participants were asked to answer a manipulation check item (i.e., “Your goal is to protect the environment”, (1 = strongly disagree; 7 = strongly agree)). Moreover, in both experimental conditions, participants were asked to report their understanding of the scenario (i.e., “The scenario is ___ to understand”, (1 = very difficult; 5 = very easy)) and indicate their choice of reward and report a realism check item (i.e., “Please indicate that the scenario described above is”, (1 = very unrealistic; 5 = very realistic)). Finally, participants were asked to indicate their reward preference and report their demographic information (i.e., gender, age).

3.2 Results

Through the one sample t-test, with the midpoint of the 7-point Likert scale (4) as the comparison value, my result revealed that the mean of the manipulation check item (i.e., “Your goal is to protect the environment”) in the pro-environmental goal condition was significantly higher than the scale midpoint. Thus, the manipulation of the salient pro-environmental goal was successful ($M_{\text{manipulation}} = 5.49$, $t(187) = 4.41$, $p < .001$).

For the realism check, my result revealed that the mean of the realism check question (i.e., “Please indicate that the scenario described above is”) was significantly higher than the

midpoint of the 5-point bipolar scale (3). Thus, participants in both experimental conditions generally agreed on the realism of the assigned scenarios ($M_{\text{realism}} = 4.10$, $t(330) = 27.41$, $p < .001$). Moreover, the one sample t-test on the ease of processing (e.g., “The scenario is ___ to understand”) suggested that the mean of the ease of understanding was significantly greater than the midpoint of the 5-point bipolar-scale (3), demonstrating that participants did not perceive any difficulty in processing the assigned scenarios ($M_{\text{ease}} = 4.02$, $t(330) = 21.44$, $p < .001$).

Let $P(R_x: R_y | C)$ be the proportion of participants who choose reward x over reward y in an experimental condition C where C can be either no goal condition (NG) or pro-environmental goal condition (G), for example, $P(R_{\text{eco}}: R_{\text{non-eco}} | = G)$ proportion of participants who choose an eco-friendly reward (R_{eco}) over a non-eco-friendly reward ($R_{\text{non-eco}}$) in the pro-environmental goal condition. Next, let

$$\Delta P_{\text{eco}} = P(R_{\text{eco}}: R_{\text{non-eco}} | = G) - P(R_{\text{eco}}: R_{\text{non-eco}} | = \text{NG})$$

Thus, ΔP_{eco} represents the degree to which changing the experimental condition from the no goal condition to the pro-environmental goal condition affects the preference for eco-friendly reward over non-eco-friendly reward. To test H1, I examined whether $\Delta P_{\text{eco}} > 0$ when the pro-environmental goal was primed.

My results revealed that the percentage of participants who chose a package of 100% recycled toilet paper was 41.3% in the no goal condition (59 out of 143) vs. 58% in the pro-environmental goal condition (109 out of 188). The differences between reward choices were significant in both conditions (no goal condition: $\chi^2(1) = 4.37$, $p < .05$; pro-environmental goal condition: $\chi^2(1) = 4.79$, $p < .05$). In addition, I assessed the proportion difference by using D2prop macro within SPSS (Daryanto, 2022), which revealed a significant difference in the

proportion difference of choosing a package of 100% recycled toilet paper (eco-friendly reward) between the pro-environmental goal and no goal conditions ($\Delta P_{\text{eco}} = 58\% - 41.3\% = 16.7\%$, two-sided p-value $< .05$, with a 95% Agresti-Caffo confidence interval was [5.9%, 27.2%]). Thus, my H1 was supported.

In addition to the above statistical analysis, I also conducted a binary logistic regression using green LP reward choice as a dependent variable (0 = laundry liquid: non-eco-friendly reward; 1 = recycled toilet paper: eco-friendly reward) and experimental condition (dummy variable: 0 = no goal condition, 1 = pro-environmental goal condition) as an independent variable. I also controlled participants' gender (dummy variable: 0 = male, 1 = female) and age since those factors would influence pro-environmental behaviour (Alzubaidi, Slade and Dwivedi, 2021; Hand, 2020).

First, I entered gender and age (null model), and then I entered the experimental condition (final model). My results demonstrated that the entry of experimental condition into the model significantly improved the model fit (null-2log likelihood or null-2LL = 458.13, final-2LL = 448.61, $\chi^2(3) = 10.17$, $p < .05$). Hosmer-Lemeshow test indicated a good fitting model ($\chi^2(8) = 9.02$, $p > .05$). Additionally, the result of prediction accuracy for laundry liquid (non-eco-friendly reward) was 50.9% and for 100% recycled toilet paper (eco-friendly reward) was 64.9% and the overall predicted accuracy was 58%. Moreover, I found that those participants in the pro-environmental goal condition were more likely to choose the eco-friendly reward, whereas those in the no goal condition were more likely to choose the non-eco-friendly reward (odds ratio or OR = 1.01; 95% CI = 1.28, 3.13), confirming the chi-square test (i.e., the difference between choice preference in each experimental condition) performed above.

3.3 Discussion

My results demonstrated that the effort-reward congruity hypothesis (Kivetz, 2005) was supported in the no goal condition – the majority of participants chose a bottle of laundry liquid (i.e., non-eco-friendly reward) that is congruent with the green LP effort (i.e., collecting empty laundry liquid bottles). In contrast, participants showed a greater preference for the package of 100% recycled toilet paper (i.e., eco-friendly rewards) that is compatible with their salient pro-environmental goals when they were primed with a pro-environmental goal. Taken together, the experimental results from Study 1 showed that presenting eco-friendly rewards together with non-eco-friendly rewards was not sufficient to drive participants' preferences for eco-friendly rewards. Participants need to be primed with a pro-environmental goal to lead them to choose the eco-friendly green LP rewards. Therefore, I provided the initial evidence that the effort-reward congruity hypothesis (Kivetz, 2005) and the goal-reward congruity hypothesis occurred in the green LP context.

4. Study 2

Having established the initial evidence for the effort-reward congruity in the green LP context in Study 1, the aim of Study 2 was to examine whether psychological reactance can explain participants' preference for the non-eco-friendly reward that is congruent with green LP effort over the eco-friendly reward. I expected participants' trait reactance would lead them to show effort-reward congruity preference and thus I would be able to demonstrate effort-reward congruity hypothesis (Kivetz, 2005).

4.1 Method

I collected data from the same Chinese research agency as in Study 1. All participants signed the consent form and did not receive any incentive. The initial sample size was 227. However, 22 cases were removed due to the inattentive and careless responses calculated using the longstring index and the Mahalanobis distance (DeSimone, Harms and DeSimone, 2015) by R package *careless* (Yentes, 2021), leaving an effective sample size of 205 (50.2% females, $M_{\text{age}} = 35$).

Participants were presented with a scenario that described how they were attracted by a green LP and would earn LP reward points by collecting empty shampoo bottles (see Appendix). Next, they were told that they had accumulated 10 LP reward points, which could be redeemed against one of two types of green LP reward: a bottle of shampoo (non-eco-friendly reward) vs. a bottle of organic cooking oil (eco-friendly reward). The monetary value of the two green LP rewards was kept identical (i.e., worth 100 Chinese Yuan). I randomized the presentation order of the reward choice to reduce the order effect. In addition, I used one sentence in the scenarios to highlight the eco-friendly characteristics of organic cooking oil ("Organic cooking oil is safe and environmentally friendly as no chemical products are used in its raw materials and processing"). After going through the scenario, all participants were asked

to answer the realism check, assess the understanding of the scenario, indicate their reward preference and provide demographic information (e.g., age, gender) consistent with Study 1. Finally, participants were asked to report their trait reactance. I adopted an 11-item scale ($\alpha = .92$) from Hong and Faedda (1996). Sample items were: “It irritates me when someone points out things which are obvious to me”; “I find contradicting others stimulating” (1 = strongly disagree, 7 = strongly agree).

4.2 Results

The level of realism and the ease of understanding of the scenario were both higher than the midpoint of the 5-point bipolar scale, supported by one sample t-test ($M_{\text{realism}} = 4.32$, $t(204) = 22.73$, $p < .001$; $M_{\text{ease}} = 4.49$, $t(204) = 28.44$, $p < .001$). I conducted confirmatory factor analysis (CFA) via R package lavaan (Rosseel, 2012). My result revealed an acceptable model fit to the data ($\chi^2(41) = 95.93$, CFI = .96, TLI = .94, RMSEA = .08, SRMR = .05, $p < .001$). Moreover, all factor loadings of trait reactance exceeded .06 (Bagozzi and Yi, 2012) indicating an acceptable internal validity (see Table 1). The Cronbach’s alpha ($\alpha = .92$) was greater than the cut-off value of .70, achieving an acceptable reliability. Moreover, the composite reliability (CR) of trait reactance was greater than the cut-off of .70 (Hair Jr et al., 2017), and the value of average variance extracted (AVE) was higher than the cut-off of .50 (Bagozzi and Yi, 2012). Taken together, my results showed an adequate reliability and validity.

Table 1

Measurement items and loadings

Construct	α	Item	Wording	SL
TR	.92	TR1	As a green LP member, I become frustrated when I am unable to make free and independent decisions.	.75
		TR2	It irritates me when someone points out things which are obvious to me.	.76
		TR3	I find contradicting others stimulating.	.62
		TR4	I resist the attempts of others to influence me.	.76
		TR5	When something is prohibited, I usually think “that’s exactly what I am going to do.”	.64
		TR6	I become angry when my freedom of choice is restricted.	.74
		TR7	As a green LP member, regulations trigger a sense of resistance in me.	.71
		TR8	It makes me angry when another person is held up as a model for me to follow.	.77
		TR9	When someone forces me to do something, I feel like doing the opposite.	.63
		TR10	I consider advice from others to be an intrusion.	.80
		TR11	Advice and recommendations induce me to do just the opposite.	.73

Note: TR = trait reactance; SL = standardised loadings; α = Cronbach’s alpha; CFA model fit indices: χ^2 (41) = 95.93, CFI = .96, TLI = .94, RMSEA = .08, SRMR = .05, $p < .001$; Composite reliability (CR) = .91; Average variance extracted (AVE) = .52.

My results revealed that 69% of participants chose a bottle of shampoo (145 out of 205; χ^2 (1) = 35.24, $p < .001$) congruent with green LP efforts (i.e., collecting 10 empty shampoo bottles). I further conducted a binary logistic regression using reward choice as the dependent variable (dummy variable: 0 = a bottle of shampoo, 1 = a bottle of organic cooking oil), trait reactance as the independent variable, gender and age as control variables. First, I entered gender and age (null model), and then I entered the trait reactance (final model). My results demonstrated that the entry of trait reactance into the model significantly improved the model fit (null -2LL = 246.46, final-2LL = 239.31, χ^2 (3) = 8.55, $p < .05$). The Hosmer-Lemeshow test showed an acceptable fit for the model (χ^2 (8) = 1.79, $p > .05$). Moreover, the result of the predicted accuracy for choosing shampoo (non-eco-friendly reward) was 97.2% and for choosing organic cooking oil (eco-friendly reward) was 5% and the overall predicted accuracy was 70.2%. My results revealed that when participants have a higher tendency to experience

psychological reactance, they would be more likely to choose shampoo (OR = .67, 95% CI = .50, .90), supporting the view that effort-reward congruity preference can also be attributed to reactance reduction. Thus, H2 was supported.

4.3 Discussion

My results revealed that when participants have higher (vs. lower) tendency to experience psychological reactance, they would be more likely to choose the green LP reward congruent with the effort as required by the green LP. Although participants had a chance to choose an eco-friendly green LP reward (i.e., a bottle of organic cooking oil), the non-eco-friendly green LP reward (i.e., a bottle of shampoo) was still preferred. I demonstrated that green LP members' effort-reward congruity preference can be explained by psychological reactance.

5. Study 3

Although the pro-environmental condition in Study 1 provided the initial evidence for the goal-reward congruity hypothesis, what I had not demonstrated so far was whether participants' psychological reactance can contribute to goal-reward congruity preference. Thus, I conducted Study 3, replicating the pro-environmental condition in Study 1 to examine whether variations in the goal-reward congruity preference could be partly attributed to psychological reactance. I predicted that goal-reward congruity preference would be strengthened when participants have a greater tendency to experience psychological reactance induced by green LP offerings.

5.1 Method

I collected data from 657 Chinese participants from the Chinese research agency, consistent with Studies 1 and 2. All participants signed the consent form and did not receive any incentive. Following the same procedure used in Study 2 to detect inattentive and careless responses, I removed 141 cases, leaving the effective sample size of 516 (59.1% females, $M_{age} = 31$). Participants were asked to read a real story to induce their awareness about environmental protection as a way to induce pro-environmental goals. The story describes a winner from China who was awarded the 2018 Young Champions of the Earth for Asia and the Pacific for her devotion to raising concern about marine conservation and providing education programmes for divers (United Nations Environment Programme, 2018). After reading the story, participants were asked to imagine that they were attracted by a green LP and would earn LP reward points by collecting empty shower gel bottles. Next, they were told that they had accumulated 10 green LP reward points, which could be redeemed against one of two types of green LP reward: a bottle of shower gel (non-eco-friendly reward) vs. a zero-waste shampoo bar (eco-friendly reward). The monetary value of the two green LP rewards

was kept identical (i.e., worth 100 Chinese Yuan). The presentation order of the reward choices was randomised to reduce the order effect.

In addition, participants were informed of the eco-friendly characteristics of the zero-waste shampoo bar (“The zero-waste shampoo bar is an environmentally friendly product and does not use any plastic packaging”). The details of the scenario are shown in Appendix. Later, participants were asked to respond to the goal orientation item which also served as a manipulation check item [i.e., “Your goal is to protect the environment”, (1 = strongly disagree; 5 = strongly agree)]⁴. Next, participants were asked to answer about the level of realism and understanding of the scenario using the same items as in Studies 1 and 2. Finally, they were asked to indicate their reward choice, report demographic information and trait reactance using the same measure ($\alpha = .96$) as used in Study 2.

