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RESEARCH ARTICLE

The effects of green brand image on brand loyalty: The case of mainstream fast food brands

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Abstract

While a number of studies have explored consumer attitudes and behaviors towards green brands, the importance of green brand image for mainstream brands is less well understood. This study seeks to explore if the green image of mainstream fast food brands influences consumer loyalty and how their attitudes towards and knowledge of environmental issues may affect perceptions of the environmental performance of fast food brands. Using data gathered from a convenience sample of 2001 Gen Y and Gen Z consumers in France, our study establishes a critical linkage between consumers' environmental values and brand loyalty by including green brand image as a mediator. Further, by exploring mainstream brands, rather than brands that are positioned primarily on green attributes, we find that the mediating effect of green brand image may be dependent on the brand positioning.

KEYWORDS

brand loyalty, environmental concern, fast food, green brand image, sustainable consumption

1 | INTRODUCTION

Over the last decade, the environmental performance of organizations has been subject to increasing scrutiny from multiple stakeholders, such as customers and governments, prompting many companies to engage in green marketing activities. However, if the environmental performance of mainstream¹ fast food brands is considered, there are important questions regarding the extent to which they have sought to address their environmental impact and how this affects consumer behavior. Although compared with industrial sectors traditionally associated with negative environmental impacts, hospitality more broadly,

and fast food in particular, may seem to have a lower environmental footprint, their environmental impact should not be underestimated. Fast food chains produce significant food and non-food wastes and are major consumers of energy and water (DiPietro & Gregory, 2013; Perrigot et al., 2021). For example, the Waste and Resources Action Programme (WRAP) (2013) estimates that hospitality and food service outlets within the United Kingdom alone create 2.871 million tons of waste, of which less than half is recycled or composted. Mainstream fast food brands have been slow to respond to these issues (Hirth et al., 2021)—so much so that in France, the context of this study, major fast food brands have been publicly reprimanded by the government in relation to their failure to comply with environmental waste legislation (Perrigot et al., 2021). This reluctance to act, perhaps, indicates that fast food brands do not consider green practices to be an important issue for their customers. Although research that has explored the relationship between green brand image and brand loyalty is relatively limited, certainly in comparison with that which focuses on green purchase behavior (GPB) more broadly, extant

Abbreviations: AVE, Average Variance Extracted; CFI, Comparative Fit Index; CSR, Corporate Social Responsibility; GPB, Green Purchase Behavior; GPI, Green Purchase Intentions; IFI, Incremental Fit Index; KMO, Kaiser-Meyer-Olkin; NFI, Normed Fit Index; SEM, Structural Equation Modelling; TPB, Theory of Planned Behavior.

¹We use the term 'mainstream brands' to denote brands that have established themselves using positioning that is not primarily based upon green practices. In the context of fast food, this would include brands such as McDonald's, Burger King, and Subway.

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research does suggest that green practices can promote customer loyalty within hospitality settings (Han & Kim, 2010; Martínez, 2015). However, the empirical evidence is largely drawn from studies of brands that are primarily positioned as green (Han, 2020) or in relation to specific (often hypothetical) practices (Albus & Ro, 2017; Namkung & Jang, 2013). Whether such relationships hold in practice for mainstream hospitality brands, especially in the context of the fast food sector, which is characterized by relatively low involvement purchases, is unclear. As Kataria et al. (2021) note, studies of the impact of CSR on brand loyalty have tended to focus on high involvement purchase decisions, but there may be differences, given low involvement purchases are often habitual in nature. To address this gap in our knowledge, we therefore seek to answer the question, “How does the green brand image of mainstream brands affect customer loyalty within the context of low involvement purchases?”

To address the research question, we conducted a survey of 2001 Gen Y and Gen Z fast food patrons, with the intent of examining how consumer attitudes toward, and knowledge of, environmental issues affect their perceptions of the environmental performance of fast food brands and, in turn, how this impacts their brand loyalty. By examining both internalized perceptions (consumers' environmental values) and perceptions of the firm (green brand image), we seek to address one of the limitations of the extant environmental marketing literature that has tended to focus on either the impact of consumers' values on eco-friendly consumption or how consumer perceptions of the firm influence purchase behaviors, rather than both (Butt et al., 2017). Further, our focus on mainstream brands and how their green brand image influences consumer loyalty will enable us to provide new insights into how the absence of green credentials affects consumer behavior. This contrasts with previous literature that has focused on antecedents to green purchases (Hu et al., 2010; Lin et al., 2017b; Mehraj & Qureshi, 2022; Shin et al., 2017; Tan & Yeap, 2012) and green brand loyalty (Lin et al., 2017b).

