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## What Drives Participation in Green Loyalty Programmes? Examining Reactance, Guilt, and Staff Attractiveness

Journal:	<i>International Journal of Contemporary Hospitality Management</i>
Manuscript ID	IJCHM-03-2024-0414.R4
Manuscript Type:	Original Article
Keywords:	Customer reactance, Anticipated guilt, Physical attractiveness, Attention narrowing, Green loyalty programmes

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# What Drives Participation in Green Loyalty Programmes?

## Examining Reactance, Guilt, and Staff Attractiveness

### Abstract

**Purpose** – This study addresses the challenge of encouraging customers to join hotels' green loyalty programmes (LPs) by examining the impact on customers' decisions of their trait reactance, anticipated guilt, and the physical attractiveness of service employees.

**Design** – We conducted three preliminary studies and one main study using scenario-based online surveys targeting Chinese hotel customers. The first two preliminary studies ( $N_{1A} = 100$ ,  $N_{1B} = 158$ ) explored the negative emotions (guilt vs. shame) linked to non-participation in green LPs, while the third study ( $N_{1C} = 110$ ) examined gender's role in perceived physical attractiveness. The main study ( $N = 836$ ) tested the three-way interaction effect.

**Findings** – This analysis confirms that guilt, rather than shame, plays a significant role in the decision-making process for participating in green LPs. The results reveal that trait reactance strongly deters participation intention when customers anticipate low guilt and perceive service employees as less attractive. Notably, higher anticipated guilt renders trait reactance ineffective in influencing intentions, regardless of employees' attractiveness.

**Research implications:** Our results reveal that a high level of anticipated guilt is the key to boosting customers' intention to participate in a hotel's green LP, which can mitigate the negative impact of customers' trait reactance.

**Originality** – This is the first study to demonstrate how anticipated guilt can lessen the negative effects of customers' trait reactance on their intention to participate in green LPs. Additionally, our findings reveal that guilt not only narrows customers' attentional focus but also influences how the attractiveness of service employees affects their decision-making processes. Our work introduces a new angle on how emotional responses (anticipated guilt) interact with physical cues (employee attractiveness) in shaping customer decisions concerning the hotel's green initiatives.

**Keywords:** Customer reactance; Anticipated guilt; Physical attractiveness; Attention narrowing; Green loyalty programmes

**Paper type:** Research paper

## 1. Introduction

In recent years, the hospitality sector has increasingly focused on sustainable initiatives, attracting significant attention from industry professionals and academic researchers (Sharma *et al.*, 2024; Yang *et al.*, 2023). The hotel industry has been trying to implement green practices to promote hotel customers' green behaviours (Patwary *et al.*, 2022). This practice can be categorised as a voluntary green programme, which "utilizes the voluntary efforts of the sponsoring organization's customers" (Giebelhausen *et al.* 2016, p. 56). One form of this programme is the green loyalty programme (hereafter, LP), defined as the firm's initiatives to improve the natural environment by providing rewards (monetary and non-monetary, immediate vs. delayed; see Keh and Lee (2006)) for consumers who voluntarily opt into the programme (Giebelhausen *et al.*, 2016, Liu and Mattila, 2016). The green LP can offer reward points (non-immediate and non-monetary types) to customers who exhibit environmentally friendly behaviours, which can be redeemed in the future. For example, the IHG Hotels & Resorts 'Greener Stay' initiative provides 500 IHG reward points for every night the LP members opt out of housekeeping services.

The literature has explored various factors contributing to the challenges in engaging consumers with hotel green LPs. Notably, Liu and Mattila (2016) highlight that a significant barrier to the success of green LPs is the ineffective management of non-participating bystanders' perceptions, particularly concerning status and preferential treatment. Similarly, Wang *et al.* (2017) indicate that the participation of customers in green LPs is heavily influenced by their perceptions of a hotel's commitment to environmental sustainability. Whilst existing studies have focused on customers' perceptions of green LP characteristics as predictors of their behavioural intentions, limited attention has been paid to customers' personality factors, which constitute a fundamental part of the motivations for green behaviours (Duong, 2022). In this context, despite the emergence of literature on green programmes, our

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3 understanding of how consumers react toward green LPs is still limited. In addition, studies  
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5 that simultaneously examine the impact of consumers' personality factors and a firm's  
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7 servicescape factors – through which the benefits of LPs are communicated – on customers'  
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9 evaluation of green LPs are under-represented in the green LP literature.  
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13 Therefore, this study examines the influence of a consumer's personality factor (i.e., trait  
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15 reactance) and a consumer's emotion (i.e., anticipated guilt) along with a firm's servicescape  
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17 factor (i.e., physical attractiveness of frontline service employees) on customers' intentions to  
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19 participate in a green LP. This study is designed to make the following contributions. First,  
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21 drawing upon the psychological reactance theory (Brehm, 1966), we propose that consumers'  
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23 trait reactance—a dispositional personality factor (Hong and Faedda, 1996; Zhou *et al.*,  
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25 2024)—may influence their intention to join green LPs. Trait reactance affects how consumers  
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27 perceive threats to freedom, which is relevant to green LPs because the LP requirements may  
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29 trigger reactance. This could be experienced differently by customers. We contribute to the  
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31 scarce literature on the effect of consumers' trait reactance on customers' responses toward  
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33 green LP offerings.  
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39 Second, the goal of the green LPs is to support the environment. Therefore, we suggest  
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41 that customers might feel anticipated guilt about not joining. The significance of guilt in pro-  
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43 environmental behaviour has been highlighted in hospitality research (Meng *et al.*, 2022; Han  
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45 *et al.*, 2020). Thus, while trait reactance might deter participation, anticipated guilt could  
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47 motivate it. We consider the joint effect of these factors on customers' engagement with hotels'  
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49 green LPs.  
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53 Third, frontline service employees may play a key role in promoting green LPs, which has  
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55 not been considered in previous research. Findings in the existing literature on the effect of this  
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57 factor on customers' information processing were mixed (Wan and Wyer, 2015). To clarify  
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59 this, we explore a three-way interaction between trait reactance, anticipated guilt, and employee  
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3 attractiveness, using attention narrowing theory (Wilcox and Prokopec, 2019). We propose that  
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5 heightened anticipated guilt narrows customer focus, causing them to prioritise self-regulation  
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7 (i.e., guilt about not joining green LPs) over employee attractiveness.  
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## 10 11 12 13 **2. Literature review and hypotheses development**