5.2 Results

My results yielded that the means of manipulation, realism and ease of understanding checks were all significantly greater than the midpoint of the 5-point bipolar scale (3) ($M_{\text{manipulation}} = 4.10$, $t(515) = 25.36$, $p < .001$; $M_{\text{realism}} = 4.13$, $t(515) = 30.68$, $p < .001$; $M_{\text{ease}} = 4.22$, $t(515) = 37.19$, $p < .001$). The CFA analysis showed an acceptable model fit to the data ($\chi^2(41) = 143.51$, $CFI = .98$, $TLI = .97$, $RMSEA = .07$, $SRMR = .02$, $p < .001$). Moreover, all factor loadings of trait reactance exceeded .06 (Bagozzi and Yi, 2012) indicating an acceptable internal validity (see Table 2). The Cronbach’s alpha was greater than the cut-off value of .70, achieving an acceptable reliability. Moreover, the CR of trait reactance was greater than the cut-off of .70 (Hair Jr et al., 2017), and the value of AVE was higher than the cut-off of .50 (Bagozzi and Yi, 2012). Taken together, my results showed an adequate reliability and validity.

⁴ I conducted an additional test ($n = 203$, 63% female, $M_{\text{age}} = 30$). The research design was identical to Study 3, except for the presentation order of the manipulation check item. I presented the manipulation check item after participants had indicated their reward choice. I demonstrated that there was no influence of the presentation order on the manipulation check item on participants’ reward preference.

Table 2

Measurement items and loadings

Construct	α	Item	Wording	SL
TR	.96	TR1	As a green LP member, I become frustrated when I am unable to make free and independent decisions.	.81
		TR2	It irritates me when someone points out things which are obvious to me.	.78
		TR3	I find contradicting others stimulating.	.81
		TR4	I resist the attempts of others to influence me.	.82
		TR5	When something is prohibited, I usually think “that’s exactly what I am going to do.”	.83
		TR6	I become angry when my freedom of choice is restricted.	.78
		TR7	As a green LP member, regulations trigger a sense of resistance in me.	.82
		TR8	It makes me angry when another person is held up as a model for me to follow.	.84
		TR9	When someone forces me to do something, I feel like doing the opposite.	.82
		TR10	I consider advice from others to be an intrusion.	.84
		TR11	Advice and recommendations induce me to do just the opposite.	.85

Note: TR = trait reactance; SL = standardised loadings; α = Cronbach’s alpha; CFA model fit indices: χ^2 (41) = 143.51, CFI = .98, TLI = .97, RMSEA = .07, SRMR = .02, $p < .001$; Composite reliability (CR) = .95; Average variance extracted (AVE) = .67.

My results indicated that 55.4% of participants chose a zero-waste shampoo bar (286 out of 516; χ^2 (1) = 6.08, $p < .05$) congruent with pro-environmental goals. In addition, I ran a binary logistic regression using green LP reward choice as the dependent variable (dummy variable: 0 = a bottle of shower gel, 1 = a zero-waste shampoo bar), trait reactance and goal orientation as the independent variables, gender and age as control variables. I included the measure of goal orientation in the model to further explore whether psychological reactance would still explain the preference for goal-reward congruity when goal compatibility exists. I first entered gender and age (i.e., null model). Next, I entered the manipulation check item as this also served as a measure of pro-environmental goal orientation (i.e., model 1) and finally the trait reactance (i.e., final model). The logistics regression results are presented in Table 3.

Table 3

Logistics regression analysis results (Study 3)

Variable	Null model		Model 1		Final model	
	OR	95% CI	OR	95% CI	OR	95% CI
(Constant)	.48		.24		.07	
Control variables						
Age	1.03	(.10, 1.06)	1.03	(.10, 1.06)	1.04	(1.00, 1.07)
Gender	1.06	(.74, 1.52)	1.09	(.76, 1.55)	1.14	(.79, 1.64)
Predictors						
Goal orientation			1.19	(.99, 1.42)	1.25	(1.04, 1.51)
Trait reactance					1.25	(1.12, 1.40)
Model summary						
p-value	.15		.06		.00	
-2 log likelihood	705.47		701.88		686.87	
Cox & Snell R ²	.01		.01		.04	
Nagelkerke R ²	.01		.02		.06	
Hosmer-Lemeshow test	.17		.37		.06	

Note: Gender is a 0,1 dummy variable (0 = male, 1= female); dependent variable is green LP reward choice (0 = shower gel, 1 = zero-waste shampoo bar), OR = odds ratio = Exp (B); CI = confidence interval. Manipulation check item was used as a proxy of the goal orientation.

The results from the final model indicated that the model containing trait reactance would significantly improve the model fit (null-2LL = 705.47, model 1-2LL = 701.88, final-2LL = 686.87, $\chi^2(4) = 22.37$, $p < .001$). Moreover, the result of prediction accuracy for choosing shower gel (non-eco-friendly reward) was 38.7% and for choosing a zero-waste shampoo bar (eco-friendly reward) was 70.3%. The overall predicted accuracy was 56.2%. The results showed that those participants who had more pro-environmental goal orientation (i.e., “Your goal is to protect the environment”) would be more likely to prefer zero-waste shampoo over shower gel (OR = 1.25, 95% CI = 1.04, 1.51). In addition, when participants had more trait reactance, they were more likely to prefer a zero-waste shampoo bar (OR = 1.25, 95% CI = 1.12, 1.40), indicating the goal-reward congruity preference can be strengthened by psychological reactance. Thus, H3 was supported.

5.3 Discussion

My results demonstrated that reactance reduction could also explain the preference for goal-reward congruity because the eco-friendly reward (i.e., a zero-waste shampoo bar) was preferred when participants had a higher tendency to experience psychological reactance and the effect of goal compatibility effect or priming cannot explain such a variation. The summary of Studies 1–3 is presented in Table 4.

Table 4

Research design and reward preference from Studies 1–3

Study	Condition	Green LP Effort	Reward Preference
1	No goal (n = 143)	10 empty laundry liquid bottles	laundry liquid vs. 100% recycled toilet paper
	Pro-environmental goal (n = 188)		laundry liquid vs. 100% recycled toilet paper
2	No goal (n = 205)	10 empty shampoo bottles	shampoo vs. organic cooking oil: (When green LP members have a greater tendency to experience psychological reactance, shampoo will be preferred).
3	Pro-environmental goal (n = 516)	10 empty shower gel bottles	shower gel vs. zero-waste shampoo bar (When green LP members have a greater tendency to experience psychological reactance, zero-waste shampoo bar will be preferred).

Notes: Rewards shown in bold were preferred in each study.

6. Discussion and conclusion

As one of the industries that have markedly contributed to plastic waste, the retail industry needs to take action to encourage consumers' pro-environmental behaviour. The use of green LPs has become increasingly popular recently, and it might be effective in promoting pro-environmental behaviour (e.g., recycling) (Winterich, Nenkov and Gonzales, 2019). While green LPs reward their members with a mixture of non-eco-friendly and eco-friendly products, LP members often fail to choose eco-friendly rewards that are inherently beneficial for environmental protection. Given the importance of green LPs, my research aims to explore the circumstances under which green LP members make their reward choices; and also deliver insights for green LP managers when designing effective reward schemes.

Building on psychological reactance theory (Brehm, 1966) and the effort-reward congruity hypothesis (Kivetz, 2005), I expected that green LP members' reward choices could be attributed to reducing the psychological reactance induced by green LP offerings. I further identified a boundary condition to the effort-reward congruity hypothesis (Kivetz, 2005) and showed that green LP members would prefer eco-friendly rewards rather than non-eco-friendly rewards when their pro-environmental goals are made salient by priming (i.e., goal-reward congruity hypothesis).

In Study 1, I utilised the effort-reward congruity hypothesis (Kivetz, 2005) to establish that green LP members preferred non-eco-friendly rewards (e.g., a bottle of laundry liquid) that were congruent with the effort as required by the green LP (e.g., collecting 10 empty laundry liquid bottles). Conversely, I demonstrated the goal-reward congruity hypothesis, that is, when

green LP members had a salient pro-environmental goal, an eco-friendly reward compatible with the LP members' pro-environmental goal would be preferred. In Study 2, I then demonstrated that the preference for a non-eco-friendly (vs. eco-friendly) reward that was congruent with green LP effort could contribute to reactance reduction. The results of Study 2 were consistent with previous research (Kivetz, 2005). Finally, in Study 3, I demonstrated that when making green LP members' pro-environmental goal salient, they would be more likely to choose the eco-friendly (vs. non-eco-friendly) reward congruent with their salient pro-environmental goals. Such reward preferences were in line with the goal priming effect (Walsh, 2014) and goal compatibility effect (Chernev, 2004; Nowlis and Simonson, 1997; Pena - Marin and Yan, 2021; Sokolova and Krishna, 2021; Tversky, Sattath and Slovic, 1988) yet, importantly, my results also revealed that the preference for eco-friendly rewards could be strengthened by green LP members' psychological reactance, which has been overlooked in previous research.

As reported previously, when LP members do not have a salient pro-environmental goal, they are more likely to choose the non-eco-friendly reward that is congruent with the LP effort (Studies 1-2). This finding can be explained by the effort-reward congruity hypothesis proposed by (Kivetz, 2005). I also considered another way to explain such reward preference in the context of green LPs. The non-eco-friendly reward that is congruent with the LP requirement could allow LP members to reduce their efforts in order to complete the LP required efforts (i.e., collecting 10 empty shampoo bottles). This would bring them one step closer to completion of the next round of LP requirements (i.e., LP members only need to

collect nine more empty shampoo bottles). If this explanation works, LP members should prefer the non-eco-friendly rewards regardless of the levels of psychological reactance (i.e., the association between trait reactance and the preference for non-eco-friendly rewards should be insignificant). However, I found that LP members' trait reactance is significantly positively related to the preference for non-eco-friendly rewards (i.e., Study 2). Thus, I demonstrated that effort-reward congruity preference is explained by psychological reactance in the context of green LPs. As will be discussed next, my research provided several contributions and avenues for future research, including for other LP contexts.

6.1 Theoretical contributions

My research makes three main contributions to the existing literature. Firstly, my work contributes to the research on LPs and psychological reactance theory. Previous LPs studies have examined how LP members react negatively toward LP offerings in order to reduce psychological reactance (Chang and Wong, 2018; Ding et al., 2021; Wendlandt and Schrader, 2007). However, few prior studies have empirically examined how LP members might react positively to LP offerings as a way of reducing their psychological reactance. My research contributes to prior literature on LPs (Chang and Wong, 2018; Ding et al., 2021; Wendlandt and Schrader, 2007) and psychological reactance theory (Brehm, 1966) by establishing how green LP members can leverage their reward choice to reduce psychological reactance when they have a salient pro-environmental goal.

Second, my research makes a significant contribution to Kivetz's (2005) effort-reward congruity hypothesis by not only affirming its relevance but also by identifying a crucial potential boundary condition -the role of salient consumption goals. Specifically, my findings reveal that when green LP members hold salient pro-environmental goals, they exhibit a distinct preference for eco-friendly rewards over non-eco-friendly alternatives. This preference for eco-friendly rewards reflects a higher level of goal-reward congruity, thus challenging the conventional effort-reward congruity hypothesis. In essence, my research demonstrates that the goal-reward congruity hypothesis holds more relevance and explanatory power than the effort-reward congruity hypothesis when applied to the context of green LP members with highly salient pro-environmental goals. This novel insight into the dynamics of reward preferences within the context of green LPs provides a nuanced understanding of how customers align their goals with their rewards, particularly when their pro-environmental goals are at the forefront of their decision-making.

Finally, I add further insights into the prior work on goal compatibility effect (Aaker and Lee, 2001; Bryksina, 2020; Chernev, 2004; Pena - Marin and Yan, 2021) by demonstrating that the influence of salient pro-environmental goals can contribute to green LP members' reactance reduction. In addition, while previous literature predicts that consumers would prefer rewards that are compatible with their most salient goal in order to pursue or achieve their goals (Aaker and Lee, 2001; Bryksina, 2020; Chernev, 2004; Pena - Marin and Yan, 2021) previous LP literature has also found evidence supporting the idea that LP members prefer LP rewards congruent with their consumption goals (Lee et al., 2021; Suh and Yi, 2012). However, these

earlier findings about goal-congruent reward preferences do not account for why green LP members who have a greater tendency to experience psychological reactance show a greater preference for goal-congruent rewards (i.e., eco-friendly rewards in this research). My findings support the view that green LP members who have a greater tendency to experience psychological reactance are more likely to choose the eco-friendly rewards compatible with their salient pro-environmental goals. My explanation is that eco-friendly rewards can help them achieve their salient pro-environmental goals and subsequently reduce psychological reactance induced by green LP offerings. Thus, I demonstrated that LP members' psychological reactance could strengthen the effect of goal compatibility (Chernev, 2004; Nowlis and Simonson, 1997; Pena - Marin and Yan, 2021; Sokolova and Krishna, 2021; Tversky, Sattath and Slovic, 1988) or the goal priming effect (Walsh, 2014). I further contribute to the goal-congruency LP literature (Lee et al., 2021; Suh and Yi, 2012) by identifying the role of psychological reactance in enhancing LP members' preference for LP rewards that are compatible with their goals.