Our findings suggest that, in general, consumers hold mainstream fast food brands' green brand image in low regard, and for consumers with strong concerns for the environment, this is even lower. Such perceptions matter, as we find that green brand image is positively related to brand loyalty. As such, our findings have implications for practice. To enhance customer loyalty, fast food brands should consider not only how they can improve their environmental practices but also how they can communicate their efforts to do so effectively to consumers, particularly in a context of consumer skepticism (Zhang et al., 2021).

2 | LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 | Green image and brand loyalty

In trying to understand consumer responses to sustainability issues more broadly, and environmental issues more specifically, researchers have tended to focus on either how internalized perceptions (e.g., consumers' attitudes, values, and knowledge) or firm perceptions

(e.g., brand image and perceived quality) influence consumer behaviors or behavioral intentions (Gao et al., 2016). Although, more recently, we have seen a number of studies seeking to combine both perspectives, these have tended to focus on the impact of particular green practices, rather than the more subjective assessment of green brand image. Further, while some authors have considered potential antecedents to green brand image, the consequences on consumer behavior are less well understood (see Table 1 for a summary of relevant studies). It is this gap in the literature that this research seeks to address.

Studies of consumers' pro-environmental purchase behavior have tended to draw upon Ajzen's (1991) theory of planned behavior (TPB) to understand how consumers' green purchase intentions (GPIs) are formed (Yarimoglu & Gunay, 2020). The TPB hypothesizes that intention is influenced by the individual's perceived control (ease or difficulty of performing the task), attitude towards that behavior, and their subjective norms (Albayrak et al., 2013). However, as noted by Sharma et al. (2022), there is often a gap between consumers' attitudes and intentions and their actual behaviors. A number of adaptations and extensions to TPB have, therefore, been proposed to develop models of GPI (e.g., Hartmann & Apaolaza-Ibáñez, 2012; Shin et al., 2017; Zaremohzzabieh et al., 2021) and GPB (e.g., Akehurst et al., 2012; Kilbourne & Pickett, 2008; Sharma & Foroapon, 2019). A common adaptation to TPB among these models is the inclusion of measures of environmental attitudes as predictors of intentions and behaviors (Hartmann & Apaolaza-Ibáñez, 2012; Joshi & Rahman, 2016; Zaremohzzabieh et al., 2021), with a number of studies finding that consumers' concern for, and knowledge of, environmental issues impact their pro-environmental purchase intentions and/or behaviors. Such a relationship can be explained by value-belief-norm theory, which suggests that values and attitudes drive behaviors (Stern et al., 1999). Further, drawing on means-end theory, it is postulated that consumers with environmental values will favor brands that enable them to satisfy their concern for the environment (Butt et al., 2017). While these studies provide useful insights into understanding drivers of pro-environmental purchase behaviors, less is known about how environmental beliefs influence consumer perceptions of the environmental performance of mainstream brands and the importance of environmental practices in the decision-making process, particularly in the case of habitual purchases (Padel & Foster, 2005). We, therefore, focus our study on the impact of environmental concern, knowledge, and beliefs on brand loyalty.

There have been several studies that have considered the antecedents of loyalty in the context of the hospitality sector (Martínez & Del Bosque, 2013; Osman et al., 2009; Shamah et al., 2018), but few have considered the impact of perceptions of environmental performance on brand loyalty within this sector (Martínez, 2015). There is, however, some evidence that environmental performance may influence customer brand preferences (Tingchi Liu et al., 2014) and brand attitudes (Jeong et al., 2014) within hospitality contexts, but its importance may vary according to the type of restaurant. Namkung and Jang (2013), in their study of restaurants, found that whereas green

TABLE 1 Selective overview of literature on antecedents and effects of green brand image.^a Papers exploring both internalized perceptions and perceptions of the firm are highlighted.