### 14 15 16 *2.1 Factors influencing the customer reactions toward green LPs*

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18 Inviting customers to join a hotel's LP is a strategic approach to identifying and retaining  
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20 valuable customers, as evidenced by studies from Shin *et al.* (2020) and Hua *et al.* (2019).  
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22 These programmes, characterised as structured marketing efforts, provide economic and social  
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24 rewards designed to strengthen customer loyalty (Lee *et al.*, 2021). Green LPs, in particular,  
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26 represent a divergence from traditional marketing approaches by enhancing business  
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28 profitability and customer satisfaction and promoting environmentally sustainable consumer  
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30 practices. This dual focus contributes to developing enduring customer relationships (Liu and  
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32 Mattila, 2016). Unlike typical green programmes that may simply encourage eco-friendly  
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34 behaviour, green LPs specifically provide customers with LP reward points in return for their  
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36 participation in green programmes that can be redeemed in the future (Liu and Mattila, 2016).  
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41 Previous literature focuses more on green programmes and their effects on consumer  
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43 behaviours. We present a table of a synthesis of key literature on green programmes (see  
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45 Supplementary Material Appendix 1 Table 1) that outline the theories, factors, findings, and  
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47 management implications discussed in various studies, including those focused on green LPs.  
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49 For instance, Wang *et al.* (2017) noted that green programmes can influence conservation  
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51 behaviours, which are affected by factors such as firm pricing and state reactance. Similarly,  
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53 Grazzini *et al.* (2018) and Blose *et al.* (2015) identified that recycling behaviours are influenced  
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55 by the types of messages used in green programmes and customer perceptions. Additionally,  
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57 Hwang and Kandampully (2015) found that consumers' Corporate Social Responsibility (CSR)  
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3 beliefs and feelings of gratitude enhance their attitudes toward pro-social LPs, leading to  
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5 increased intention to participate. The effectiveness of these programmes is further moderated  
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7 by customer characteristics, including age and gender, as well as firm-specific strategies such  
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9 as programme type and message presentation (Giebelhausen *et al.*, 2016; Theotokis and  
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11 Manganari, 2015; Blose *et al.*, 2015).  
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15 In contrast, in the earlier literature, there is limited research on the specific factors (i.e.,  
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17 personality and firm-related constructs) that influence the effectiveness of green LPs. For  
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19 example, Flacandji *et al.* (2023) found that the type of green LPs impacts perceived value,  
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21 though customer factors are less significant. Liu and Mattila (2016) also demonstrated that  
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23 satisfaction is jointly affected by customer factors such as perceived status and pro-sociality,  
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25 as well as firm factors such as price image and preferential treatment. Sharma *et al.* (2024)  
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27 extended this understanding by identifying the role of perceived eco-innovativeness and unique  
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29 green hotel attributes in driving customer adoption of eco-friendly practices.  
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34 However, despite extensive research on how customers' perceptions of green LP  
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36 characteristics affect their behavioural intentions, limited attention has been paid to the  
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38 influence of customers' personality factors, which are crucial for understanding motivations  
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40 toward green behaviours (Duong, 2022; Tang and Lam, 2017). Moreover, the impact of  
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42 consumers' personality traits and a firm's servicescape factors on the evaluation of green LPs  
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44 is still underexplored, presenting a significant opportunity for further research. Our study aims  
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46 to bridge this gap by examining the influence of a specific personality trait, trait reactance, on  
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48 hotel customers' participation in green LPs.  
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## 2.2 Trait reactance and intention to join a hotel's green LP

The promotion of LPs can trigger 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 threatening their behavioural freedom. Specifically, when customers perceive an influence or promotion is attempting to restrict or control their behavioural freedom (e.g., consumption freedom), it 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), subsequent research has also considered it as a personality trait (Hong and Faedda, 1996; Zhou *et al.*, 2024). According to these authors, trait reactance reflects an individual's proneness to experience psychological reactance as induced by different situations. For example, customers who differ in trait reactance may react differently to reactance arousal. Specifically, highly (vs. lowly) reactant consumers could experience more psychological reactance and would be more motivated to reduce reactance (Dillard and Shen, 2005).

The influence of the threat to the customers' consumption freedom would be magnified when customers have more trait reactance compared to those with less trait reactance (Kivetz, 2005; Shen, 2015). However, as indicated in the Supplementary Material Appendix 1 Table 1,

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4 there is a notable absence of research exploring how consumers' trait reactance influences their  
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6 responses to green LP offerings. This study aims to address that gap in the green LP literature.  
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9 Our research suggests that customers with higher (vs. lower) trait reactance will be more likely  
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11 to perceive green LP offers as a threat to their consumption freedom. Thus, the more trait  
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13 reactance customers have, the less intention they will have to participate in green LPs. Therefore,  
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17 we propose the following:  
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23 **H1.** Customers' trait reactance is negatively related to their intention to participate in a  
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25 green LP.  
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### 31 *2.3 Anticipated guilt and its interaction with trait reactance*

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34 A feeling of guilt (or guilt hereafter) is a self-conscious emotion that has been shown to  
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36 play an essential role in promoting pro-environmental behaviour (Baek and Yoon, 2017;  
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38 Kapoor *et al.*, 2021; Graton *et al.*, 2016). Guilt is a negative emotion experienced when  
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40 someone thinks they are doing something inconsistent with their standards (Hurst and Sintov,  
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42 2022). In addition, some studies (Bagozzi and Pieters, 1998; Han, 2021; Onwezen *et al.*, 2014)  
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44 have identified anticipated guilt, which refers to an individual's anticipated feelings about an  
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46 action that might violate their personal standards. When customers experience anticipated guilt,  
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48 they might engage in a coping mechanism aimed at regulating their behaviour to avoid the  
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50 feeling of guilt in the future (Duhachek *et al.*, 2012; Theotokis and Manganari, 2015). For  
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4 during their stay in the hotel is not environmentally friendly (e.g., not joining the hotel green  
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6 LP). Therefore, to avoid the feeling of guilt, they would alter their decision.  
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10 Customers can experience psychological reactance induced by hotels' green LPs, but at the  
11  
12 same time, we would argue that customers could also anticipate feeling guilty about not joining  
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14 the green LP. Such a feeling of guilt would encourage them to engage in behaviour which is  
15  
16 good for the environment (e.g., joining a green LP). We argue that customers would anticipate  
17  
18 guilt when they imagine how they would feel if they decided against joining the green LP. This  
19  
20 is because not joining the green LP would contradict their goal to save the environment. Indeed,  
21  
22 previous research has shown that feelings of guilt can be aroused if customers' decisions go  
23  
24 against their personal goals (e.g., protecting the environment) (Bagozzi and Pieters, 1998).  
25  
26 Furthermore, research on reactance and anticipated guilt suggests that anticipated guilt can help  
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28 customers avoid experiencing psychological reactance (Lindsey, 2005). Moreover, no prior  
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30 studies on green programmes have examined the role of the joint effect of anticipated guilt and  
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32 trait reactance, which will be addressed in this study.  
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42 Therefore, when customers anticipate feelings of guilt about not joining a green LP, they  
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44 will take action to avoid the negative feelings (i.e., by deciding to join the green LP). Therefore,  
45  
46 the negative association between customer trait reactance and their intention to participate in  
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48 the green LP would be mitigated if anticipated guilt is present. We propose the following:  
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4 H2. Customers' anticipated guilt about not joining the green LP reduces the negative effect  
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6  
7 of trait reactance on their intention to participate, such that higher anticipated guilt lessens the  
8  
9 negative impact of trait reactance.  
10