6.2 Managerial implications

My findings explain why eco-friendly LP rewards can be ineffective and offer suggestions for green LP marketers when designing reward schemes. I suggest marketers may not necessarily rely on eco-friendly rewards to attract or motivate green LP members' pro-environmental behaviour. Specifically, when green LP members do not have a salient pro-environmental goal, offering non-eco-friendly rewards congruent with LP members' efforts is

effective since these rewards can reduce the negative influence of psychological reactance induced by green LP offerings. Conversely, marketers can offer green LP members eco-friendly rewards when their pro-environmental goals are salient because green LP members tend to choose eco-friendly rewards compatible with their salient pro-environmental goals to reduce psychological reactance. In order to promote eco-friendly rewards, marketers can make green LP members' pro-environmental goals salient. Specifically, marketers could use promotional messages to highlight the LP members' pro-environmental goals for all targeted LP members. For example, the UK leading pharmacy, health and beauty retailer *Boots* promotes its recycling schemes by persuading LP members to feel good about themselves by helping the planet (Boots, 2022). Swiss coffee brand *Nespresso* highlights the climate change issue in promoting its recycling scheme (Nespresso, 2022).

6.3 Limitations and directions for future research

My research has some limitations, which offer avenues for future research. First, my research only focuses on the role of pro-environmental goals in LP members' reward preferences. Future research could explore more boundaries to the effort-reward congruity hypothesis as well. For example, LP members often have a variety of salient goals in the context of LPs, for example, pursuing health (Daryanto et al., 2010), enjoying entertainment (Hwang and Choi, 2020), making social comparisons (Chan and Briers, 2019), as well as hedonic and utilitarian (Suh and Yi, 2012) goals. Thus, future research could investigate whether goal-reward congruity hypothesis generalises to other types of LP members (e.g., health-conscious

LP members) in different LP contexts. Second, my research was limited to a specific culture (i.e., China). Because the nature of consumers' psychological reactance could vary in different cultures (e.g., collectivism vs. individualism) (Song, Noone and Mattila, 2018), future research could explore the replicability of my findings across other cultures. Finally, given the attitude-behavioural gap in the consumer pro-environmental behaviour literature (Chi, Denton and Gursoy, 2021), further exploration of my goal-reward congruity hypothesis in a field experiment setting would be a valuable extension for future research.

Chapter 5

Encouraging Customers to Join a Hotel's Green Loyalty Program:

The Role of Message Frames, Negative Emotional Appeals and Experienced Regret

Abstract

My research aims to investigate the role of guilt and shame appeals on the effect of message framing (gain vs. loss) on customers' future intentions to join a hotel's green LP. Using an online experiment with Chinese participants (N = 362), I found that customers would experience more regret and have more intention to join a hotel's green LP when presented with a gain-framed (vs. loss-framed) message. Such effects would be strengthened when customers experienced guilt (vs. shame). My research identifies experienced regret as an underlying mechanism linking message frames and customers' responses. I contribute to the research on message frames and negative emotional appeals by documenting that a gain-framed message, when it elicits feelings of guilt, is most effective in persuading customers to engage in green LPs. My results further support the view that when customers feel regret, their trait reactance might not necessarily be the key issue in influencing their future intention.

Keywords: Green loyalty programs; Message frames; Guilt appeal, Shame appeal, Experienced regret, Customer reactance

1. Introduction

How can I describe the contributions of the hospitality industry to environmental issues? In daily operations, hotels consume a considerable amount of water and energy resources (Chan, 2021). It has been reported that hotels and other types of accommodation generate roughly 2% to 5% of the global carbon dioxide produced by the tourism sector (UNWTO, n.d.). Thus, the International Tourism Partnership (ITP) has highlighted the need for the hospitality industry to reduce its carbon footprint by 66% by 2030 and by 90% by 2050 (United Nations Climate Change, 2018). In line with this call, many hotels have implemented green LPs to reward customers for engaging in eco-friendly behaviour during their stay (Liu and Mattila, 2016). For example, customers of the international hotel chain IHG can earn reward points by opting out of housekeeping services (Booking, 2019).

To encourage customers to join their green LPs, hoteliers utilise promotional campaigns that communicate the benefits for the environment of joining the green LP (e.g., by providing a flyer about the green LP in the reception). Nevertheless, the effectiveness of these green LP promotional campaigns has not yet been fully established. Anecdotal evidence shows that the participation rate in green LP is, in fact, low. For instance, Marriott stopped its “Make a Green Choice” due to the low level of participation (Ollila, 2020). Therefore, a critical question for hoteliers is how better to persuade customers, and especially how to encourage those who have previously declined joining a hotel’s green LP, to participate in the future.

Previous literature suggests that consumers can experience a psychological reactance – a motivational state to resist threatened freedoms (Brehm, 1966) when engaging in LPs. This is

because their future repeat purchases and reward choices are inherently limited by the LPs (Kivetz, 2005). Psychological reactance has been identified as the key reason that leads to the failure of advertising messages (Edwards, Li and Lee, 2002; Kavvouris, Chrysochou and Thøgersen, 2020; Wang, Li and Brown-Devlin, 2023). Therefore, the failure of the promotional of the green LP might be attributed to customers' psychological reactance. In addition, trait reactance is a personality trait variable that occurs when customers perceive that their freedom is being threatened (Brehm and Brehm, 1981). For example, customers who are high (vs. low) in trait reactance would be less (vs. more) likely to be persuaded by a persuasive message (Dillard and Shen, 2005). In this research, I aim to explore how customer with diverse degree of trait reactance respond to green LP promotion. I seek to contribute to the literature by demonstrating a situation where trait reactance might not necessarily be an issue in green LP advertising persuasion.

Framing has been considered important in affecting message persuasion (Lee and Aaker, 2004; Quick et al., 2015; Tversky and Kahneman, 1980; Richards, Qin, et al., 2021; Reinhardt and Rossmann, 2021; Zhang et al., 2021). Previous LP literature has also demonstrated that framing the same information regarding LPs in different ways can influence customer decision-making (Zeng et al., 2022) but this approach has yet to be examined in the context of green LPs. In my research, I focus on "gain-framed messages" and "loss-framed messages", which are commonly reported in the advertising literature. More precisely, the former can convey the benefits of adopting a behaviour (i.e., "Think about what you will gain if you recycle"). In contrast, the latter can convey the loss of not adopting a behaviour (i.e., "Think about what you

will lose if you do not recycle”). Findings of past research on the effectiveness of loss/gain frame messages in encouraging eco-friendly behaviours are mixed. For instance, Grazzini et al. (2018) propose that a loss-framed (vs. gain-framed) message is more effective in encouraging eco-friendly behaviour. However, Zhang et al. (2021) argue that customers will be more likely to behave in an eco-friendly way when they are exposed to a gain-framed (vs. loss-framed) message. Furthermore, the existing research on the relationship between message framing and psychological reactance has yielded inconsistent findings. Some scholars argue that a loss-framed message elicits more reactance when compared to a gain-framed message (e.g., Miller et al., 2021; Xu, 2019). Conversely, other researchers have shown no significant association between message frames and reactance (e.g., Quick and Bates, 2010), while yet another body of work suggests that the gain-framed message can generate more reactance than its loss-framed message (e.g., Ratcliff, 2019). Given these divergent findings, this study aims to provide a valuable contribution to the existing literature by examining how customers' trait reactance and message framing collectively influence their responses to invitations to join a green LP.

Existing studies suggest that the effect on persuasion of a message framed either in terms of loss or gain can depend on the feelings of guilt and shame elicited by the message e.g., in the context of responsible drinking advertising (Duhachek, Agrawal and Han, 2012); and in the context of environmental advertising (Baek and Yoon, 2017). Specifically, these two studies supported the view that a gain-framed message is more persuasive when it elicits feelings of guilt. In contrast, a loss-framed message is more effective when it elicits feelings of

shame. One explanation was proposed by Duhachek, Agrawal and Han (2012): “These framing effects occur because gain frames facilitate the use of problem-focused coping strategies favoured by guilt, whereas loss frames facilitate the use of emotion-focused coping strategies favoured by shame”. Baek and Yoon (2017) proposed another explanation, which suggests that guilt appeal is compatible with gain-framed messages as both activate an approach motivation. This in turn will create a sense of feeling right. In contrast, shame appeal is compatible with loss-framed messages as both can activate an avoidance motivation which also creates a sense of feeling right. While the joint effect of message frames and emotional appeals, and its underlying mechanism, appears to be a context-specific, however, to the best of my knowledge, no research has examined whether the same effects and underlying mechanisms can be observed in the context of green LP advertising messages.

Highlighting the benefits of a green LP to customers who had refused to join the green LP might elicit their feelings of regret. Regret regulation theory suggests that customers are motivated to change their prior decisions to avoid experiencing regret (Pieters and Zeelenberg, 2007) (e.g., by joining the green LP in the future). Despite this theorising, however, it is unclear how trait reactance and message frames influence customers’ regret about not joining the green LPs in the past and how such feelings could influence their future intention to join the green LPs. The aim of my research is to fill in this research gap.

I aim to make two theoretical contributions. First, I want to contribute to the ongoing debate on which type of message frame is most persuasive in encouraging customers to adopt green behaviours, especially for retaining customer who previously rejected the opportunity to

join the green LP. Furthermore, I aim to contribute to the understanding of the underlying mechanism of the framing effect in my research context. I proposed *experienced regret* as the mechanism through which the match between gain/loss message frames and guilt/shame appeals impacts a consumer's future intention to join hotels' green LPs. Second, I aim to contribute to the debate of the effectiveness of message framing in reducing consumers' psychological reactance by demonstrating the joint effect of message framing and negative emotional appeals in reducing the effect of psychological reactance. That is, I seek to demonstrate that when customers regret their past decisions of not joining the green LP, trait reactance will not influence their future decisions.

The remainder of this paper is structured as follows. I first review the relevant literature on psychological reactance theory, gain/loss message frames, guilt and shame appeals and experienced regret. I then develop the research hypotheses. Subsequent sections detail my experiment design and findings. Finally, theoretical contributions, managerial implications as well as the limitations of my research will be discussed.

2. Literature Review

In this research, I seek to understand the interplay between psychological reactance, message framing (Brehm, 1966), and consumers' intentions regarding green LPs. Existing research has produced mixed results regarding the persuasive impact of gain- or loss-framed LP advertising messages (Chi, Denton and Gursoy, 2021; Grazzini et al., 2018; Su and Li, 2022), leaving the question of which framing approach is more effective in persuading

customers largely unresolved. Furthermore, the joint influence of psychological reactance and message framing on customer decision-making regarding green LPs remains unclear.

Notably, prior literature has also hinted at the intricate interaction between message framing and negative emotional appeals like guilt and (Baek and Yoon, 2017; Duhachek, Agrawal and Han, 2012), but this interaction has yet to be explored within the context of green LPs. Moreover, I propose that customers might experience regret when they perceive that not participating in a green LP leads to unfavourable outcomes or unmet expectations. When regret sets in, individuals often seek to alleviate it by reversing their prior decisions (Zeelenberg and Pieters, 2007). However, it remains uncertain how the joint influence of trait reactance, green LP message frames, and negative emotional appeals (guilt and shame) shapes experienced regret, and how this, in turn, impacts future intentions to participate in green LPs.

In the following sections, I apply psychological reactance theory to explain why certain customers may resist joining a green LP, bridging the connection between trait reactance, customer regret, and future intentions to participate in green LPs. Subsequently, I explore the relationship between green LP advertising message frames and customers' future intentions, considering the influence of trait reactance. Furthermore, I employ the theory of regret regulation (Zeelenberg and Pieters, 2007) to unravel the underlying mechanisms through which message frames and negative emotional appeals collaboratively influence the persuasive efficacy of green LP advertising messages.

2.1 Psychological reactance

Psychological reactance theory (Brehm, 1966) suggests that customers will experience psychological reactance when they perceive a loss of behavioural freedom induced by a persuasive influence. Such a negative motivational state will motivate customers to restore their restricted freedom by resisting persuasion (e.g., refusing to engage in the recommended behaviour) (Clee and Wicklund, 1980). Several studies reveal that message frames can influence psychological reactance in the context of health communication, such as vaccine advertising (Richards, Qin, et al., 2021; Reinhardt and Rossmann, 2021). In general, a gain-framed message could be more effective in reducing psychological reactance, while a loss-framed message is considered to enhance the negative impact of psychological reactance (Miller et al., 2022; Richards, Qin, et al., 2021). Some studies obtain contrary findings, with a loss-framed message being more effective in reducing psychological reactance (Ratcliff et al., 2019), while other research found no significant effect of message frames on psychological reactance (Reinhart et al., 2007).

In addition, customers can react differently towards psychological reactance because the level of their trait reactance – psychological reactance as a personality trait – varies from customer to customer (Dillard and Shen, 2005; Hong and Faedda, 1996). Thus, the variation of customers' trait reactance might influence the effectiveness of the message frames (Shen, 2015). Specifically, consumers with high (vs. low) trait reactance may have a heightened sensitivity to freedom restrictions in response to a persuasion influence and would react stronger (Quick, Scott and Ledbetter, 2011; Seibel and Dowd, 2001; Shen and Dillard, 2005;

Yost and Finney, 2018). In the context of my research, customers with high trait reactance levels are more likely to perceive a stronger sense of their freedom being threatened by green LP. Consequently, these customers, with higher trait reactance, are more inclined to react by expressing a less likelihood of considering future participation in a green LP as they seek to regain their restricted freedom. Therefore, I hypothesize that:

H1: Customers who are high (vs. low) in trait reactance will be less likely to join a green LP in the future.

2.2 Regret and trait reactance

Customers often experience regret when they learn about the negative outcome(s) that flow from their past consumption decisions (Zou, Zhou and Jiang, 2020). For example, customers can experience regret when they realise what they possess is not as good as what they could have had. Past research demonstrated that negative emotions such as regret, guilt and shame are negative emotions that are related self-evaluations, however, their foci are distinct. Specifically, guilt focuses on the evaluation of specific behaviour, whereby customers acknowledge their specific misconduct (i.e., I did something wrong) (Tangney et al., 1996). Shame focuses on the evaluation of a global self, whereby customers are viewed negatively by others (i.e., I am a bad person) (Tracy, Robins and Tangney, 2007). Lastly, regret focuses on the evaluation of the comparison between an actual decision and the imagined alternative decision, whereby customers realise the outcome of their imagined decision was better than

their past decision (i.e., If I had not made this choice, then the outcome would have been better) (Zeelenberg and Pieters, 2007).