Author	Internal or external perception formation	Antecedents	Outcomes	Theory	Context	Sample
Alcaniz et al. (2010)	Perceptions of the firm	Cause-brand functional fit, altruistic attribution, cause-brand image fit Mediators: company trustworthiness, company expertise	CSR image	Attribution theory Schema theory	Beauty products	Spain
Chen (2010)	Perceptions of the firm	Green brand image Mediators: green trust, green satisfaction	Green brand equity	Social exchange theory	Electronics	Taiwan
Han and Kim (2010)	Internalized perceptions Perceptions of the firm	Service quality, behavioral beliefs, normative beliefs, control beliefs, frequency of past behavior Mediators: customer satisfaction, attitude, perceived behavioral control, subjective norm, frequency of past behavior, overall image	Re-visit green hotel intention	TRA/TPB	Hotels	US
Lee et al. (2010)	Perceptions of the firm	Value (value for money), hotel quality attributes Mediators: affective image, overall image	Behavioral intentions (intention to patronize green hotel, willingness to pay to support green practices, positive word of mouth)	Theory of image formation TPB	Hotels	US
Namkung and Jang (2013)	Internalized perceptions Perceptions of the firm	Restaurant green practices, type of restaurant (causal, upscale casual, fast food), consumer green values, health consciousness	Perceived quality Green brand image Green behavioral intentions to form (brand equity components)	Identity theory	Restaurants	US
Jeong et al. (2014)	Internalized perceptions Perceptions of the firm	Green practices Mediators: green brand image Moderators: perceived customer effectiveness (PCE) towards solving environmental problems	Attitude (e.g., pleasant/unpleasant)	Expectancy-value theory	Coffee shop	US
Ng et al. (2014)	Perceptions of the firm	Perceived quality of the brand Mediators: green brand perceived value, brand credibility, green brand image	Green brand equity	Associative memory network model	Electronics	Malaysia
Martínez (2015)	Perceptions of the firm	Green image Mediators: green trust, green satisfaction	Green loyalty	Hierarchy of effects	Hotel	Spain
Perez and Bosque (2015)	Perceptions of the firm	CSR image (society, customers and employees) Mediators: customer-company identification, satisfaction	Recommendation behavior Repurchase behavior	Hierarchy of effects	Banking	Spain

(Continues)



TABLE 1 (Continued)

Author	Internal or external perception formation	Antecedents	Outcomes	Theory	Context	Sample
Gao et al. (2016)	Internalized perceptions Perceptions of the firm	Internalized perceptions (attitudes, values, environmental knowledge/awareness, perceived benefits), perception of firm (image, perceived quality, satisfaction)	Behavioral intentions (willingness to pay, patronage intention, word of mouth, willingness to pay a premium)	TPB Means-end theory	Hospitality (various)	Meta analysis
Yadav et al. (2016)	Perceptions of the firm	Environmental practices, corporate communication of green practices, green image Mediators: corporate image	Intention to visit green hotel	TPB	Hotel	India
Butt et al. (2017)	Internalized perceptions Perceptions of the firm	Consumer environmental values Mediators: attitudes towards green products, green brand image, green brand trust	Green brand equity	Theory of individual self-enhancement Image congruity theory Means-end theory	Consumer products (not limited to particular sector)	Pakistan
Lin et al. (2017b)	Perceptions of the firm	Utilitarian benefits, self-expressive benefits Mediators: green brand image Moderator: green perceived risk	Green brand loyalty	Altruism theory	Consumer products (not limited to particular sector)	China
Namkung & Jang (2017)	Internalized perceptions Perceptions of the firm	Demographics (age, gender, income, education), involvement, previous experience, self-perception (health conscious, environmental conscious), green brand image	Willingness to pay to support green practices	Social identity theory	Restaurants	US
Nysveen et al. (2018)	Perceptions of the firm	Green image, brand innovativeness Mediators: brand experience (sensory, affective, cognitive, relational, behavioral)	Green hotel satisfaction	Brand experience	Hotels	Norway
Lee and Chen (2019)	Perceptions of the firm	Green attribute transparency Mediators: CSR image, green brand image, green brand trust, green brand equity	Willingness to adopt green products	Legitimacy theory	Cosmetics	Taiwan
Chen et al. (2020)	Perceptions of the firm	Greenwash Mediators: green brand image, green brand loyalty	Green purchase behavior	Signaling theory	Green products (not limited to specific sector)	Taiwan
Ha (2020)	Perceptions of the firm	Green brand image Mediators: green satisfaction, green trust	Green brand equity	Associative memory network model Social exchange theory Signaling theory	Green products (not limited to specific sector)	Vietnam

TABLE 1 (Continued)