#### 11 12 13 14 15 2.4 Physical attractiveness

16  
17 To promote a green LP, the service employee's physical attractiveness is a visible cue that  
18  
19 may influence customers' decision-making. As seen in the Supplementary Material Appendix  
20  
21 1 Table 1, no prior research has considered the role of frontline service employees in service  
22  
23 encounters related to promoting a hotel's green LP. Physical attractiveness can be defined as  
24  
25 the degree to which a person's physical features are considered visually pleasing (Patzner, 1983).  
26  
27 The evaluation of physical attractiveness largely depends on an individual's subjective  
28  
29 perception of a target's facial appearance (Fang *et al.*, 2020). Physical attractiveness is often  
30  
31 the most noticeable characteristic and is typically considered a significant and visible cue in  
32  
33 social interactions (Eagly *et al.*, 1991).  
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42 "What is beautiful is good" is a well-known stereotype of physical attractiveness. That is  
43  
44 "physically attractive individuals are believed to possess a wide variety of positive personal  
45  
46 qualities" (Eagly *et al.*, 1991, p. 109). Numerous studies have confirmed this stereotyping (Fang  
47  
48 *et al.*, 2020; Langlois *et al.*, 2000; Wu *et al.*, 2019; Xu *et al.*, 2020). This is akin to the well-  
49  
50 known halo effect (Lucker *et al.*, 1981), which refers to the phenomenon when a person's  
51  
52 physical attractiveness can lead to a positive evaluation of their attributes (e.g., persuasion,  
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54 trustworthiness, and performance) (Chaiken, 1979).  
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4 Customer-employee interaction is fundamental in hotel service settings (Fang *et al.*, 2020;  
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6  
7 Li *et al.*, 2022), particularly among frontline service employees. However, the debate on the  
8  
9 effectiveness of physical attractiveness on customers' reactions during a service encounter has  
10  
11 not been settled. Our research contributes to this debate. For example, previous studies suggest  
12  
13 that being highly attractive is not always advantageous (Fisher and Ma, 2014, Li *et al.*, 2022),  
14  
15 a phenomenon referred to as the "beauty penalty" (Li *et al.*, 2022). For instance, Wan and Wyer  
16  
17 (2015) identified various consumption scenarios likely to raise self-presentation concerns,  
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19 demonstrating that consumers might be less inclined to interact with highly attractive service  
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21 employees.  
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29 Additionally, while the benefits of physical attractiveness are clear for appearance-related  
30  
31 products, they can be detrimental in contexts requiring specialised expertise (Peng *et al.*, 2020).  
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33 Wu *et al.* (2021) proposed that when service employees wear face masks, the halo effect of  
34  
35 their physical attractiveness will be eliminated. Consistent with these results, Li *et al.* (2022)  
36  
37 found that physical attractiveness impacts perceived trustworthiness to a lesser degree when  
38  
39 there is a high similarity between hosts and consumers. Hence, physical attractiveness may  
40  
41 generate a negative impact when considering customer traits and consumption contexts (Li *et*  
42  
43 *al.*, 2019). Although service employees' physical attractiveness has been widely considered a  
44  
45 critical factor in influencing customers' decision-making, there are still mixed findings about  
46  
47 the physical attractiveness stereotype. Thus, examining the boundary conditions of the physical  
48  
49 attractiveness stereotype is important, as suggested by Fang *et al.* (2020).  
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4 In addition, as pointed out by earlier research, physical attractiveness is often more salient  
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6 for female than male service employee (Alaei *et al.*, 2022; Li *et al.*, 2022). This is because  
7  
8 females are commonly rated more highly on beauty than males (Fisher and Ma, 2014). When  
9  
10 both males and females are equally physically attractive as receptionists, females were rated  
11  
12 higher in terms of physical attractiveness than males because being a receptionist is regarded  
13  
14 as a “feminine” job (Pinto *et al.*, 2020). Therefore, our research investigates the influence of  
15  
16 female hotel employees’ physical attractiveness on green LP participation.  
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23 The attention narrowing theory suggests that when customers regulate their behaviour by  
24  
25 anticipating negative emotions (e.g., anticipated guilt), their attentional focus is narrowed  
26  
27 (Wilcox and Prokopec, 2019). In our research context, the information about the benefits of  
28  
29 joining a green LP is relevant, whilst the physical attractiveness of hotel employees is less  
30  
31 relevant regarding either joining or not joining the LP. Therefore, when customers anticipate a  
32  
33 higher level of guilt, the physical attractiveness of the hotel frontline service employees will  
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35 not influence their decisions regarding either joining or not joining the LP. This is because  
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37 customers’ attention has been narrowed.  
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45 Note that these customers might still notice the hotel frontline service employees’ physical  
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47 attractiveness. Still, it would have little role in affecting their decisions regarding whether or  
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49 not to join the programmes. Nevertheless, customers who anticipate less guilt would pay more  
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51 attention to less relevant information, e.g., the physical attractiveness of service employees,  
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53 which may create a halo effect which might increase the persuasiveness of the green LP  
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4 promotion. Therefore, the customers who perceive the service employee as less (vs. more)  
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6 attractive would be less (vs. more) likely to join the green LP.  
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9 Furthermore, according to attention narrowing theory (Wilcox and Prokopec, 2019), we  
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11 argue that when customers anticipate less guilt, their attentional scope while assessing green  
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13 LP information will be greater than customers anticipating more guilt. Consequently, customers  
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15 who anticipate less (vs. more) guilt will be more likely to focus on less relevant information  
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17 (e.g., the physical appearance of frontline service employees) in the environment.  
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23 We argue that if customers find frontline service employees physically attractive, they may  
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25 evaluate the green LP more positively (i.e., halo effect), making it more likely for them to join  
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27 it. On the other hand, if they perceive the frontline service employees as less attractive, the halo  
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29 effect may have less impact, making it less likely for them to join the green LP. Based on this  
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31 argument, we hypothesise that the negative relationship between trait reactance and the  
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33 intention to join a green LP will be strongest among customers who both anticipate less guilt  
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35 for not participating in a green LP and perceive frontline service employees as less attractive.  
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39 Our theorising leads to a three-way interaction effect (Dawson and Richter, 2006) among trait  
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41 reactance, anticipated guilt, and physical attractiveness. That is, the significance of the three-  
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43 way interaction can determine whether the moderating effect of anticipated guilt on the  
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45 relationship between trait reactance and participation intention is influenced by the other  
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47 moderator (i.e., physical attractiveness). Therefore, we propose the following hypotheses (see  
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Figure 1 for conceptual model):

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4 **H3.** There is a three-way interaction effect of trait reactance, anticipated guilt, and physical  
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6 attractiveness on customers' intention to participate in a green LP. The negative relationship  
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8 between trait reactance and intention to participate in green LPs is strongest when both  
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10 anticipated guilt and service employees' physical attractiveness are low.  
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17 [INSERT FIGURE 1 HERE]  
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### 22 **3. Research methods**

#### 23 *3.1 Overview of studies*

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28 Across four studies (i.e., three preliminary studies and a main study), we aim to explore the  
29  
30 conditions under which the negative influence of trait reactance on customers' intentions would  
31  
32 be reduced. In the preliminary studies 1A and 1B, we aim to further confirm that anticipated  
33  
34 guilt, rather than anticipated shame, is relevant in our research context (see our discussion in  
35  
36 detail in Supplementary Material Appendix 2). Preliminary Study 1B replicated Preliminary  
37  
38 Study 1A and further ruled out the possibility that respondents might not be affected by the  
39  
40 scenario, and thus be unable to make a selection (see Supplementary Material Appendix 3). In  
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42 Preliminary Study 1C, we aim to test the physical attractiveness of female vs. male receptionists  
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44 when their appearances look identical (e.g., clothes, posture, background colour, location, facial  
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46 expression). We use Preliminary Study 1C to support the view that female receptionists will be  
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48 rated as more attractive than male receptionists when they look similar (see Supplementary  
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50 Material Appendix 4).  
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4 In the main study, we aim to demonstrate a significant three-way interaction effect among  
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6 trait reactance, anticipated guilt about not joining a green LP, and the physical attractiveness of  
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8 hotel staff. Note that our dependent variable in the main study is intention to participate in a  
9  
10 green LP. This means that participation in the green LP requires members to engage in pro-  
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12 environmental behaviours during their stay in the hotel to earn loyalty points. Therefore, if  
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14 members agree to participate in the green LP, they are expected to engage in pro-environmental  
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16 behaviours. Nevertheless, non-members might still engage in pro-environmental behaviours  
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18 during their stay in the hotel. However, they would not be able to reap the benefits of the green  
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20 LP as the members would.  
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### 31 *3.2 Sample and data collection*

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33 We employ the scenario-based survey method, chosen for its ability to replicate the impact  
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35 of LPs within realistic contexts such as hotel environments, thereby enhancing the applicability  
36  
37 and pertinence of LP management strategies (Steinhoff and Palmatier, 2016). However, as  
38  
39 highlighted by previous literature, using surveys raises concerns about the validity of findings  
40  
41 (Bell et al., 2022). Our decision against using experimental methods in this study stems from  
42  
43 the challenges associated with manipulating variables such as the physical attractiveness of  
44  
45 frontline service employees—categorising them into groups perceived as either highly  
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47 attractive or less attractive. This challenge arises due to the subjective nature of physical  
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49 attractiveness.  
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4 We collected data using an online survey via Qualtrics through a non-probabilistic  
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6 sampling technique. We cooperated with a Chinese research agency located in Shenzhen.  
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8 Participation was voluntary. We included a cover letter in the survey that conveyed the nature  
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10 of the research, assured respondents of their anonymity, emphasised voluntary involvement,  
11  
12 and underscored the confidentiality of their responses. The agency sent the questionnaire link  
13  
14 to its panel members and utilised a filtering system to ensure that only the respondents who  
15  
16 held Chinese nationality and currently lived in mainland China participated. We targeted only  
17  
18 Chinese customers because Chinese consumers contribute significantly to outbound tourism  
19  
20 worldwide, becoming a key growth driver for many destinations (Persnikov, 2023) and  
21  
22 contributing to significant environmental problems (Wei *et al.*, 2023).  
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### 34 *3.3 Main study*

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36 Our initial sample size was 898. However, 62 cases were removed due to inattentive and  
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38 careless responses calculated using the longstring index and the Mahalanobis distance  
39  
40 (DeSimone *et al.*, 2015). Specifically, we detected careless responses using the 'R package  
41  
42 careless' (Yentes, 2021), leaving an effective sample size of 836. Of the respondents, 56.2%  
43  
44 were female, while the average age of respondents was 32 years old (ranging from 23 to 56  
45  
46 years). Most respondents (77.4%) had a bachelor's degree, and most were employed full-time  
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48 (89.6%). The demographic information of respondents is displayed in Table 1.  
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[INSERT TABLE 1 HERE]



### 3.3.1 Scenario

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

Respondents were presented with a scenario which included a description and an image of a female receptionist at a fictional middle-market international hotel chain (ABC). The scenario described a situation where the respondents were first-time visitors to the ABC hotel for leisure. 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 A). 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)].