In this research, I posit that individuals with high trait reactance, as opposed to those with low trait reactance, may be less susceptible to experiencing regret. This assertion is rooted in the notion that individuals with high trait reactance tend to place a stronger emphasis on their autonomy and freedom of choice (Quick, Scott and Ledbetter, 2011; Shen and Dillard, 2005; Yost and Finney, 2018) and possess a greater desire for self-determination and independence (Grandpre et al., 2003). Their emphasis on autonomy in decision-making often results in a greater sense of confidence about their decision-making (Verpaalen et al., 2023). Consequently, they may be less prone to experiencing regret because they view their decisions (i.e., refusing to join a green LP) as a reflection of their personal autonomy and feel confident about their decision. Therefore, I propose the following:

H2: Customers who are high (vs. low) in trait reactance will be less likely to experience regret regarding their decision to join a green LP.

2.3 Message framing and persuasion

Framing is the manipulation of the message's presentation in order to change customers' behaviour (Tversky and Kahneman, 1980). Previous studies have regularly utilised message frames to promote LPs but have largely focused on progress framing (e.g., "51 Points earned for another year of Green" (Zeng et al., 2022, p. 7) and status framing (e.g., "Complete your

miles, keep your status” (Palmeira et al., p. 491). However, the progress framing or status framing might not be appropriate for those customers who have never been able to participate in an LP since they do not have any progress to make in the LPs.

In my research, I consider the messages that are framed as gain vs. loss that might be more appropriate to employ when targeting customers who are not members of an LP. Gain-framed and loss-framed messages are the two main types of message framing but receive less attention in the LP literature. A gain-framed message emphasises the potential benefits when engaging in a particular behaviour (e.g., positive impact to the environment if members join the green LP). Conversely, a loss-framed message emphasises the potential loss by not engaging in a particular behaviour (Chi, Denton and Gursoy, 2021; Tversky and Kahneman, 1980) (e.g., not contributing to the environment if members do not join the green LP). However, the existing findings on the effectiveness of gain-framed and loss-framed messages in promoting LPs are mixed, one reason might be that the effect is contingent on other factor such as LP members’ goal orientation (Daryanto et al., 2010). Specifically, Daryanto et al. (2010) note that a gain-framed (vs. a loss-framed) LP promoting message is more persuasive when the LP reward is positioned as a promotion focus (e.g., “In joining the reward program, I am concerned with getting the cash reimbursement”). Blose, Mack and Pitts (2015) suggest that a loss-framed (vs. gain-framed) LP message can be more effective in promoting a hotel’s linen-reuse program, but the place of travel destination may reduce such a superiority effect. Even though past LP research has compared the results from advertising messages that are framed as gains vs. those

framed as losses, research has not established the condition in which each message frame may be more effective in communicating green LPs.

2.4 Guilt and shame

Guilt and shame appeals are especially commonly used when encouraging customers to engage in sustainable behaviours, such as saving water or making eco-friendly travel decisions (Baek and Yoon, 2017; Mkono and Hughes, 2020). Despite the fact that guilt and shame feelings elicited from advertising message are both negative emotions, they are distinguishable. Specifically, customers would feel guilt when they realise their specific behaviour violates the social norm (Tracy, Robins and Tangney, 2007). For example, if the advertising appeal suggests that customers' specific action was harmful to the environment, then they might experience guilt after reading the advertising appeal (Graton, Ric and Gonzalez, 2016; Theotokis and Manganari, 2015). In this case, guilt elicited from the advertising appeal would activate a problem-focused coping strategy that aims to repair customers' wrongdoing by focusing on action and benefits (Duhachek, Agrawal and Han, 2012). In contrast, shame occurs when customers sense other people might evaluate them negatively and this would then threaten their self-image (Tangney and Dearing, 2003). Customers would feel ashamed when they perceive other people who are important to them become aware of their socially unacceptable behaviour (Brennan and Binney, 2010). Specifically, if the advertising appeals suggest that customers' friends might think they are indifferent to environmental protection, then they might experience shame after reading the message (Baek and Yoon, 2017). In this

case, shame elicited from the advertising would activate an emotion-focused coping strategy that aims to regulate the emotion by avoiding threats and potential dangers (Duhachek, Agrawal and Han, 2012). In my research, I argue that both guilt and shame advertising appeals are relevant to encourage customers to join the green LP. This is because guilt appeals might induce the feeling of guilt when customers learnt from the advertising appeal that their behaviour of not joining the green LP does not contribute to the environment. Moreover, shame appeals might induce the feeling of shame when customers learn from the advertising that they may receive negative evaluations from their friends since they did not join the green LP.

Past research suggests that message persuasion can be enhanced if there is a compatibility between message framing (gain vs. loss) and negative emotions elicited by advertising appeals (guilt appeal vs. shame appeal) (Baek and Yoon, 2017; Duhachek, Agrawal and Han, 2012). Specifically, a gain-framed message will be more persuasive than a loss-framed message when customers experience guilt induced by the advertising appeal, whereas a loss-framed message will be more persuasive than a gain-framed message when customers experience shame induced by the advertising appeal (Baek and Yoon, 2017; Duhachek, Agrawal and Han, 2012). The possible explanation may be that a gain-framed message can facilitate the coping strategy of guilt, enhancing the way customers seek actions and achieve the desired outcomes (Duhachek, Agrawal and Han, 2012). Conversely, a loss-framed message can facilitate the coping strategy of shame, enhancing how customers regulate their emotions (Baek and Yoon, 2017) and restore their positive self-image (Amatulli et al., 2019). Duhachek et al. (2012, p.930) further proposed that “When a frame requires a different coping strategy than one

favored by the emotion, it dilutes the activation of relevant coping strategies, making it difficult for people to process the message or be persuaded by it". In other words, when a gain (loss) framed message is combined with a shame (guilt), the persuasion would be reduced. Furthermore, the research by Baek and Yoon (2017) offered the view that the fit of motivations produced by the gain (loss) framed messages and guilt (shame) appeals can lead to more persuasion. This is because the congruence (vs. incongruence) of motivation would lead to more (less) feelings of being right (Lee and Aaker, 2004). These findings from previous research show that the underlying mechanism of the interplay between gain (loss) frames and guilt (shame) emotions might be context-based. However, in the green LP advertising context, there is no research that examines such a compatibility effect (i.e., gain-framed messages with a guilt appeal, loss-framed messages with a shame appeal) on persuasion.

Based on the discussion above, I argue that the compatibility between message frames and negative emotional appeals can motivate customers to join hotels' green LPs. Specifically, drawing on the findings from the relevant literature on message framing of loss vs. gain and negative emotional appeals of guilt vs. shame (Baek and Yoon, 2017; Duhachek, Agrawal and Han, 2012), I argue that when guilt (as compared to shame) is combined with the gain-framed green LP advertising message, it will be more persuasive and lead to greater future intentions to join the green LPs. In contrast, when shame (as compared to guilt) is combined with the loss-framed green LP advertising message, it will be more persuasive and lead to greater future intentions to join the green LPs. Taken together, I put forward the following hypothesis:

H3: Negative emotions (guilt vs. shame) elicited from advertising appeals will moderate the effect of message frames on customers' future intention to join the hotel green LP such that (1) a gain-framed message will elicit a greater intention than a loss-framed message when the customers experience guilt; (2) a loss-framed message will elicit a greater intention than a gain-framed message when customers experience shame.

2.5 Message framing, negative emotional appeals and regret

Although research has repeatedly demonstrated the relationship between negative emotions and message framing (e.g., Amatulli et al., 2019; Baek and Yoon, 2017; Duhachek et al., 2012), limited attention has been paid to regret, except for the research by Kim, Kim and Murphy (2022) and Tang et al. (2022). For instance, Kim, Kim and Murphy (2022) have demonstrated that customers' reaction to the vaccination promotional message framed as gain vs. loss is contingent on their anticipated regret. That is, when customers were presented with a loss-framed message, they would be more likely to experience anticipated regret and thus have a greater intention to have a vaccination (Kim, Kim and Murphy, 2022). In contrast, Tang et al. (2022) note that a gain-framed donation advertising appeal is more effective in reducing the negative influence of donation regret, induced by charity transgressions (e.g., donation fraud), and thus helps increase customers' future willingness to donate. Although these two studies have both examined the relationship between message frames and regret, their results were not consistent. Furthermore, it is unclear how their findings can be replicated in my research context. Hence, I consider how the role of regret (i.e., customers regret their decision

to decline joining a green LP) might influence the effectiveness of green LP advertising messages, which has been overlooked in the existing literature.

Regret involves counterfactual thinking that occurs when customers compare the outcomes of their chosen decisions vs. the outcomes of their rejected alternative decisions and realise that the results would have been better if they had made a different decision (Tsiros and Mittal, 2000; Zeelenberg and Pieters, 2007). According to Roese, Hur and Pennington (1999), counterfactual thinking can be classified into two types, i.e., additive and subtractive. The former focuses on reconstructing reality by adding the undone action (i.e., If only I had...). In contrast, the latter focuses on reconstructing reality by removing the action which was done in the past (i.e., If only I had not) (Baek, Shen and Reid, 2013; He and Cunha Jr, 2020).

In my research, I propose that the match between a gain-framed message and a guilt appeal (vs. gain-shame message) might lead to additive counterfactual thinking (“If only I had joined the hotel’s green LP”). The rationale is that in my research, a gain-framed message highlights the benefits for the environment of joining the green LP (e.g., “If you join a hotel’s green LP, you will do something good for the environment”). Furthermore, the feeling of guilt elicited by the advertising appeals (e.g., “I feel guilty for not doing good for the environment”) is associated with taking action to repair past wrongdoing (Tracy, Robins and Tangney, 2007). Thus, the match between the gain-framed message and the guilt appeal could lead to additive counterfactual thinking because customers might add their past decision to join the green LP to reality (i.e., “If only I had chosen to join the green LP, I could have helped to protect the environment, therefore I would have not felt guilty for not protecting the environment”).

Similarly, I propose that the match between a loss-framed message and a shame appeal (vs. loss-appeal message) might lead to subtractive counterfactual thinking (“If only I had not rejected the opportunity to join the hotel’s green LP”). This is because, in my research, a loss-framed message highlights the negative outcome for the environment of not joining the green LP (e.g., “If you do not join a hotel’s green LP, you will not contribute to the environment”). Furthermore, the feeling of shame elicited by the advertising appeal (e.g., “ I feel ashamed since my friends view me as indifferent to the environment”) is associated with avoiding negative evaluations (Baek and Yoon, 2017). Therefore, the match between a loss-framed message and a shame appeal can lead to subtractive counterfactual thinking because customers might remove their past decision of refusing to join the green LP from reality (i.e., “If only I had not chosen to refuse to join the green LP, I could have helped to protect the environment, therefore I would not have felt ashamed when my friends view me as indifferent to the environment”). Therefore, I propose:

H4: Negative emotional appeals (guilt vs. shame) moderate the influence of message frames on regret. Specifically, when a message is framed as a gain (vs. loss), customers would feel more regret when they experience guilt rather than shame. Conversely, when a message is framed as a loss (vs. gain), customers would feel more regret when they experience shame rather than guilt.

As previously argued, the match between a gain-framed message and a guilt appeal is expected to lead to an additive counterfactual thinking (i.e., “If only I had joined the green LP...”), whereas the match between a loss-framed message and a shame appeal is expected to produce subtractive counterfactual thinking (i.e., “If only I had not rejected the opportunity to join the green LP”). Both types of additive and subtractive counterfactual thinking could evoke the feeling of regret as customers may realise that they could have achieved a better outcome if they had made a different decision (i.e., joined the green LP in the past). According to regret regulation theory, customers are regret averse, which leads them to undo the prior decision in order to prevent future wrongdoing (Pieters and Zeelenberg, 2007). In line with regret regulation theory (Pieters and Zeelenberg, 2007), I propose that, when customers experience more regret, they would generate a greater intention to join the green LP in the future to obtain a better outcome than their past decision (i.e., not joining the green LP). Therefore, I put forth the following:

H5: Regret mediates the relationship between message frames and intention to join the green LP in the future. This indirect effect is moderated by negative emotional appeals (guilt vs. shame).

My conceptual model and hypotheses are graphically presented in Fig.1.