Author	Internal or external perception formation	Antecedents	Outcomes	Theory	Context	Sample
Lavuri et al. (2022)	Internalized perceptions Perceptions of the firm	Green advertisements, green brand image, lifestyles of health and sustainability tendency, perceived consumer effectiveness Mediators: trust, green attitude	Purchase intention	Dual factor theory S-O-R theory	Organic beauty products	India
Mehraj and Qureshi (2022)	Internalized perceptions Perceptions of the firm	Green brand positioning (emotional, green functional) Mediators: green brand knowledge (brand image, brand awareness), attitudes towards green Moderator: willingness to pay a premium	Green purchase intentions	Theory of planned behavior	Electronic goods	India

Selected studies that refer to CSR image more broadly have also been included here, where this includes a green dimension.

practices affected brand image and behavioral intentions for upscale and casual restaurants, green practices had no apparent effect for fast food restaurants. Therefore, fast food restaurants provide a relevant context in which to explore the impact of green marketing activities on customer brand loyalty.

Though previous studies have focused on how consumer values in relation to environmental issues, as measured by beliefs, concern, and/or knowledge, impact green brand image (Butt et al., 2017; Namkung & Jang, 2013) or purchase intention and behavior (Joshi & Rahman, 2016; Zaremohzzabieh et al., 2021), our study considers if/how green brand image mediates the relationship between consumers' environmental values and brand loyalty. Furthermore, whereas the extant literature tends to focus on green purchasing behavior or loyalty towards brands that position themselves as green, we focus on "mainstream" fast food brands as a means of identifying the importance of environmental issues to consumer brand loyalty.

2.2 | Environmental concern

In seeking to predict consumers' green purchasing intentions and/or behaviors, a number of authors have highlighted the importance of consumers' environmental values (see for example, Rizomyliotis et al., 2021). The importance of values and attitudes in explaining behaviors has led to several studies which have sought to capture consumer environmental attitudes and values using a variety of different conceptualizations, including *environmental beliefs* (Zaremohzzabieh et al., 2021), *environmental knowledge* (Joshi & Rahman, 2016; Zaremohzzabieh et al., 2021), and *environmental concern* (Akehurst et al., 2012; Hartmann & Apaolaza-Ibáñez, 2012; Shin et al., 2017). Which of these constructs is included, however, is rarely justified, nor is the potential inter-relation between these constructs explored. However, as Pagiaslis and Krontalis (2014) identify, although environmental beliefs, knowledge, and concern are distinct constructs, there are interdependencies between them.

Environmental beliefs represent the "beliefs that people have regarding the natural environment" (Huang, 2016, p. 2206) and have been explored either in terms of general beliefs about the human-environmental relationship (Stern, 2000) or particular beliefs about the existence of specific environmental issues, such as global warming or ozone depletion (Kilbourne & Pickett, 2008). In keeping with Kilbourne and Pickett (2008), it is this latter perspective on environmental beliefs that we consider here. Environmental concern is defined as people's "evaluation of, or an attitude towards facts, one's own behavior, or others' behavior with consequences for the environment" (Fransson & Gärling, 1999, p. 370). It considers an individual's sensitivity to environmental issues. Consistent with Kilbourne and Pickett (2008), we argue that environmental beliefs impact environmental concern, given that "concern would not arise unless preceded by the belief that environmental problems exist" (Kilbourne & Pickett, 2008, p. 887). Environmental knowledge represents "what consumers know

about the environment and about fundamental relationships that lead to adjusted environmental views" (Pagiaslis & Krontalis, 2014, p. 337). Just as beliefs will influence the level of concern, environmental knowledge will likewise have a similar effect; that is, knowledge of environmental issues is likely to lead to greater concern (Shin et al., 2017).

Thus, we propose:

- H1.** Consumers' environmental beliefs positively affect environmental concern.
- H2.** Consumers' environmental knowledge positively affects environmental concern.

2.3 | Green brand image

While organizations may promote environmental practices in order to enhance their brand image and attract consumers (Jeong et al., 2014), the effectiveness of such marketing communications is not clear (Chan & Hsu, 2016). In part, this may be because consumers either are not concerned with such issues or consider them of lesser importance compared with other factors that influence their decision-making process, or they feel they do not have the knowledge to interpret or verify such messages, in light of potential "green washing." Greenwashing is defined "as the act of misleading consumers regarding the environmental practices of a company or the environmental benefits of a product or service" (Chen & Chang, 2013, p. 489). We do not intend to level any allegations of greenwashing against any individual brands here, rather suggest that the potential for greenwashing has created consumer confusion and a breakdown in trust (Chatzidakis & Shaw, 2018). Within the fast food sector, the major brands all promote their environmental practices yet; at the same time, they have attracted significant negative attention about their environmental footprint, not least in France, the context of this study, where the French government has "named and shamed" leading fast food brands for failing to comply with environmental waste management regulations (Perrigot et al., 2021).