### 3.3.2 Measures

All constructs were measured using a seven-point Likert scale, ranging from 1 = strongly disagree to 7 = strongly agree, except where otherwise mentioned. A translation and back-translation process were utilised to ensure the accuracy of the Chinese translation of the original

English measures. An 11-item scale ( $\alpha = 0.97$ ), as in Hong and Faedda (1996) was used to measure trait reactance. The anticipated guilt scale consisted of three items ( $\alpha = 0.89$ ) adopted from Amatulli *et al.* (2019). We measured respondents' perceptions of the physical attractiveness of the receptionist using a three-item scale ( $\alpha = 0.79$ ) from Kim and Kim (2021). A three-item scale by Bamberg *et al.* (2015) was used to measure intention to participate in green LPs ( $\alpha = 0.76$ ).

For control variables, we measured respondents' perception of the ABC hotel's motive by using a single-item scale from Gao and Mattila (2014) ("Please indicate your perception of the motivation of the ABC hotel in promoting the green loyalty programmes" (from 1 = self-interested to 7 = environment interested). We used this single item because earlier literature had indicated that customers' perceptions of a hotel's underlying motives could influence intention (Chernev and Blair, 2015; Wang *et al.*, 2017). A three-item scale ( $\alpha = 0.76$ ) measuring pro-environmental attitudes was adapted from Zhang *et al.* (2021). These three items were included because prior literature had demonstrated that pro-environmental attitudes would influence customers' green behaviour (Graton *et al.*, 2016). The results of realism checks, ease of processing, confirmatory factor analysis and common method bias are displayed in the Supplementary Material Appendix 5.

## 4. Results

### 4.1 Hypotheses testing

To test our hypotheses, we conducted a hierarchical regression using SPSS version 27. First, we mean-centred the key psychometric constructs (i.e., trait reactance, anticipated guilt, physical attractiveness) before generating the proposed interaction term to produce a meaningful interpretation (Hayes, 2013). Next, we 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 our analysis, we first entered the covariates (i.e., perceived hotel motive and pro-environmental attitude; Model 1). Next, we 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).

Our results are presented in Table 2. Our 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 ( $b = -0.03$ ,  $p < 0.05$ ),

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4 supporting H3. To further validate our findings, we conducted a slope difference test to confirm  
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6 the three-way interaction effects (see details in the Supplementary Material Appendix 5). In  
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8 addition, following recommendation by Daryanto (2019) and Daryanto and Lukas (2022), we  
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10 conducted an additional to check for potential spuriousness of our significant moderation effect.  
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12 The results of the analysis revealed that no threat to the validity of the moderation effect was  
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14 found (see details in the Supplementary Material Appendix 5).  
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23 [INSERT TABLE 2 HERE]  
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## 28 **5. Discussion and conclusion**

### 29 *5.1 Conclusion*

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32 In this research, we explored the conditions under which customers may join a green LP  
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34 when they experience psychological reactance induced by green LP offers. As hypothesised,  
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36 we found that when customers have a high level of trait reactance, they show a low intention to  
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38 join the green LP as a way of addressing the threat to their consumption freedom. This result  
39  
40 corroborates findings in LP research where trait reactance has been found to be negatively  
41  
42 related to customers' reactions towards LP offerings (Bertini and Aydinli, 2020; Kivetz, 2005;  
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44 Wendlandt and Schrader, 2007). As our study is conducted in the context of green LPs, we  
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46 extend the findings from the general LP research into a new specialised context.  
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56 Regarding the second hypothesis, we found that anticipated guilt moderates the relationship  
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58 between trait reactance and intention to join a green LP. This result is consistent with findings  
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4 in the literature on the problem-focused coping strategy of guilt (Duhachek *et al.*, 2012) in  
5  
6 which customers tend to amend their future behaviour to reach a desirable outcome (e.g.,  
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8 protecting the environment) (Theotokis and Manganari, 2015). We extend this line of research  
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10 by indicating how the moderating role of anticipated guilt increases the persuasiveness of green  
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12 LP promotion.  
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17 Regarding the third hypothesis, which is the three-way interaction hypothesis, we found  
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19 that anticipated guilt and physical attractiveness jointly moderate the trait reactance-intention  
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21 to join a green LP. In addition, according to Table 2, the two-way interaction effect between  
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23 trait reactance and physical attractiveness on the green LP participation intention is  
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25 insignificant, and the direct impact of physical attractiveness on customers' intention to join a  
26  
27 green LP is significant. This suggests that while physical attractiveness may not directly interact  
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29 with trait reactance to shape customer decisions, it still plays a role in driving overall customer  
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31 participation in green LPs. This three-way interaction suggests that the influence of these factors  
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33 on customers' intentions to join a green LP is more complex and interdependent than previously  
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35 understood. Specifically, this three-way interaction highlights how the combination of these  
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37 variables can either enhance or diminish a customer's likelihood of participating in  
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39 environmentally friendly initiatives.  
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50 To our knowledge, this is the first study to uncover a three-way interaction involving a  
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52 personality trait (trait reactance), a servicescape factor (employee attractiveness), and a  
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54 customer emotion (anticipated guilt). The findings provide insights for scholars and  
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4 practitioners on mitigating the negative impact of psychological reactance and encouraging  
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6 participation in green LPs.  
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## 12 *5.2 Theoretical implications*

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14 The role of trait reactance in customer responses to green loyalty programmes (LPs) has  
15 rarely been examined in the existing literature. To our knowledge, this research is the first to  
16 empirically demonstrate the boundary conditions under which customers' trait reactance  
17 influences their intention to join green LPs. While previous studies have shown that  
18 psychological reactance induced by LP offerings can lead to negative customer reactions (e.g.,  
19 Ding *et al.*, 2021), our study identifies conditions under which this negative influence does not  
20 occur. Specifically, we provide evidence that customers, regardless of their level of trait  
21 reactance, respond similarly to green LP promotions when they anticipate a higher degree of  
22 guilt about not joining. This highlights the need to move beyond examining only the negative  
23 outcomes of psychological reactance and to better understand the factors that can alter its impact  
24 on customer decision-making in the context of green LPs.  
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44 Although previous research has established that anticipated guilt is effective in promoting  
45 sustainable behaviour among hotel customers (e.g., Theotokis and Manganari, 2015), no studies  
46 have explored its role in mitigating psychological reactance triggered by green LP offers. Our  
47 findings indicate that the level of anticipated guilt plays a crucial role: high anticipated guilt is  
48 key to persuading customers to join green LPs, while low anticipated guilt fails to effectively  
49 promote green LPs among high-trait-reactance customers. By associating anticipated guilt  
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4 levels with customers' trait reactance, this research addresses the question of how to enhance  
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6 the promotional effectiveness of green LPs.  
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9 The literature on the effect of frontline service employees' physical attractiveness presents  
10 mixed findings (Fang *et al.*, 2020; Li *et al.*, 2022; Wu *et al.*, 2021). Our results reveal a positive  
11 effect of employees' physical attractiveness on customers' intention to join a hotel's green LP,  
12 consistent with the halo effect (e.g., Langlois *et al.*, 2000). This supports the idea that attractive  
13 frontline employees can positively influence customer decisions in a hotel setting. However,  
14 this effect disappears when customers experience high anticipated guilt about not joining the  
15 green LP. In such cases, customers' attention narrows, and they pay less attention to the  
16 employees' physical appearance. This offers new insights into the limitations of the halo effect  
17 and demonstrates a novel boundary condition for its influence.  
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33 Additionally, our research examines the joint effect of physical attractiveness and  
34 anticipated guilt through the lens of attention-narrowing theory (e.g., Wilcox and Prokopec,  
35 2019). Unlike previous studies such as Li *et al.* (2022), which focused on contexts where service  
36 failures attributed blame to firms, our research explores anticipated guilt arising from  
37 customers' perceived failure to contribute to environmental goals. This provides a fresh  
38 perspective on the interplay between service employees' physical attractiveness and customers'  
39 emotions in shaping decisions related to green LPs.  
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### 5.3 Managerial implications