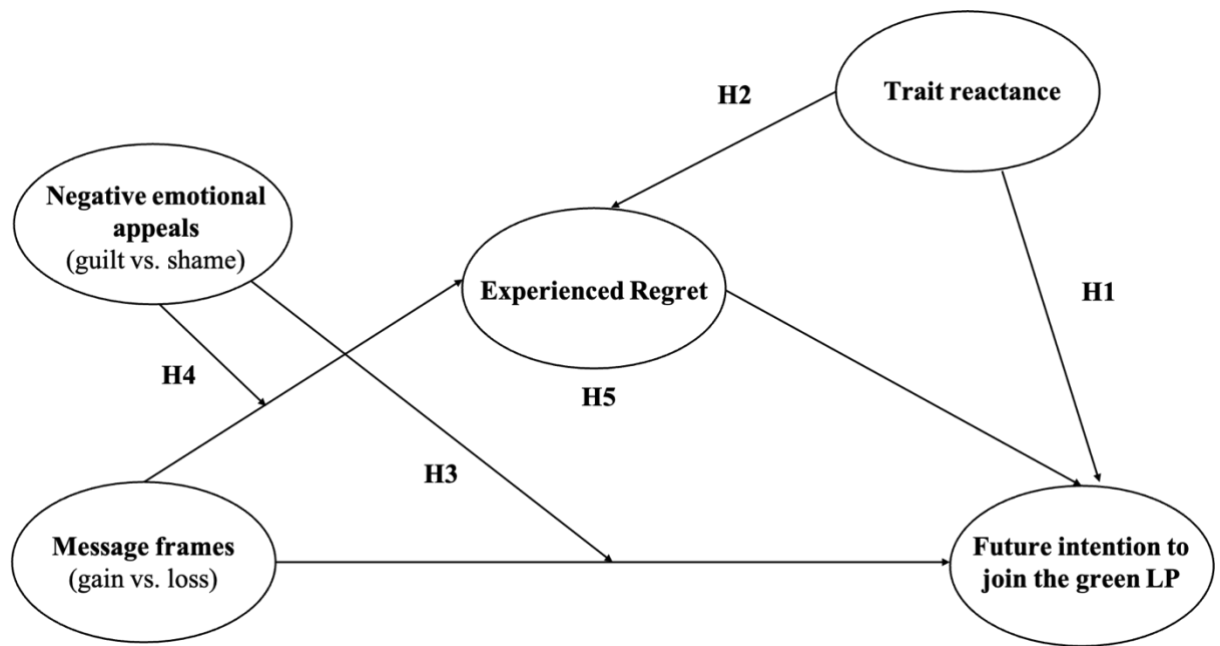


Fig.1. Proposed research model.

3. Methodology

3.1 Preliminary study

Before the main study, I conducted a preliminary study to investigate the role of trait reactance in influencing customers' responses towards green LP advertising messages. I used a Chinese research agency located in Shenzhen to collect data (N= 103, 48.5% female, $M_{age} = 31$, 84% employed full-time, 71.8% hold a bachelor's degree or above). All participation was voluntary. Only those participants who are currently residing in China, and had stayed in a hotel in the past two years, could take part in the survey. I only focused on Chinese customers because it has become increasingly critical for international destinations to attract Chinese tourists to maintain their growth (Persikov, 2023). I targeted Chinese participants who have stayed in a hotel in the past two years because during the pandemic, customers were generally reluctant to stay in a hotel.

I randomly assigned participants to one of the two experimental conditions in a one-factor (message framing: gain-framed vs. loss-framed) between-subject design. Specifically, in both experimental conditions, participants were informed that it was the first time that they had visited a middle-market international hotel chain (XYZ). During the check-in process, they saw a green LP flyer on the wall, either containing a gain-framed or a loss-framed advertising message about XYZ hotel's green LP. To create the stimuli of message frames, I adopted the experimental materials from Grazzini et al. (2018). Specifically, participants in the gain-framed message condition would read the message highlighting the benefits of joining the green LP (i.e., "Think about what you will gain if you join the green loyalty program. By saving water,

you will have more available water resources”). Participants in the loss-framed message condition would be presented with a message emphasising the loss of not joining the green LP (i.e., “Think about what you will lose if you do not join the green LP. By not saving water, you will decrease the availability of water resources) (see Appendix). I focused on middle-market hotels since they have shown the potential for high profits in the China market (Wang, 2018), and green LPs exist in some middle-market hotels (e.g., IHG and Marriott). I used a hypothetical hotel in order to control for participants’ experiences with existing hotels (Hang, Aroean and Chen, 2020).

Later, participants were asked to indicate their choice on whether or not to join the green LP (0 = join, 1 = not join). Participants were asked to report their trait reactance using an 11-item 7-point Likert scale ($\alpha = .92$) from Hong and Faedda (1996). The sample item was “It irritates me when someone points out things which are obvious to me”. This is because the existing research suggests that psychological reactance would influence the effectiveness of message frames (Richards, Qin, et al., 2021; Xu, 2019). Customers who are high (vs. low) in trait reactance would be less (vs. more) likely to be persuaded (Dillard and Shen, 2005). I also asked participants to indicate their levels of CSR scepticism toward the XYZ hotel by using a 4-item 7-point Likert scale ($\alpha = .89$) from Skarmeas and Leonidou (2013). Sample item is “It is doubtful that XYZ hotel is a socially responsible hotel”. Then, participants reported their degree of environmental concern using the 4-item scale 7-point Likert scale ($\alpha = .90$) from Verma, Chandra and Kumar (2019). The sample item was “The balance of nature is very gentle

and can be easily upset”. Finally, they were asked to report demographic information (e.g., age, gender, education).

I conducted a binary logistic regression using customers’ choice as a dependent variable (0= join, 1= not join), and trait reactance as independent variable. I included age, gender, environmental concern as control variables, because previous research documented that these variables can influence pro-environmental behaviour (Campos-Soria, Núñez-Carrasco and García-Pozo, 2021; Felix et al., 2018; Foroughi et al., 2022; Hand, 2020; Lin et al., 2022). I also controlled for CSR scepticism since previous literature suggests that CSR scepticism influences customers’ decisions about pro-environmental behaviour during their stay in hotels (Rahman, Park and Chi, 2015).

I first entered control variables (i.e., null model). Later, I entered the trait reactance (i.e., final model). The logistic regression results are displayed in Table 1. My results from the final model suggest a good model fit based on the improvement of the model fit (null-2LL =105.03, final-2LL = 97.67, $\chi^2 (5) = 16.49$, $p < .01$) and the Hosmer-Lemeshow test ($\chi^2 (8) = 6.31$, $p > .05$). In addition, the result of prediction accuracy for joining the green LP was 97.4% and for not joining the green LP was 24%. The model correctly yields an acceptable percent correct (79.6%), which is above the cut-off value of 50% (Mladenoff, Sickley and Wydeven, 1999). I found that those customers who are high (vs. low) in trait reactance are less likely to join the green LP (odds ratio or OR = 1.05; 95% CI = 1.26, 6.41). Therefore, my research supported the argument that psychological reactance could explain why some customers choose not to join green LPs when they see green LP advertising messages in the first place.

Table 1

Logistics regression analysis results

Variable	Null model		Final model	
	OR	95% CI	OR	95% CI
(Constant)	.01		.01	
Control variables				
Age	1.08	(.92, 1.25)	1.07	(.92, 1.25)
Gender	1.00	(.36, 2.80)	1.20	(.40, 3.54)
Environmental concern	.70	(.44, 1.10)	.45	(.24, .84)
CSR scepticism	1.84	(1.14, 2.97)	1.27	(.75, 2.16)
Predictors				
Trait reactance	2.84	(1.26, 6.41)	1.25	(1.26, 6.41)
Model summary				
p-value	.58		.01	
-2 log likelihood	105.03		97.67	
Cox & Snell R ²	.09		.15	
Nagelkerke R ²	.13		.22	
Hosmer-Lemeshow test	.10		.61	

Note: Gender is a 0,1 dummy variable (0 = male, 1= female); dependent variable is customers' decision on whether or not to join green LP (0 = join, 1 = not join); OR = odds ratio = $\text{Exp}(B)$; CI = confidence interval.

3.2 Main study design

I used a 2 (message frame: gain/loss) x 2 (negative emotional appeal: guilt/shame) between-subject factorial design to test H1-H3. I first randomly assigned participants to one of the two experimental conditions that differed in terms of the message frames embedded in the hotel flyer (i.e., gain-framed vs. loss-framed). I used the identical manipulation of the gain vs. loss framed as outlined in the preliminary study. Later, participants were asked to indicate their choice of joining or not joining the green LP. Only those participants who chose not to join the green LP could process the rest of the experimental materials. Therefore, participants who had decided not to join the green LP were told that after checking in, they entered the room and saw another green LP flyer lying on the desk. Participants were randomly assigned to a guilt or shame appeal as outlined in their assigned condition. The design of the negative emotional appeals was kept identical in both conditions. To induce the feeling of guilt, the guilt appeals mentioned, “You will feel guilty that you do not help to protect the environment...”. Conversely, to induce feelings of shame, the shame appeal indicated, “You will feel ashamed when your friends notice you are indifferent to the environment...”. Those emotional appeals were adopted from previous research (La Ferle, Muralidharan and Kim, 2019). The details of the negative emotional appeals are presented in the Appendix.

3.2.1 Measures

After reading the assigned experimental material, all participants were asked to indicate the level of realism (i.e., “Please indicate that the scenario described above is” (1 = very unrealistic, 5 = very realistic)) and the ease of processing the scenario (i.e., “Please indicate

that the scenario is _____ to understand” (1 = very difficult, 5 = very easy)). In addition, they were asked to indicate the name of the hotel as an attention check question.

I used two manipulation check items from Zhang et al. (2021) in order to ensure the successful manipulation of the message frames (i.e., gain-framed: “The flyer focused on what you will gain by joining this green LP”; loss-framed: “The flyer focused on what you will lose by not joining this green LP”, (1 = strongly disagree, 7 = strongly agree). I also included two items to check the manipulation of experienced guilt and shame adopted from (Baek and Yoon, 2017) (i.e., guilt: “After reading this flyer, I feel guilt; shame: “After reading this flyer, I feel shame”, (1 = Not feeling this way at all, 7 = Feeling this way very strongly).

Later, participants were asked to report their feelings of regret using a 4-item 7-point bipolar scale ($\alpha = .92$) adopted from Voorhees et al. (2009). The sample item was “Not joining this green LP was _____” (1 = no doubts, 7 = many doubts). Then, they indicated their future intention to join the green LP by using a 3-item 7-point Likert scale ($\alpha = .90$) from Bamberg, Rees and Seebauer (2015). The sample item was “My intention to participate in this green LP in the future is strong” (1 = strongly disagree, 7 = strongly agree). They also reported their environmental concern using the same scale ($\alpha = .89$) as in the preliminary study derived from Verma, Chandra and Kumar (2019). Participants were asked to report their trait reactance using the same scale ($\alpha = .94$) as used in the preliminary study from Hong and Faedda (1996). Finally, participants were asked to provide their demographic information (e.g., age, gender, education, employment status).

3.2.2 Sample characteristics

I collected data from the same Chinese research agency used in the preliminary study. The criteria of participants are identical with the preliminary study (i.e., Chinese, have stayed in a hotel in the last two years). My initial sample size for the main study was 563. After removing those participants who chose to join the green LP and those who failed the attention check question (i.e., selecting the incorrect name of the hotel), 386 cases remained. Next, to mitigate careless responses, I conducted a quality data check by calculating the longstring index and the Mahalanobis distance as indicators of attention quality (DeSimone, Harms and DeSimone, 2015) using the R package *careless* (Yentes, 2021). After removing 24 careless response cases, my effective sample size was 362. The demographic information of participants is presented in Table 2.

Table 2
Demographic information of respondents

Characteristics	n	Percent (%)
Gender		
Male	214	59.1
Female	148	40.9
Age		
18-25	61	16.9
26-30	132	36.5
31-35	139	38.4
36-40	23	6.4
41-45	6	1.7
46+	1	.3
Education		
Primary	3	.8
Secondary	11	3
High school	20	5.5
Associate/College degree	43	11.9
Bachelor's degree	240	66.3
Master's degree	37	10.2
Doctoral degree	8	2.2
Employment status		
Employed full-time	320	88.4
Retired	22	6.1
Employed part-time	17	4.7
Owned business	2	.6
Unemployed	1	.3

3.2.3 Realism checks and ease of processing

I conducted a one-sample T-test to examine the realism and ease of processing of my scenarios. The mean scores of the realism check exceeded the scale midpoint of 3 ($M_{rea} = 4.02$, $t(361) = 17.48$, $p < .001$). As for the ease of processing, the mean score was also greater than the scale midpoint of 3 ($M_{eop} = 4.05$, $t(361) = 18.43$, $p < .001$), showing that the level of realism and the ease of understanding of scenarios were acceptable.

3.2.4 Manipulation check

I conducted a one-way analysis of variance (ANOVA) to ensure that the manipulation of message frames and negative emotional appeals was successful. My results demonstrated that participants in the gain-framed (vs. loss-framed) message condition were more likely to agree that the received green LP message focused on the benefits of joining the green LP ($M_{\text{gain}} = 5.94$ vs. $M_{\text{loss}} = 4.79$; $F = 47.09$, $p < .001$). In contrast, participants in the loss-framed message condition were more likely to agree that the received message focused on the loss of not joining the green LP rather than on the gain-framed message condition ($M_{\text{gain}} = 4.17$ vs. $M_{\text{loss}} = 4.82$, $F = 8.89$, $p < .001$). Since the homogeneity test on these two manipulation check items was not satisfied (i.e., $p < 0.01$), I then employed the Welch test and the result confirmed the significant difference between the gain-framed and loss-framed message condition (both $p < .001$). Therefore, the manipulation of message frames was successful.

For negative emotional appeals, participants who were in the guilt (vs. shame) condition indicated more feelings of guilt than of shame ($M_{\text{guilt}} = 5.52$ vs. $M_{\text{shame}} = 4.64$, $F = 26.11$, $p < .001$). Conversely, participants who were in the shame (vs. the guilt) condition indicated more feelings of shame than guilt ($M_{\text{guilt}} = 4.61$ vs. $M_{\text{shame}} = 5.09$, $F = 6.40$, $p < .001$). The results of the Welch test confirmed the significant difference between the guilt and shame appeals (both $p < .001$). Therefore, my manipulation of negative emotional appeals was successful.

3.2.5 Confirmatory factor analysis

I performed confirmatory factor analysis (CFA) to assess the psychometric properties of each construct and inspected their discriminant and convergent validity (Bagozzi and Yi, 2012) using the R package lavaan (Rosseel, 2012). My results showed that the CFA model adequately fits the data ($\chi^2 = 516$, $df = 200$; $p < .001$; CFI = .95; TLI = .94; RMSEA = .07; SRMR = .05). Table 3 shows the measurement items with their standardised loadings and Cronbach's alpha. My results revealed good internal validity. All factor loadings exceeded the recommended level of .60 (Hair Jr et al., 2017).