This research has two key implications for hotel managers and marketers aiming to promote green LPs and encourage pro-environmental behaviour. First, our findings reveal that green LP promotions are less effective when customers experience low anticipated guilt about not joining. To increase the persuasiveness of such promotions, managers should design strategies to heighten customers' guilt about environmental neglect. For instance, hotel managers could incorporate assessments of anticipated guilt in pre-arrival surveys to gauge customers' environmental attitudes. Based on these insights, promotional appeals can be tailored to encourage green LP participation. Hotels can also educate guests on environmental issues through strategic interactions and visual prompts. For example, during check-in, staff could highlight the hotel's environmental initiatives and demonstrate how guest choices contribute to sustainability. In-room materials and digital displays can visually reinforce these messages. Scandic Hotels, for instance, uses stickers with messages like "Turn off the tap for the sake of the planet" to encourage water conservation (Scandic, 2024).

Second, when considering the physical attractiveness of service employees, managers should also account for customers' anticipated guilt. Our findings suggest that the positive influence of employees' attractiveness on green LP promotion is limited to situations of low anticipated guilt. High anticipated guilt diminishes the halo effect of attractiveness, as customers focus more on their own environmental behaviour than on the employees' appearance. Consequently, relying solely on physical attractiveness is not always effective.



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4 Instead, other factors, such as employee demeanour, communication skills, and presentation,  
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6 should be emphasised.  
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9 Rather than focusing on appearance in hiring decisions, hotels should prioritise training  
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11 programmes that enhance employees' confidence, communication skills, and warmth, such as  
12  
13 encouraging smiles which are perceived as both attractive and approachable (Li *et al.*, 2022).  
14  
15 These adjustable attributes allow hotels to maintain inclusive hiring practices while still  
16  
17 improving customer engagement and relationships. Instead of relying on appearance, managers  
18  
19 should prioritize training programmes that enhance employees' communication skills,  
20  
21 confidence, and professionalism. For instance, training methods like Avatar-led Green Training  
22  
23 (Hao *et al.*, 2024) can significantly enhance organizational citizenship behaviour for the  
24  
25 environment (OCBE) and green creativity by fostering workplace spirituality. By investing in  
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27 employee development, hotels can ensure all staff contribute effectively to promoting green  
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29 LPs, fostering a fair and inclusive workplace while improving customer experiences.  
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#### 42 *5.4 Limitations and future directions*

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45 Several limitations in our research provide avenues for future research. First, while our  
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47 focus is on hotels' green LPs, future research could investigate how our findings can be  
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49 replicated in the non-reward point loyalty programme where the rewards are not accumulative  
50  
51 (e.g., planting a tree as a reward for engaging in the green LP) because it might create less  
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53 reactance (i.e., customers do not need to accumulate points to redeem a reward).  
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4 Second, previous literature has demonstrated that if customers are sceptical about the  
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6 motives behind the CSR programme of the firm, they will be less positive towards the CSR  
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8 initiatives (Rahman *et al.*, 2015; Nguyen *et al.*, 2023). For example, Rahman *et al.* (2015) found  
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10 that scepticism has a negative impact on hotel customers' intention to participate in its linen  
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12 reuse programme. Future research needs to explore the relationship among scepticism, trait  
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14 reactance, anticipated guilt and physical attractiveness.  
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20 Third, we only focus on a specific culture (i.e., China). However, the standards and  
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22 importance of physical attractiveness in service contexts vary in different cultures (Sugiyama,  
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24 2015). Future research could further examine our findings in different cultures.  
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28 Finally, our research pertains to the likelihood of joining the hotel's green LP and does not  
29  
30 include the observation of actual participation. Due to the attitude-behaviour gap in the  
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32 sustainable hospitality literature, not all pro-environmental behavioural intentions will  
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34 automatically translate into actual pro-environmental behaviour (Khan *et al.*, 2024). Thus,  
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36 future research could replicate our findings in a real-world field setting to further examine the  
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38 interrelationship between intention to join green LPs and actual participation.  
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4 **Acknowledges:** The authors would like to acknowledge that this paper has been adapted from  
5  
6  
7 the original PhD thesis work of the first author.  
8  
9

### 10 11 12 **Appendix A. Sample Scenario** 13

14  
15 Imagine that you are checking into the ABC hotel for leisure purposes. ABC Hotel is a  
16  
17 middle-market international hotel chain. This is **the first time** you have visited this hotel.  
18  
19 As soon as you arrive at the reception desk, you are greeted by **a female receptionist**. The  
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21 female receptionist asks for your last name and is able to pull up your reservation in seconds  
22  
23 on the screen. At the end of your check-in, she tells you about the ABC hotel's green loyalty  
24  
25 programme. You learn that the green loyalty programme rewards guests if they **exhibit pro-**  
26  
27 **environmental behaviour while they are staying in the hotel (e.g., reuse towels). If you join**  
28  
29 **this green loyalty programme, you can earn 100 green points for each booking. These**  
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31 **green points can be used as 10 Chinese Yuan (CNY) for your future booking.**  
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**Table 1.** Demographic information of respondents

Characteristics	n	Percent (%)
Gender		
Male	366	43.8
Female	470	56.2
Age		
18-15	16	1.9
26-30	343	41
31-35	324	38.8
36-40	116	13.9
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

**Source:** Authors own work

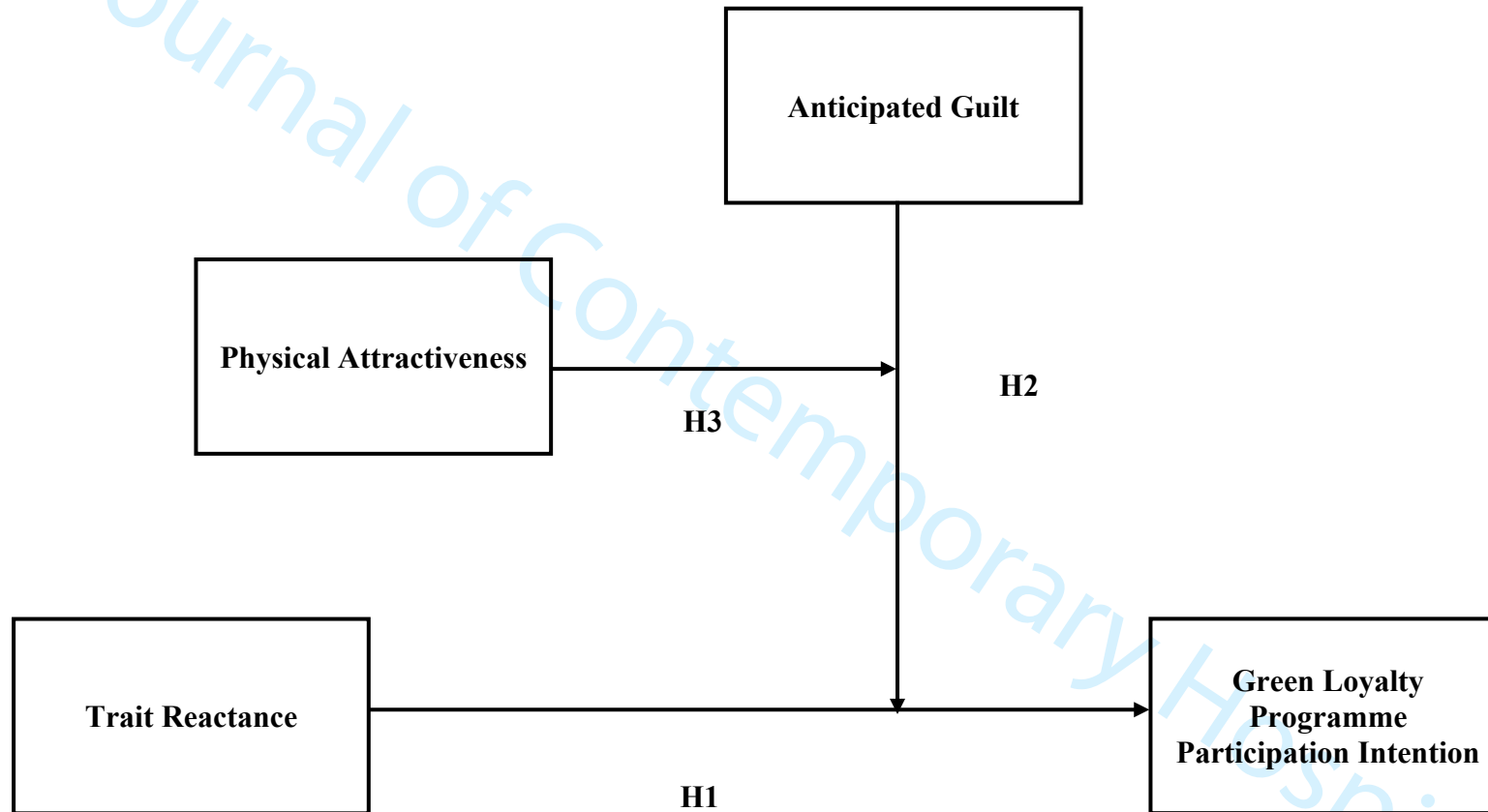
**Table 2.** Regression analysis

Dependent Variable: Green LP participation intention

Variable	Model 1		Model 2		Model 3		Model 4	
	b	se	b	se	b	se	b	se
(Constant)	0.61**	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 <sup>2</sup>	0.50		0.56		0.598		0.59	
ΔR <sup>2</sup>	0.50***		0.06***		0.02***		0.00*	

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

**Source:** Authors own work



Source: Authors' own creation

Figure 1. Proposed research model.



**Figure. A.1.** Photo of the female service employee  
(Reproduced with permission from the copyright holder: iStock.com)

### Supplementary Material Appendix 1: Synthesis of Relevant Literature on Green Programmes

**Supplementary Materials Appendix 1 Table 1.** Synthesis of relevant literature on green programmes

Author(s)	Sample/ procedure/context	Consequences considered	Theory	Findings	Factor(s) considered	Management implications
Sharma <i>et al.</i> (2024)	n = 20 tourists (face-to-face interviews) + 500 online surveys; hotel's green programme	Participation intention	Diffusion of innovation theory	Perception of the novelty and uniqueness strongly influenced tourists' intention to join green programmes.	Customer: perception of eco-innovativeness; Firm: Eco-innovative attributes	Expand eco-innovative features to match customer preferences and increase participation in green programmes.
Flacandji <i>et al.</i> (2023)	n = 1,016 actual shoppers; online experiment; retailers' green LPs	Perceived value	Social exchange theory	Perceived value is affected by the type of green LPs  Customer factors are not significant.	Customer: age, gender, loyalty membership; Firm: types of green LPs	Successful green LPs enhance customer perceived value
Grazzini <i>et al.</i> (2018)	n = 173; experiments; hotel's green programme	Recycling intention	Prospect theory and construal level theory	Recycling behaviour is affected by the type of message and customer perception.	Customer: perceived self-efficacy; Firm: message framing; message construal	Hotels should highlight the negative consequences of not adopting sustainable behaviours and give guests instructions on how to avoid such consequences.
Wang <i>et al.</i> (2017)	n = 829; experiment; hotel's green programme	Conservation behaviour	Reactance theory	Three-way interaction effect among firm's effort, request and price on consumer reactance and conservation behaviour.	Customer: state reactance (measured as a feeling), trait reactance; Firm: price image, green effort, firm's request	Successful green programmes can increase consumer conservation efforts and liking for the firm

Liu and Mattila (2016)	n = 297 nationwide customers; experiment; hotels' green LP	Satisfaction	Social comparison theory; costly signalling theory	The combination of customer factors (i.e., perceived status, perceived pro-sociality, type of customers) and firm factors (price image, preferential treatment) affect satisfaction.	Customer: the type of customer, customer perception; Firm: types of LP, preferential treatment	Incorporating green LPs can improve customer satisfaction.
Giebelhausen <i>et al.</i> 2016	n = 1,823 customers; experiment; restaurant's green programme	Satisfaction	Impure altruism	Green programme participation is affected by customers; warm glow, which in turn influences customer satisfaction  The type of incentive moderates the relationship between green programme participation and customer's warm glow	Customer: warm glow; Firm: types of incentive	Organisations should consider offering an incentive to encourage consumer participation in green programmes.
Blose <i>et al.</i> (2015)	n = 427 travellers; experiment; hotel green programme	Participation intention	Prospect theory	Guests' intention to participate in a green programme is affected by the type of advertising message framing	Customer: individual green efforts; Firm: message framing	Loss-framed messages (vs. gain-framed messages) are more effective to encourage customers to join green programs

Hwang and Kandampully (2015)	n = 350 US consumers; experiments; retailer's pro-social programme	Participation intention	Associative network theory and cognitive hierarchy model	Consumers' CSR beliefs and feeling of gratitude enhance their attitudes toward pro-social LPs and increased participation intentions	Customer: CSR perception, attitude toward LP, perceived value; Firm: No	Customers' participation in pro-social programmes is influenced by their perceptions of the company's CSR efforts.
Theotokis and Manganari (2015)	n = 447; experiments; hotel's green programme	Participation intention	Defaults policy, anticipated guilt	The opt-out default policy is more effective than the opt-in, because it increases anticipated guilt	Customer: emotion; environmental consciousness; Firm: type of default policy, cooperation strategy	The opt-out green programme seems to be a more effective policy than the opt-in green programme in engaging consumers to use a green service

*Note:* To compile this information, we searched for peer-reviewed English-language articles via Web of Science that contained the terms 'green loyalty programmes' OR 'green programmes' in their title, abstract, keywords or introduction. We confined the date range to 2015–2024 to ensure timeliness and relevance.

**Source:** Authors own work

## Supplementary Material Appendix 2: Preliminary Study 1A

### A. *Why we ruled out anticipated shame*

Another self-conscious emotion frequently and simultaneously examined with anticipated guilt in empirical studies is anticipated shame (Amatulli *et al.*, 2019; Kotabe *et al.*, 2019). We have two critical 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 *et al.*, 1994). Individuals feel guilty when they make a negative assessment of their conduct (e.g., “I lied”). In contrast, they feel shame when they make a negative evaluation of their self-image (e.g., “I am a dishonest person”) (Tracy *et al.*, 2007). Thus, we argue that a customer can anticipate guilt but would not anticipate shame if they refuse to join the green LP. This is because joining the hotel’s green LP is good for the environment; therefore, guilt rather than shame would arise from the decision to opt-out.

Second, generating shame requires concern for other people’s evaluation of the subject’s self, whereas guilt is the concern with one’s own effect on others (Tangney and Dearing, 2003). Our research focuses 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 *et al.*, 2013). If the customers anticipate shame about not joining the green LPs, this concern stems from the fear of being judged negatively, which challenges their self-image (Mkono and Hughes, 2020). 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 important by others and society in general, this might influence how customers assess their own behaviour. To further rule out anticipated shame in our research context, we conducted Preliminary Study 1A. The details are presented in the next section.