Table 3

Measurement items and loadings

Construct	α	Item	Wording	SL
EC	.82	EC1	The balance of nature is very gentle and can be easily upset.	.86
		EC2	Human beings are severely abusing the environment.	.80
		EC3	Humans must maintain the balance with nature to survive.	.77
		EC4	Human interference with nature often produces disastrous consequences.	.81
FI	.89	FI1	My intention to participate in this green LP in the future is strong.	.90
		FI2	My desire to participate in this green LP in the future is strong.	.87
		FI3	I am very likely to join this green LP in the future.	.84
REG	.85	REG1	Not joining this green LP was...	.86
		REG2	After not joining this green LP, I had...	.82
		REG3	Looking back at my decision on not joining this green LP was...	.89
		REG4	When I think about my decision about not joining this green LP...	.90
TR	.93	TR1	As a customer, I become frustrated when I am unable to make free and independent decisions.	.74
		TR2	It irritates me when someone points out things which are obvious to me.	.81
		TR3	I find contradicting others stimulating.	.79
		TR4	I resist the attempts of others to influence me.	.86
		TR5	When something is prohibited, I usually think "that's exactly what I am going to do."	.85
		TR6	I become angry when my freedom of choice is restricted.	.85
		TR7	As a customer, regulations trigger a sense of resistance in me.	.79
		TR8	It makes me angry when another person is held up as a model for me to follow.	.70
		TR9	When someone forces me to do something, I feel like doing the opposite.	.72
		TR10	I consider advice from others to be an intrusion.	.72
		TR11	Advice and recommendations induce me to do just the opposite.	.65

Notes: EC = environmental concern; FI = future intention to join the green LP; REG = experienced regret; TR = trait reactance; SL = standardised loadings; α = Cronbach's alpha; CFA model fit indices: $\chi^2 = 516$, $df = 200$; $p < .001$; CFI = .95; TLI = .95; RMSEA = .07; SRMR = .05.

Table 4 shows the composite reliability (CR) and average variance extracted (AVE) values. All CR values exceeded .70 (Fornell and Larcker, 1981). All the Average Variance Extracted (AVE) values were greater than the benchmark of .50. Moreover, my constructs achieved discriminant validity because the square root of their AVE values exceeded the correlations among other constructs (Fornell and Larcker, 1981).

Table 4

Psychometric measures and correlation among key constructs

Construct	Mean	SD	CR	AVE	EC	FI	REG	TR
EC	4.95	1.26	.89	.66	.81			
FI	4.54	1.50	.90	.76	.57**	.87		
REG	5.12	1.46	.92	.75	.09 ns	.42**	.87	
TR	3.84	1.43	.93	.60	-.09 ns	-.13*	-.31**	.77

Note: ns = not significant; $p < .01^{**}$; $p < .05^{*}$; square root of the average of variance extracted (AVE) is in bold in the main diagonal. CR = composite reliability; AVE = average variance extracted; SD = standard deviation; EC = environmental concern; FI = future intention to join the green LP; REG = regret; TR = trait reactance.

3.2.6 Common method bias

Common method bias (CMB) may impact my study since all constructs were measured from the same respondents using a self-reported questionnaire. To remedy the potential effects of CMB, three methods were used: (1) communicating with participants that no answer is correct and their response will be kept confidential and anonymous (Kock, Berbekova and Assaf, 2021); (2) using page breaks between the measurement of the independent and dependent variables (Podsakoff et al., 2003); (3) using different response scales (Rindfleisch et al., 2008). Moreover, in order to assess CMB, I used an unmeasured latent method factor that was uncorrelated with all other constructs and loaded on each item (Podsakoff et al., 2003). In line with the original CFA model excluding the latent method factor (i.e., $\chi^2 = 516$, $df = 200$;

$p < .001$; CFI = .95; TLI = .94; RMSEA = .07; SRMR = .05), the results showed a good fit for the data ($\chi^2 = 270.93$, $df = 174$; $p < .001$; CFI = .98; TLI = .98; RMSEA = .04; SRMR = .03).

Thus, I demonstrated that CMB was not an issue in my study.

3.2.7 Hypotheses testing

To test H1, I conducted a linear regression using trait reactance as an independent variable, future intention as the dependent variable, and gender, age and environmental concern as control variables. The results show that trait reactance significantly negatively influences customers' future intention to join a green LP ($\beta = -0.09$, $p < 0.01$). Therefore, H1 was supported. Following the same procedure by changing the independent variable into experienced regret, I found that trait reactance significantly negatively impacts customers' regret ($\beta = -0.31$, $p < 0.01$). Thus, H2 was supported.

To test H3 and H4, I used a multivariate analysis of variance (MANOVA) to test the impact of the message frames (0 = gain-framed, 1 = loss-framed) and negative emotional appeals (0 = guilt appeal, 1 = shame appeal) on customers' future intention to join the green LP and their regret. In line with my preliminary study, customers' trait reactance would influence their decision to join the green LP. Therefore, I included trait reactance as another predictor. Participants' gender, age and environmental concern served as covariates since previous research has found age, gender, environmental concern would influence customers' decision making on pro-environmental behaviour (Campos-Soria, Núñez-Carrasco and García-Pozo, 2021; Felix et al., 2018; Foroughi et al., 2022; Hand, 2020; Lin et al., 2022).

I found that the Wilks's lambda ($\lambda = .99$) was significant ($p < .05$) for the interaction effect between message frames and negative emotional appeals. Specifically, my results revealed a significant main effect of message framing on customers' future intention to join a green LP ($M_{\text{gain}} = 4.69$, $M_{\text{loss}} = 4.36$, $F = 4.52$, $p < .05$, $\eta^2_p = .01$), but no significant was found on regret ($p > 0.05$). Moreover, the main effect of negative emotional appeals on regret and future intention to join a green LP were both insignificant ($p > 0.05$). In addition, my results revealed a significant interaction between message frames and negative emotional appeals both on future intention to join the green LP ($M_{\text{gain-guilt}} = 5.35$, $M_{\text{gain-shame}} = 4.97$, $M_{\text{loss-guilt}} = 4.81$, $M_{\text{loss-shame}} = 5.35$, $F = 4.81$, $p < .01$, $\eta^2_p = .01$, see Panel A in Figure 2) and on regret⁵ ($M_{\text{gain-guilt}} = 5.03$, $M_{\text{gain-shame}} = 4.33$, $M_{\text{loss-guilt}} = 4.11$, $M_{\text{loss-shame}} = 4.65$, $F = 7.90$, $p < .05$, $\eta^2_p = .02$, see Panel B in Figure 2). Furthermore, a simple effect test revealed that when experiencing guilt, those customers who received a gain-framed message rather than a loss-framed message reported more intention to join the green LP ($M_{\text{gain}} = 4.89$ vs. $M_{\text{loss}} = 4.43$, $p < .001$) and more regret about their past decision ($M_{\text{gain}} = 5.29$ vs. $M_{\text{loss}} = 5.04$, $p < .05$). However, when experiencing shame, no significant differences were found between customers who received a gain-framed vs. a loss-framed message in terms of their future intention and regret (both $p > .05$). Therefore, these results partly supported H3 and H4.

⁵ I also conducted MANOVA by removing trait reactance. All else being equal, the interaction effect between message frames and negative emotional appeals on regret and intention to join the green LP in the future were significant and consistent with my original findings (future intention = $F = 8.94$, $p < .01$, $\eta^2_p = .03$, regret: $F = 7.15$, $p < .01$, $\eta^2_p = .02$).

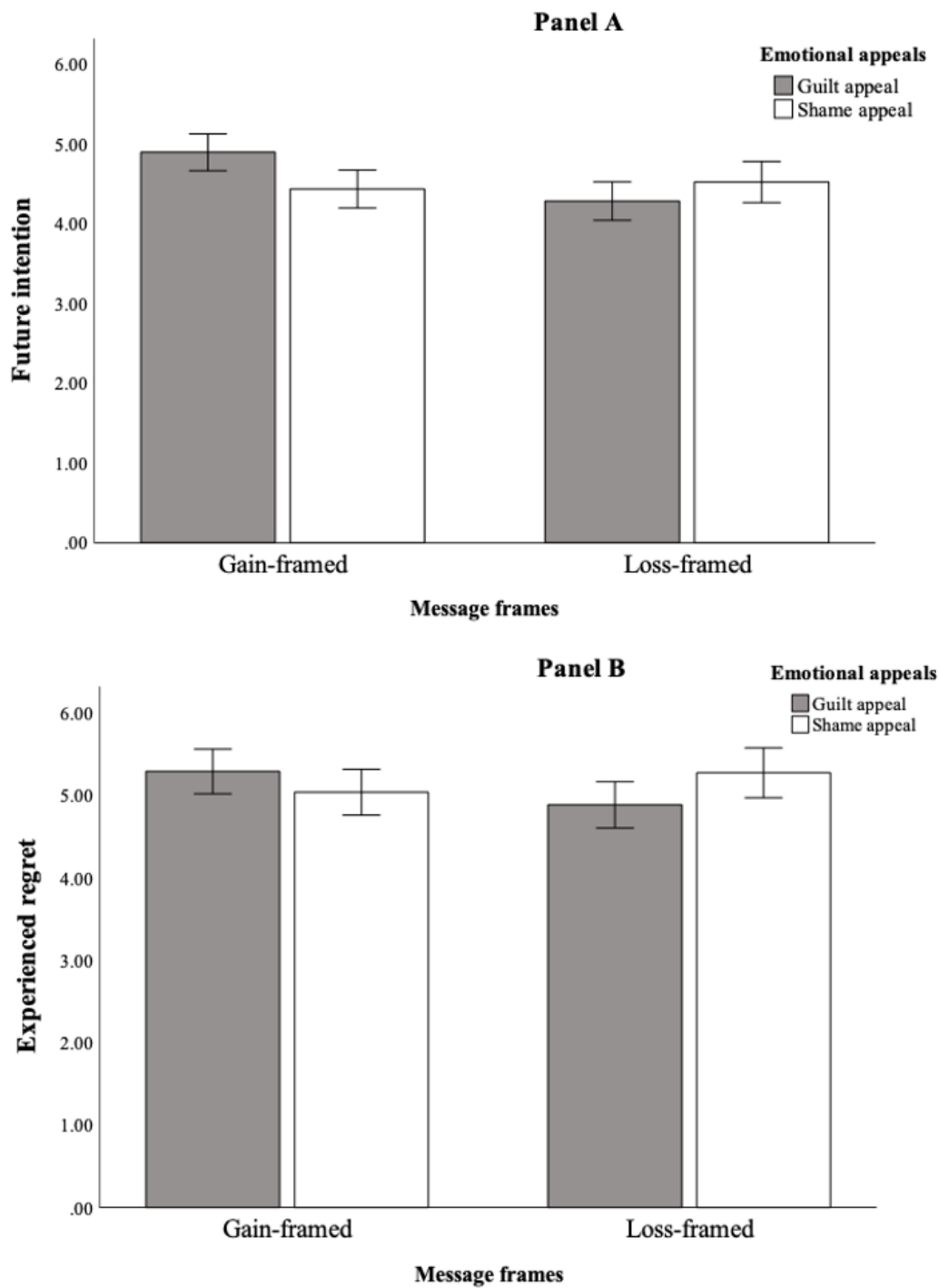


Fig. 2. Results of the main study showing the effect of the interaction between message frames and negative emotional appeal on the future intention to join a green LP (Panel A) and experienced regret (Panel B). Note: The error bars indicate 95% confidence intervals.

To test H5, I utilised Hayes PROCESS macro (Model 8 for moderated mediation and 5000 resamples). I used the future intention to join the green LP as the dependent variable, message frames as the independent variable (gain-framed = 0, loss-framed = 1), negative emotional appeals (guilt appeal = 0, shame appeal = 1) as the moderator and regret as the mediator. Moreover, I included age, gender, environmental concern and trait reactance as control variables. My results revealed that the gain-framed (vs. loss-framed) message leading to greater future intention to join the green LP through regret was significant for those participants who received a guilt appeal (i.e., $b = -.47$, $SE = .16$, $95\%CI = -.79, -.16$) but not for those participants who received a shame appeal (i.e., $b = .01$, $SE = .17$, $95\%CI = -.32, .34$). In addition, I found that customers' trait reactance has a significant impact on experienced regret ($b = -.31$, $SE = .05$, $95\%CI = -.41, -.20$) but insignificant influence on customers' future intention to join the green LP ($b = .03$, $SE = .04$, $95\%CI = -.05, .11$). I calculated the index of moderated mediation, it was significant (i.e., $b = .22$, $SE = .10$, $95\%CI = .04, .44$)⁶, supporting H5 (see Table 6).

To summarise, my results suggested that the influences of message frames on regret and future intention to join the green LP were moderated by negative emotional appeals. Specifically, participants would show a greater feeling of regret and intention to join the green LP in the future when they were presented with a gain-framed message. In addition, such an effect will be strengthened for those participants who received guilt appeals. Moreover, I found that the gain-framed (vs. loss-framed) message led to a greater intention to join the green LP

⁶ All else being equal, the moderated mediation effect was also significant when not controlling trait reactance (i.e., $b = .27$, $SE = .11$, $95\%CI = .07, .50$).

in the future because of the feeling of regret. This mediation effect was only significant for those participants who received guilt appeals rather than shame appeals.