### B. Preliminary Study 1A

We created an online survey and collected data using a Chinese research agency located in Shenzhen, China, which distributed the link to the questionnaire to its panel members (N = 100, 53% female,  $M_{\text{age}} = 30$ , 78% hold a Bachelor's degree or above, 71% employed full-time). In our questionnaire, we asked respondents to read the descriptions of guilt and shame taken from Tangney and Dearing (2003). Guilt was described in three sentences, one of which reads as follows: "Guilt is the feeling that you know what you have done and by your standards it is wrong". Similarly, shame was also described in three sentences, one of which reads as follows: "Shame is the feeling that everyone else thinks you have done wrong, and all know what you have done". The presentation of descriptions of guilt and shame was randomized to avoid the presentation-order effect (de Bruin and Keren, 2003; Englund and Hellström, 2012).

Next, respondents were exposed to a scenario. In the scenario, they were asked to imagine visiting a middle-market international hotel chain (ABC) for the first time. They learned that ABC Hotel operates a green LP, which would reward them for behaving pro-environmentally during their stay. After reading the scenario, respondents were asked to engage in counterfactual thinking: what they would feel if they decided not to join the green LP. They had to indicate their answers by ticking a box labelled 'guilt' or 'shame' placed side by side. The side-by-side presentation of guilt and shame options was randomised to avoid the order effect. Moreover, we measured respondents' level of scepticism (Cronbach's  $\alpha = 0.76$ ) towards the motives of the hotel that administered the green LP using a four-item scale from Skarmeas and Leonidou (2013). The sample item is "I am uncertain that this ABC hotel is concerned about improving the environment". We measured customer scepticism because if customers are sceptical about the hotel's motives, they may not feel a sense of shame if they choose not to participate. This is because they would not perceive their decision to reject joining the green

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3 LP, which is expected to benefit the environment, as a negative self-evaluation. Finally, they  
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5 were asked to respond to some demographic questions (e.g., age, gender, education).  
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8 Our results show that 37% of respondents feel ashamed, and 63% feel guilty about not  
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10 joining the green LP ( $\chi^2(1) = 6.76, p < 0.01$ ). We also conducted a binary logistic regression  
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12 using the types of emotion as a dependent variable (dummy variable: guilt = 1; shame = 0) and  
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14 scepticism as an independent variable. Our results demonstrated that scepticism (odds ratio or  
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16 OR = 0.79; 95% CI = 0.58, 1.09) has no influence on the choice of type of emotion that  
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18 customers anticipate (null-2log likelihood or null-2LL = 129.66,  $\chi^2(8) = 8.75, p > 0.05$ ). These  
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20 results confirmed our prediction that customers would anticipate guilt rather than shame had  
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22 they decided not to join a hotel's green LP, which is not influenced by customer scepticism  
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24 toward the green LP.  
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### Supplementary Material Appendix 3: Preliminary Study 1B

We conducted another preliminary study to rule out the possibility that respondents might not to be affected by the scenario, and hence, be unable to make the selection<sup>1</sup>. In the new preliminary study, we offered the possibility of ‘no opinion’ in the choice of type of emotions felt from not joining the green LP. We argue that respondents unaffected by the scenario would be more likely to opt for this option compared to other types of emotions. We also included two items for realism check (i.e., “Please indicate that the scenario described above is”) and the ease of understanding (i.e., “I can imagine myself in the scenario”).

We obtained 158 responses (40.5% female,  $M_{\text{age}} = 32$ , 79.1% hold a Bachelor’s degree or above, 89.2% employed full-time). We calculated the mean scores of each item. A one-sample t-test indicated that the mean realism score ( $M = 4.27$ ,  $SD = 0.74$ ) was greater than the midpoint on the 5-point bipolar scale of 3 ( $t(157) = 21.40$ ,  $p < 0.001$ ). Thus, the realism of the scenario was demonstrated. With respect to the second item, the one-sample t-test results revealed that the mean score of the ease of understanding question ( $M = 4.19$ ,  $SD = 0.53$ ) exceeded the midpoint on the 5-point multi-category ordinal answer format ( $t(157) = 22.35$ ,  $p < 0.001$ ), showing that participants did not perceive any difficulty in understanding the scenario. Our results replicate the findings of Preliminary Study 1A – customers would anticipate guilt (68.4% rather than shame (27.8%) had they decided not to join a hotel’s green LP and only 3.8% chose the no opinion option, despite their average score on the realism and understanding checks being above the midpoint ( $\chi^2(1) = 100.91$ ,  $p < 0.01$ ). These results confirm our decision to focus on anticipated guilt rather than anticipated shame.

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<sup>1</sup> Thank you to an anonymous reviewer for suggesting ruling out the no-opinion option.

#### Supplementary Material Appendix 4: Preliminary Study 1C

We conducted preliminary Study 1C with the aim of testing the perceived attractiveness of female receptionist vs. male receptionist where their appearance looks identical (e.g., clothes, posture, background colour, location, facial expression). We developed a survey containing three items measuring perceived attractiveness of the receptionist (e.g., “I find this receptionist is good-looking”). The three-items are averaged to create a composite measure of perceived attractiveness. Respondents are randomly assigned into two different types of scenarios (female receptionist vs. male receptionist) which constitutes a between subject design.

In the scenario, respondents are also asked to indicate which type of receptionist looked more attractive. For the female receptionist, we selected an image that aligns with the professional standards of the hospitality industry, including appropriate hairstyle and makeup. The image features the receptionist in a formal uniform, posed in a manner that is both poised and welcoming, enhancing the professional ambiance. The high-resolution image clearly displays all details, aiding participants in effectively evaluating her features. A neutral background was used to minimize distractions and focus attention solely on the receptionist. We obtained third-party permission to use this image, ensuring its appropriateness for academic purposes without legal concerns. For the male receptionist, we utilised Photoshop to alter the original image, changing only the gender while keeping all other aspects consistent (see Supplementary Material Appendix 4 Figure 1).



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28 [Female condition]  
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55 [Male condition]  
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57 **Supplementary Material Appendix 4 Figure. 1.** Photo of the service employees (female vs.  
58 male) Reproduced with permission from the copyright holder: iStock.com  
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3 We obtained 110 responses (37.2% female,  $M_{\text{age}} = 32$ , 70% hold a Bachelor's degree or  
4 above, 95.5% employed full-time). The results show that female receptionists are rated as more  
5 attractive than male receptionists ( $M_{\text{female}} = 5.53$ ;  $SD_{\text{female}} = 1.42$ ;  $M_{\text{male}} = 5.04$ ;  $SD_{\text{male}} = 1.10$ ).  
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7 In addition, participants selected the view that the female receptionist is more attractive than  
8 the male receptionist ( $\chi^2(1) = 19.27$ ,  $p < 0.001$ ). We also conducted a regression analysis with  
9 perceived attractiveness as the dependent variable and the types of scenarios (female  
10 receptionist vs. male receptionist) as independent variable. We included participants' gender  
11 as a control variable. Our results showed that the female receptionist is perceived as more  
12 attractive than the male receptionist when controlling for the participant's gender ( $b_{\text{scenario}} = -$   
13  $0.54$ ,  $p = 0.03$ ). The main effect of gender is not insignificant on perceived attractiveness,  $b_{\text{gender}}$   
14  $= 0.37$ ,  $p = 0.14$ ).

## Supplementary Material Appendix 5: Supplemental analyses

### A. *Realism checks, ease of processing and confirmatory factor analysis*

We 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 understanding 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 understanding the scenario.

We 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. Our results yielded an acceptable model fit to the data [Chi-square ( $\chi^2$ ) = 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 Supplementary Material Appendix 5 Table 1). Composite reliability for each scale was greater than 0.70 (Fornell and Larcker, 1981) (ranging from 0.76 to 0.97).