Table 6

Results of moderated mediation analysis (PROCESS: Model 8)

Model	Coefficient	SE (HC4)	t-value	p	LLCI	ULCI
Model 1:						
Mediator variable model						
Outcome: Regret						
Constant	4.25	.71	5.97	0	2.85	5.65
Trait reactance	-.31	.05	-5.95	0	-.41	-.20
Message frames	-.40	.21	-1.97	.05	-.81	-.001
Negative emotional appeals	-.25	.20	-1.26	.21	-.65	.14
Message frames x Negative emotional appeals	.64	.28	2.29	.02	.09	1.19
Age	.06	.02	2.74	.01	.02	.10
Gender	.16	.15	1.04	.30	-.14	.45
Environmental concern	.06	.07	.07	.39	-.08	.20
R ² = .15						
Bootstrapping results for conditional effect						
Guilt	-.40	.21	-1.97	.05	-.81	-.001
Shame	.23	.19	1.22	.22	-.14	.61
Model 2:						
Outcome variable model						
Outcome: Future intention to join the green LP						
Constant	-1.99	.65	-3.08	0	-3.27	-.72
Trait reactance	.03	.04	.77	.44	-.05	.11
Message frames	-.47	.16	-3	0	-.78	-.16
Regret	.35	.05	7.08	0	.25	.44

Model	Coefficient	SE (HC4)	t-value	p	LLCI	ULCI
Negative emotional appeals	.48	.23	-2.42	.02	-.68	-.07
Message frames x Negative emotional appeals	-.48	.23	2.08	0	.02	.09
Age	.05	.02	3.20	0	-.02	.09
Gender	.11	.11	.96	.34	-.11	.33
Environmental concern	.64	.05	12.48	0	.54	.74
R ² = .51						
Bootstrapping results for conditional direct effect						
Guilt	-.47	.16	-3	.0	-.78	-.16
Shame	.00	.17	.04	.97	-.33	.34
Bootstrapping results for conditional indirect effect (via regret)						
Guilt	-.14	.07			-.30	-.002
Shame	.08	.07			-.05	.22
Index of moderated mediation	.22	.10			.04	.44

Notes: Message frames is a 0,1 dummy variable (0 = gain-framed, 1= loss-framed); Negative emotional appeals is a 0,1 dummy variable (0 = guilt, 1= shame).

4. Discussion and conclusion

As environmental issues increase in severity in the hospitality industry, hoteliers should consider how best to incorporate sustainable development thinking into their daily business operations. Although some hotels have launched green LPs with the aim of encouraging customers to behave in an eco-friendly way during their stay, customers often still show a lack of interest in participating in such green LPs (Bloese, Mack and Pitts, 2015). One potential explanation could be the negative influence of customers' trait reactance. Additionally, customers vary across their trait propensity to experience psychological reactance; that is, customers who are high (vs. low) in trait reactance would have more (vs. less) likelihood of experiencing psychological reactance (Dillard and Shen, 2005). My research considers the potential influence of psychological reactance when I explore the most persuasive green LP advertising messages.

Research has shown that message frames can be used to stimulate consumers' eco-friendly behaviour in the hotel setting (Chi, Denton and GURSOY, 2021; Grazzini et al., 2018; Su and Li, 2022) and encourage LP members' decision making (Ku, Yang and Chang, 2018; Yang et al., 2020). However, no research has considered how and when message framing in green LP advertising campaigns might influence non-members' (i.e., those who did not join a green LP) decision-making. In my research, I aim to provide insights into hotel customers' eco-friendly behaviour by examining how, when and why message framing in green LP advertising campaigns might be more effective; and how negative emotions (i.e., guilt, shame, regret) influence the impact of different message frames (e.g., gain vs. loss).

My results show that the negative impact of trait reactance on customers' future intentions to join a green LP (H1) suggests that customers who are high (vs. low) in trait reactance are less likely to join a green LP in the future. This outcome aligns perfectly with psychological reactance theory (Brehm, 1966), which posits that individuals may react negatively to persuasive messages by acting in opposition to the intended effect. Similarly, I found that trait reactance has a negative impact on customers' experienced regret (H2). This shows that customers who are high (vs. low) in trait reactance are less likely to see the alternative decision regarding the green LP (join a green LP) is better than their actual decision (reject to join a green LP). This could be attributed to their inclination to resist perceived constraints on their choices and feel more confident about their actual decision. This finding emphasizes that regret may not be as prominent among customers who are high in trait reactance when making decision to restore their freedom. I also found the significant interaction effect between message frames (gain-framed vs. loss-framed) and negative emotional appeals (guilt vs. shame) on customers' intention to join the green LP in the future (H3). This finding is consistent with the previous research regarding the matching effect between message frames and negative emotional appeals (Baek and Yoon, 2017; Duhachek, Agrawal and Han, 2012). Furthermore, the interaction effect can influence feelings of regret (H4). Moreover, in comparison, I identified that the gain-framed (vs. loss-framed) message when paired with the feelings of guilt is the most effective, and leads to greatest experience of regret and to greater future intention to join the green LP. Surprisingly, the effect of a green LP advertising message framed in terms of gain or loss on persuasion was no different when combined with shame. This finding is

inconsistent with previous literature which found that there was more persuasion when a loss-framed message was paired with the feeling of shame (Baek and Yoon, 2017; Duhachek, Agrawal and Han, 2012). In other words, when customers experience shame, a gain-framed message and a loss-framed message are the same in influencing customers' intention to join the green LP. In addition, I found that the mediated effect of regret on the relationship between message frames and intention to join green LPs in the future only held when customers experienced guilt rather than shame (H5). Hence, my findings provide support for the limited number of studies on the mechanism of the relationship between message frames and customers' responses. I add to the ongoing debate about which types of message frames might work better in promoting hotels' eco-friendly behaviour by introducing the role of regret.

4.1 Theoretical contributions

My research contributes to the literature in four ways. First, my research contributes to the studies on message frames and psychological reactance by showing the joint effect of trait reactance and message framing in influencing consumer behaviour. In addition, I also identified a situation where psychological reactance might not be the key issue to address in order to influence customer behaviour. Specifically, when using message framing to communicate with those customers who had rejected the idea of joining the green LP in the past, their regret about their prior decisions is the main element to consider in building marketing communication campaigns. In this case, customers' trait reactance would not influence their future intention.

Second, my research also contributes to the literature on the effect of message frames and negative emotional appeals (Duhachek, Agrawal and Han, 2012; Baek and Yoon, 2017). Previous research demonstrates mixed findings regarding the effectiveness of the gain-framed vs. the loss-framed message in promoting customers' eco-friendly behaviour in a hotel setting (e.g., Chi et al., 2021; Grazzini et al., 2018) but has not yet examined these different message frames in the context of advertising campaigns for green LPs. I add to this stream of research by showing that a gain-framed message is more effective in encouraging customers to join the green LP when they experience guilt and this can help to reduce the influence of customers' trait reactance. However, a loss-framed (vs. gain-framed) message combined with a shame appeal did not show a greater intention to participate in the future. Thus, my research enriches the prior research by demonstrating that a gain-framed message with a guilt appeal is the most persuasive in promoting green LPs because it can reduce the negative influence of trait reactance.

Third, prior message frames research in the LP context has mainly focused on the framing of messages about tier status (Palmeira et al., 2016; Zeng et al., 2022) and progress (Ku, Yang and Chang, 2018; Yang et al., 2021; Yang et al., 2020). In addition, the majority of the existing literature has paid more attention to the hierarchical LPs and existing LP members (e.g., Yang et al., 2020; Zeng et al., 2022). My research contributes to the existing literature by examining how the framing of the consequences of joining or not joining the green LP would influence the customers' future intention as a way to respond to the call for better ways to influence non-members' decision-making in the context of LPs (Ding et al., 2021).

Finally, I provide new insights into how the theory of regret regulation (Zeelenberg and Pieters, 2007) can be integrated with psychological reactance theory (Brehm, 1966) to explain customer behaviour in the context of green LP. While extant research has examined the relationship between message frames and regret (Tang et al., 2022; Kim, Kim and Murphy, 2022) less research attention has been paid to the interplay among message framing and trait reactance on customer regret in the green LP context. By focusing on how customers experience regret when they reject the opportunity to join green LPs, I contribute to the limited research on regret in the context of message frames by revealing the condition when a gain-framed rather than a loss-framed message can induce more regret and a greater intention to join the green LP when customers experience guilt. And in this case, customers' trait reactance will not have influence on their future intention. Notably, while prior research has primarily explored the effects of message frames on negative emotional appeals such as guilt and shame appeals (Duhachek, Agrawal and Han, 2012; Baek and Yoon, 2017), my research extends this literature by introducing the role of experienced regret as a relatively underexplored negative emotion in shaping the effectiveness of message frames. This contribution serves to enrich our understanding of how regret regulation theory can be applied in the specific context of green LP promotions.

4.2 Managerial implication

My findings provide two main implications for LP managers and marketers in the hospitality industry who utilise advertising to promote green LPs. First, marketers should check the effectiveness of the message frames. I suggest that marketing communication managers

who are promoting green LPs in the hotel industry can utilise the gain-framed rather than the loss-framed message to promote green LPs. Even if consumers refuse to participate in the green LP when they receive an advertising message beforehand, the gain-framed message is more effective than a loss-framed message in the long run. This is because those customers who have received a gain-framed (vs. loss-framed) green LP message in the past, if they have chance to make a new decision, they would be more likely to join green LP in the future and this will not influence by their trait reactance.

Furthermore, I suggest that green LP marketers and managers should also consider the impact of negative emotions rather than the negative influence of psychological reactance when designing green LP advertising messages. My results suggest that green LP marketers and managers should be aware of when customers are most likely to feel guilty about doing nothing to protect the environment during their stay. This is because, in this instance, customers would show a greater regret and a greater intention in the future to join the green LP after they receive a green LP advertisement framed as a gain (vs. a loss). Previous research suggests that feelings of guilt can also be evoked through distributing social media posts about how human beings' materialistic pleasures can harm the environment (Kapoor, Balaji and Jiang, 2021). Therefore, I suggest that hoteliers can create such content, especially when the green LP participation rate is low, and this could increase customers' intention to join the green LP in the future.

4.3 Limitations and future directions

My research is not free of limitations. First, previous research has found that cultural differences might influence customers' responses to message frames (Teeny et al., 2021; Uskul, Sherman and Fitzgibbon, 2009; Yang, Stamatogiannakis and Chattopadhyay, 2015) and negative emotions, such as guilt and shame (Wang and Singer, 2021; Young et al., 2021). As my research focuses on China, it would be worthwhile to investigate whether or not my findings can be replicated in other cultures. Second, the attitude-behaviour gap has been noticed in recent message framing research (e.g., Chi et al., 2021). There is a possibility that customers' future intention to join a green LP might not adequately predict their actual behaviour. Future research could consider using field experiments or longitudinal datasets to close this gap. Finally, previous literature suggests that anticipated regret would influence customers' decision-making and result in the motivation to avoid potential mistakes (Khan, Daryanto and Liu, 2019; Zeelenberg, 1999). My research wanted to explore how customers' regret about their past decisions might influence their future decisions. Therefore, further research could usefully go beyond experienced regret to examine the impact of anticipated regret, again linked to the different types of message frames that affect customers' responses toward green LP advertising.

Chapter 6: Conclusion

This thesis seeks to enhance the understanding of when and how customers' psychological trait reactance can have consequences for customers, and for marketing managers. This thesis identified three links that explain the relationship between trait reactance and customer behaviour. The first link, tested in Chapter 3, showed that the influence of trait reactance on customers' intention to join a hotel's green LP can depend on the joint effect of customers' anticipated guilt and frontline service employees' physical attractiveness (in order to answer the question: under what conditions does a customer's trait reactance lead to negative consumption behaviour?). The second link, tested in Chapter 4, showed that customers' trait reactance and their salient pro-environmental goals would jointly lead them to choose eco-friendly rewards (in order to answer the question: how does customers' trait reactance influence their consumption behaviour?). The third link, tested in Chapter 5, showed that whatever the level of customers' trait reactance, when customers receive a gain-framed green LP advertising message combined with a guilt appeal, they would experience the greatest regret at not joining a hotel's green LP and then have the greatest intention to join the green LP in the future (in order to answer the question: when is trait reactance likely be a key factor in influencing consumer behaviour, and when will it not be?).

This chapter is organised as follows: the theoretical contribution, the managerial implications, the limitations and directions for future research. By integrating the findings from three papers, the contributions to theory derived from this thesis are (1) extending the

development of psychological reactance theory and (2) synthesising other theoretical domains with psychological reactance theory.

Extending the development of psychological reactance theory

The aim of this thesis is to explore the role of trait reactance on consumer behaviour. As discussed in Chapter 1, most research conceptualises psychological reactance as a state, not as a personality trait. Although previous research has documented the situational factors that can induce state psychological reactance and affect customers' behaviour (Bertini and Aydinli, 2020; Chang and Wong, 2018; Lee and Lee, 2009), whether customers with diverse levels of trait reactance would react in the same manner remains relatively unexplored. To address the research gap, this thesis provides empirical evidence of the critical role of trait reactance. It extends understanding of psychological reactance in the following ways. First, this thesis examined under what conditions trait reactance would influence customers' behaviour (Chapter 3). The findings from Chapter 3 confirm that when customers anticipated less guilt at not joining a green LP and perceived frontline service employees to be less attractive, the influence of trait reactance on customers' intention to join a green LP is strongest. This finding empirically substantiates the view that the influence of trait reactance does work under certain conditions, and as such, it can influence customers' decision-making. Also, when customers anticipate more guilt about not joining a green LP, the relationship between trait reactance and customer behaviour is mitigated. This result highlights the possible role of negative self-conscious emotions in reducing psychological reactance. Second, this thesis proposes a new

concept to capture how trait reactance could influence customers' behaviour (Chapter 4). Although the effort-reward congruity hypothesis (Kivetz, 2005) could explain why and how customers choose a non-eco-friendly reward that is congruent with the green LP efforts (i.e., collecting 10 empty shampoo bottles and receiving a free bottle of shampoo), it ignores the role of pro-environmental goals which are relevant to the green LP context. By proposing a new concept, the goal-reward congruity hypothesis, I seek to explain why and how customers choose eco-friendly rewards that are congruent with their salient pro-environmental goals (i.e., collecting 10 empty shampoo bottles and receiving a free zero-waste shampoo bar). This can add new insights into the influence of trait reactance on customers' behaviour (i.e., customers' goal-congruent reward preference is determined by their trait reactance). Finally, this thesis explores the situations where trait reactance might not be the most appropriate domain for finding a marketing strategy to elicit positive customers' responses (Chapter 5). The findings suggest that when customers experience regret, their trait reactance would not influence their future intention to join a green LP. This finding can help to explain the circumstances under which trait reactance does not work, and can also help enhance the understanding of the relationship between trait reactance and negative emotions (i.e., experienced regret). Importantly, this thesis can contribute to psychological reactance by improving the understanding of whether the strategies deployed to reduce the influence of trait reactance are effective for customers who are high in trait reactance.