**Supplementary Material Appendix 5 Table 1.** Measurement items and loadings

Construct	$\alpha$	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 loyalty programme. I feel guilty.	0.84
		GUI2	Think about your feelings if you do not join this green loyalty programme. I feel culpable.	0.89
		GUI3	Think about your feelings if you do not join this green loyalty programme. I feel remorseful.	0.83
Physical attractiveness	0.79	PA1	I find this receptionist is good-looking.	0.76
		PA2	I find this receptionist attractive.	0.78
		PA3	I find this receptionist visually appealing.	0.71
Green loyalty programme participation intention	0.76	GPI1	My intention to participate in this green loyalty programme is strong.	0.69
		GPI2	My desire to participate in this green loyalty programme is strong.	0.79
		GPI3	I am very likely to join this green loyalty programme.	0.68

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

**Source:** Authors own work



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, we calculated the square root of the AVE for all constructs. Our 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 Supplementary Material Appendix 5 Table 2).

**Supplementary Material Appendix 5 Table 2.** 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	<b>0.85</b>			
GUI	4.45	1.52	0.89	0.73	0.13**	<b>0.94</b>		
PA	5.15	1.11	0.79	0.56	-0.25**	0.15**	<b>0.89</b>	
GPI	5.24	1.01	0.76	0.52	-0.26**	0.22**	0.66**	<b>0.72</b>

Note:  $p < 0.01^{**}$ ; the 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 loyalty programme participation intention.

**Source:** Authors own work

In addition to the above procedure, in assessing the discriminant validity of our constructs, we also calculated the Heterotrait-Monotrait ratio (HTMT) values (see Supplementary Material Appendix 5 Table 3). The HTMT values obtained were as follows: between trait reactance and anticipated guilt 0.17; trait reactance and physical attractiveness, 0.24; trait reactance and intention to participate in a green LP, 0.26; anticipated guilt and physical attractiveness, 0.20; anticipated guilt and intention to participate in a green LP, 0.28; and physical attractiveness and Intention to participate in a green LP, 0.86. Values below 0.90 typically indicate satisfactory discriminant validity (Henseler *et al.*, 2015), suggesting all construct pairs in our study are distinctly measured.

**Supplementary Material Appendix 5 Table 3.** Discriminant validity via HTMT

	Trait reactance	Anticipated guilt	Physical attractiveness	Intention
1. Trait reactance				
2. Anticipated guilt	0.17			
3. Physical attractiveness	0.24	0.21		
4. Intention	0.26	0.28	0.86	

**Source:** Authors own work

### B. Common method bias

To avoid common method bias, a potential issue related to the questionnaire (MacKenzie and Podsakoff, 2012), we used page breaks to distance the measurement of predictors and criterion variables. We informed respondents that the questionnaire had no right or wrong answers, as suggested by Podsakoff *et al.* (2003). Moreover, we 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). Our results revealed a good fit in line with the original 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 have affected our research.

### C. Slope difference test

To test the three-way interaction further, we tested for the difference among the slopes of the lines (Dawson and Richter, 2006). Our results display the slope difference tests for all the simple slopes (see Supplementary Materials Appendix 5 Table 4), which are graphically shown in the Supplementary Materials Appendix 5 Figure 1. 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

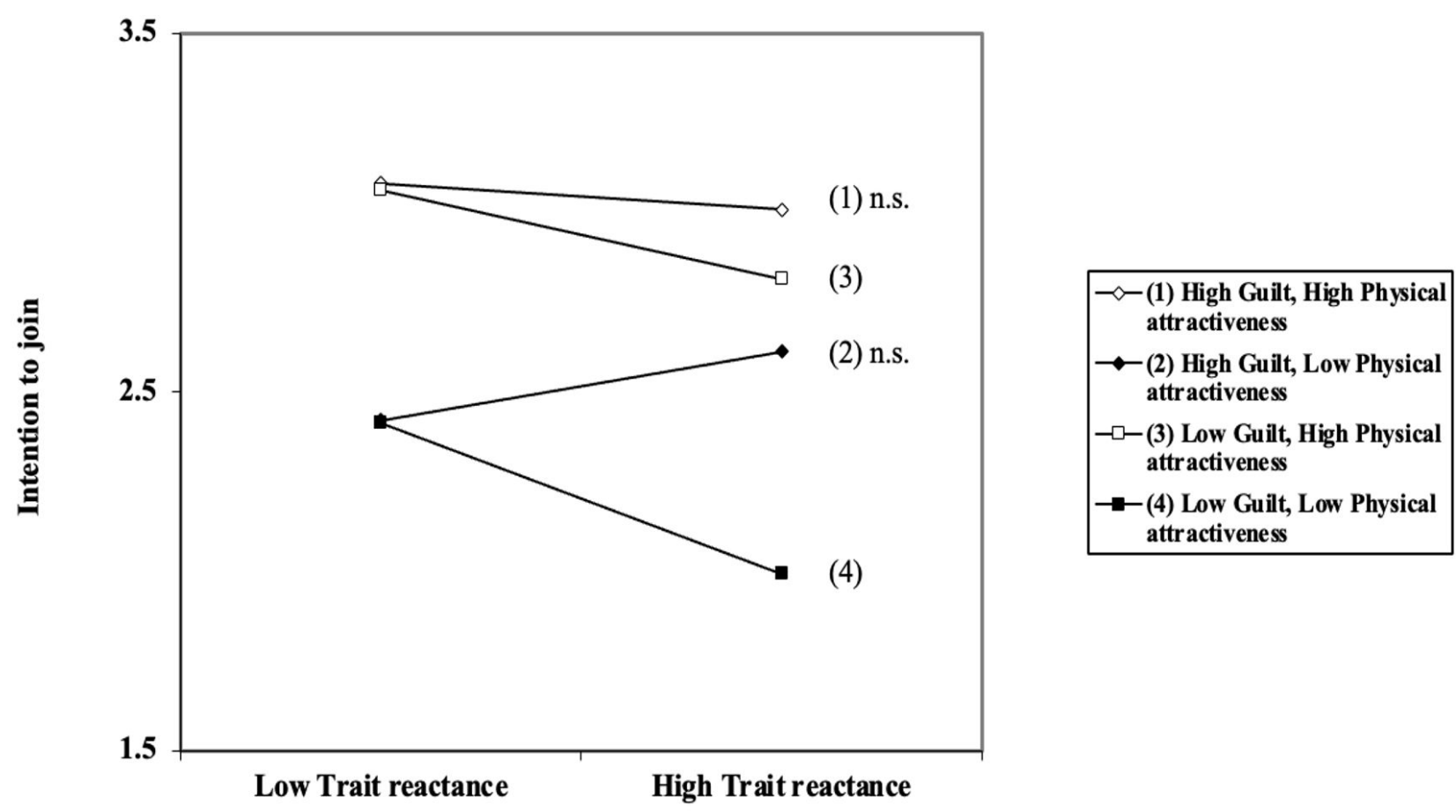
guilt was low and physical attractiveness was high, the effect was less strong but still significant (condition 3: slope = -0.08;  $t = -2.80$ ;  $p < 0.01$ ), supporting H3. In other cases (conditions 1 and 2), the relationship between trait reactance and green LP participation intention was insignificant.

**Supplementary Material Appendix 5 Table 4.** 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 the Supplementary Material Appendix 5 Figure 1. \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .

**Source:** Authors own work



Source: Authors' own creation

Supplementary Material Appendix 5 Figure 1. Moderating effect of anticipated guilt and physical attractiveness on the relationship between trait reactance and green loyalty programme participation

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3 *D. Checking for potential spurious moderation*  
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6 In addition, moderation can be spurious when a predictor highly correlates with a moderator  
7 (Daryanto, 2019; Daryanto and Lukas, 2022). Our results reveal that anticipated guilt and  
8 physical attractiveness were not highly positively correlated ( $r = 0.15$ ,  $p < 0.01$ ). Furthermore,  
9 we created three quadratic terms on moderators and predictors (i.e., trait reactance, anticipated  
10 guilt and physical attractiveness). We then used SPSS Macro ModLR (Daryanto, 2022) to  
11 check potential spurious moderation (Daryanto, 2019). By controlling the quadratic terms, the  
12 interaction effect among trait reactance, anticipated guilt, and physical attractiveness was still  
13 significant. Thus, the interaction effect should not be spurious ( $b = -0.04$ ,  $t = -2.52$ ,  $p < 0.05$ ,  
14 effect size = 0.01). These results revealed that no threat to the validity of the moderation effect  
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