The need to synthesise other theoretical domains with psychological reactance

This thesis also contributes to understanding how the integration of other theories with psychological reactance theory can contribute to a fuller comprehension of customers' behaviour (see Table 6). Specifically, in Chapter 3, I showed how the attention narrowing theory (Wilcox and Prokopec, 2019) can be integrated with psychological reactance theory in order to examine the joint effect of customers' anticipated guilt at not joining a green LP, and frontline service employees' physical attractiveness, on the relationship between trait reactance and customers' intention to join an LP from the perspective of customers' attention span. In Chapter 5, I showed how incorporating regret regulation theory (Pieters and Zeelenberg, 2007) could be used to confirm that experiencing regret has a stronger influence on customer behaviour than trait reactance. In Chapters 3 and 5 I showed how advancing understanding of the role of negative (self-conscious) emotions on the impact of trait reactance could add insights into how the negative (self-conscious) emotions work in reducing psychological reactance. In Chapter 4 I extended the effort-reward congruity preference (Kivetz, 2005) and goal-compatibility effect (Chernev, 2004; Pena - Marin and Yan, 2021), and proposed a new goal-reward congruity preference. This concept highlights the interplay between customers' trait reactance and salient pro-environmental goals on customers' reward preference. Specifically, customers who are high (vs. low) in trait reactance prefer eco-friendly rewards rather than non-eco-friendly rewards congruent with their efforts when they have a salient pro-environmental goal. Such a relationship has not been explored in depth in previous research. As a result, this thesis emphasises the need to combine psychological reactance with other

theories. In doing so, this thesis contributes to a more nuanced and accurate understanding of the complex factors influencing customer behaviour and identifies factors, such as negative (self-conscious) emotions and consumption goals, that can challenge or enhance the influence of trait reactance on customers' behaviour.

Table 6

A summary of the integration of other theories with psychological reactance theory

Theory/research	Contribution	Extent of contribution
Psychological reactance theory (Brehm, 1966) and attention narrowing theory (Wilcox and Prokopec, 2019)	The boundary conditions of trait reactance on customer behaviour	Chapter 3 confirms the boundary conditions when trait reactance has no influence on customer behaviour due to the limited attention and provides a novel insight into how to mitigate the influence of trait reactance.
Psychological reactance theory (Brehm, 1966) and Effort-reward congruity preference hypothesis (Kivetz, 2005)	The consequences of trait reactance	Chapter 4 confirms and extends the understanding of the effort-reward congruity hypothesis as a way to reduce psychological reactance. Chapter 4 provides new insights into how to reduce psychological reactance by identifying a boundary condition of effort-reward congruity preference (i.e., a salient pro-environmental goal) and proposing the goal-reward congruity preference.
Psychological reactance theory (Brehm, 1966) and regret regulation theory (Pieters and Zeelenberg, 2007)	The limitations of trait reactance	Chapter 5 identifies that experienced regret can mitigate the influence of trait reactance.

Managerial implications

The findings of this thesis are of relevance to the practice of marketing. First, green LP marketers and managers can learn about the role of customers' trait reactance. They can then modify their strategies, rather than applying a one-size-fits-all approach to satisfying all

customers' needs and wants, and when designing green LPs' promotional strategies. Most importantly, green LPs marketers and managers are advised to utilise the data collected by their membership databases and to conduct regular customer surveys regarding their evaluations of the green LPs.

Second, green LP marketers and managers can gain insights into how to design green LP promotional strategies. When green LP marketers and managers find that green LP membership is increasing slowly and many customers lack knowledge of what green LPs are, in order to enhance the levels of enrolment, marketers and managers should induce greater anticipated guilt among customers at not joining the green LP and invite more attractive frontline service employees to promote green LPs to new customers (aligns with Chapter 3). To increase the feeling of anticipated guilt, managers and marketers can generate more social media posts which include describing how severe the environmental issues are (Kapoor, Balaji and Jiang, 2021). To improve the physical attractiveness of frontline service employees, marketers and managers can encourage their employees to look attractive. Moreover, when many customers refuse to join the green LP in the first place (as described in Chapter 5), the combination of a gain-framed green LP advertising message and a guilt appeal can be used to generate experienced regret and then increase customers' future intentions to enrol.

Finally, in order to promote eco-friendly rewards, marketers and managers should make customers' pro-environmental goals salient (as in Chapter 4). For example, they can utilise slogans (Tiwari et al., 2011) or cooperate with social media influencers (Pittman and Abell,

2021) to promote their green LPs by highlighting customers' own goals to support the environment and thus managers can make pro-environmental goals more impactful.

Limitations and future research direction

Although each of the papers has made a distinct effort to answer the overall research question, i.e. the way to understand how trait reactance influences customers' behaviour, some questions remain unanswered or require more attention. Therefore, my thesis has some limitations giving rise to future research opportunities. First, all of the research for my three papers was conducted in China. Even though there were relatively large sample sizes (i.e., 836 participants in Chapter 3, 1052 participants in Chapter 4 and 465 participants in Chapter 5) included in each paper, the work is by no means exhaustive. It would be worthwhile to investigate other research from different countries or cultures since cultural differences may affect the study of the role of psychological reactance as well as the role of sustainable consumption behaviour among customers (Soyez, 2012).

Second, according to a recent review of LPs (Kim, Steinhoff and Palmatier, 2021), customers' needs and wants as related to an LP might vary over the time span of the relationship (i.e., acquisition, onboarding, expansion and retention). It is possible that the impact of trait reactance on customer behaviour varies across different stages of the customer–green LP relationship span (i.e., acquisition, onboarding, expansion, and retention). Therefore, it might be valuable to investigate customers' responses toward psychological reactance as induced by green LPs by targeting different customer segments based on their positioning in their own relationship spans. Although this thesis attempted to discuss customers' responses in different

green LP promotion situations (e.g., Chapter 3: persuade customers to join a green LP; Chapter 4: offer green LP reward, Chapter 5: persuade customers who refused to join a green LP in the past to re-consider joining), it did not differentiate customers into different relationship stages within green LPs. Future research could test whether current results hold when customers are in different relationship stages.

Third, previous literature has identified the inconsistency between customers' attitudes towards pro-environmental initiatives and their actual behaviour (Chi, Denton and Gursoy, 2021; Denton, Chi and Gursoy, 2020; Juvan and Dolnicar, 2014). However, in Chapter 3 and Chapter 5 I only measure customers' intention to join the green LP. Although the existing research suggests that behavioural intention could strongly determine the customers' actual behaviour in the context of LPs (Evanschitzky et al., 2012), future research could utilise a longitudinal dataset or design to close the potential attitude-behavioural gap of the research in my thesis.

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Appendix

Chapter 3: Scenario material

Imagine that you are checking into the ABC hotel for leisure purposes. ABC hotel is a middle-market international hotel chain. This is **the first time** you are visiting this hotel. As soon as you arrive at the reception desk, you are greeted by a **female receptionist**. The female receptionist asks for your last name and is able to pull up your reservation in seconds on the screen. At the end of your check in, she tells you about the ABC hotel's green loyalty program. You learn that the green loyalty program rewards guests if they **exhibit pro-environmental behaviour while they are staying in the hotel (e.g., reuse towels)**. **If you join this green loyalty program, you can earn 100 green points for each booking. These green points can be used as 10 CNY for your future booking.**



Fig. Photo of the service employee (reproduced with permission from the copyright holder: iStock.com)

Chapter 4

Study 1: Scenarios

[No goal condition]

Imagine that you are attracted by XYZ laundry liquid brand's green loyalty program. In this green loyalty program, you will engage in a wide range of recycling activities. One activity is collecting reward points by collecting empty XYZ laundry liquid bottles.

You can receive 1 green loyalty program reward point for returning each bottle. Once you have accumulated **10** green loyalty program reward points, then you can choose one of the rewards from (1) a bottle of laundry liquid worth 100 CNY; or (2) a package of 100% recycled toilet paper worth 100 CNY.

Now, you have **10** green loyalty program reward points and you can redeem these against one of the green loyalty program rewards from the above options.

[Pro-environmental goal condition]

Imagine that you are attracted by XYZ laundry liquid brand's green loyalty program. In this green loyalty program, you will engage in a wide range of recycling activities. One activity is collecting reward points by collecting empty XYZ laundry liquid bottles. **Your goal is to protect the environment.**

You can receive 1 green loyalty program reward point for returning each bottle. Once you have accumulated **10** green loyalty program reward points, then you can choose one of the rewards from (1) a bottle of laundry liquid worth 100 CNY; or (2) a package of 100% recycled toilet paper worth 100 CNY.

Now, you have **10** green loyalty program reward points and you can redeem these against one of the green loyalty program rewards from the above options.

Study 2: Scenarios

Imagine that you are attracted by XYZ shampoo brand's green loyalty program. In this green loyalty program, you will engage in a wide range of recycling activities. One activity is collecting reward points by collecting empty XYZ shampoo bottles.

You can receive 1 green loyalty program reward point for returning each bottle. Once you have accumulated **10** green loyalty program reward points, you can choose one of the rewards from (1) a bottle of shampoo worth 100 CNY; or (2) a bottle of organic cooking oil worth 100 CNY.

Now, you have **10** green loyalty program reward points and you can redeem these against one of the green loyalty program rewards from the above options.

Note: Organic cooking oil is safe and environmentally friendly as no chemical products are used in its raw materials and processing.

Study 3: Scenario

Miao Wang is the one of two Young Champions of the Earth for Asia and the Pacific. She was the Founder of *Better Blue* in April 2017 for marine protection. Since 2018, *Better Blue*, managed by the *ChinaNext* Foundation, aims to integrate the resources of the diving industry in order to support divers and diving centres to participate in marine-related programs in 20 cities across China.

She said: “I founded *Better Blue* because I realized that our oceans don’t have a voice. Everyone should take responsibility for protecting this blue planet. I could see the passion of other divers, and I realized that this was our unique strength. People are always afraid of being different. They will feel safe and powerful in a group, community and network [such as *Better Blue*]”.

Imagine that you are attracted by XYZ shower gel brand’s green loyalty program. In this green loyalty program, you will engage in a wide range of recycling activities. One activity is collecting reward points by collecting empty XYZ shower gel bottles. You can receive 1 green loyalty program reward point for returning each bottle. Once you have accumulated **10** green loyalty program reward points, you can choose one of the rewards from (1) a bottle of shower gel worth 100 CNY; or (2) zero-waste shampoo bar worth 100 CNY. Now, you have **10** green loyalty program reward points and you can redeem these against one of the green loyalty program rewards from the above options. **Note: The zero-waste shampoo bar is an environmentally friendly product and does not use any plastic packaging.**

Chapter 5:

Scenario samples: message frames

Imagine that you are just checking in at the XYZ hotel for leisure purposes. XYZ hotel is a middle-market international hotel chain, and **you have never stayed in this hotel before**.

During check-in, you see a flyer about XYZ hotel's green loyalty program on the wall.

The image shows two versions of a flyer for XYZ Hotel's green loyalty program, set against a background of a hand holding a globe. The left flyer is labeled "[Gain-framed]" and the right is labeled "[Loss-framed]". Both flyers start with "Welcome to XYZ Hotel" and "Think about what you will". The gain-framed flyer features a large green box with the word "Gain" and asks "if you join the green loyalty program". The loss-framed flyer features a large green box with the word "Lose" and asks "if you don't join the green loyalty program". Both flyers list four eco-friendly actions with their benefits or consequences, and a reward structure: 10 reward points per booking, and a free room upgrade after 100 points.

[Gain-framed]

Welcome to XYZ Hotel

Think about what you will

Gain

if you join the green loyalty program

By saving water, you will **have** more available water resource.

By saving energy, you will **reduce** greenhouse gas effect.

By reusing materials, you will **preserve** the natural resources.

By recycling, you will **contribute** to the **better** environment for human being.

Behaving in eco-friendly ways, you will earn 10 reward points for each booking. If you accumulate 100 reward points, you will be rewarded with a free room upgrade in the next visit.

[Loss-framed]

Welcome to XYZ Hotel

Think about what you will

Lose

if you don't join the green loyalty program

By not saving water, you will **decrease** the availability of water resources.

By not saving energy, you will **increase** greenhouse gas effect.

By not reusing materials, you will **destroy** the natural resources.

By not recycling, you will contribute to the **collapse** of the environment for human being.

Behaving in eco-friendly ways, you will earn 10 reward points for each booking. If you accumulate 100 reward points, you will be rewarded with a free room upgrade in the next visit.

As you can see from the flyer, you learn that if you **exhibit green behaviours (e.g., save energy and water, reuse towels) while staying in the hotel**, you could earn 10 reward points for each booking. **If you accumulate 100 reward points, you will be rewarded with a free room upgrade in your next visit.**

Scenario samples: Negative emotional appeals

After checking in, and upon entering your room, you see another flyer about XYZ hotel’s green loyalty program lying on the desk.

[Guilt appeal]



[Shame appeal]