We propose that, given the possible confusion created by potentially conflicting messages about a brand's environmental performance, consumers' assessments of a brand's green image will be influenced by their environmental concern, as greater concern reflects more knowledge and interest in environmental issues. As Yadav et al. (2019) note, consumers with high environmental values are more likely to gather information on pro-environmental initiatives undertaken by brands. Namkung and Jang (2013) found that environmental consciousness influenced consumer perceptions of green brand image. However, in their study, they used a hypothetical scenario where the positive impacts of green practices were explored.

Green brand image refers to the "set of perceptions of a brand in a consumer's mind that is linked to environmental commitments and environmental concerns" (Chen, 2010, p. 309). Given green brand image includes a "a whole range of impressions, conceptions and

apprehensions towards a brand" (Butt et al., 2017, p. 511), we include green trust as a dimension of green brand image, although other authors have viewed it as a separate construct, either as an antecedent to (Butt et al., 2017) or outcome of (Martínez, 2015) green brand image. However, given that trust is a form of impression and apprehension that consumers may hold in relation to the brand's green performance, we consider it part of the green brand image.

Namkung and Jang's (2013) scenario analysis found that consumers with greater environmental consciousness were likely to perceive the green brand image of a restaurant engaged in environmentally friendly practices more highly than consumers with lower environmental consciousness. Thus, we suggest that, in the context of mainstream brands, where the environmental performance of brands may not be so transparent and indeed less favorable, consumers with greater environmental concern will rate green brand image less favorably compared with those with lower environmental concern.

Thus:

- H3.** Environmental concern will negatively influence green brand image.

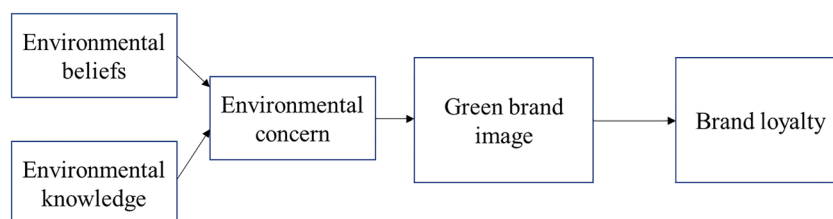
2.4 | Brand loyalty

Brand image is a key contributor to building brand loyalty (Brunner et al., 2008; Jung et al., 2020). Brand image enables businesses to differentiate themselves from their competitors and can create positive perceptions and emotions that lead to a specific brand being chosen (Namkung & Jang, 2013). It has been suggested that a positive green brand image will positively impact consumer attitudes and behaviors (Xu, 2014), with extant studies providing evidence that both corporate social responsibility (CSR), more broadly (Hur et al., 2014; Jung et al., 2020; Tingchi Liu et al., 2014; Xu, 2014), and environmental practices, more specifically (Butt et al., 2017; Chen, 2010; Martínez, 2015), positively impact brand loyalty.

We propose:

- H4.** Green brand image positively influences brand loyalty.

We further propose that green brand image mediates the relationship between environmental concern and brand loyalty. Though some studies have found a direct relationship between environmental values and purchase behavior (Joshi & Rahman, 2016), consistent with social adaptation theory perspectives on the values-attitude-behavior hierarchy (Homer & Kahle, 1988), we contend that there will be an indirect relationship between environmental concern and brand loyalty via green brand image. Social adaptation theory suggests "values as the most basic abstraction of social cognition serve as a prototype from which specific attitudes and behaviors emerge" (Butt et al., 2017, p. 509). Thus, environmental values will influence brand attitudes and, in turn, behaviors.

FIGURE 1 Proposed framework.

We propose:

H5. Green brand image mediates the relationship between consumer environmental concern and brand loyalty.

Based on the proposed hypotheses, we developed the conceptual model shown in Figure 1. The model links consumers' environmental beliefs and environmental knowledge to environmental concern and proposes that environmental concern will directly influence consumer perceptions of green brand image, and in turn, green brand image will influence brand loyalty.

3 | METHODOLOGY

3.1 | Data collection and sample

To test the hypotheses, an online questionnaire-based survey method was used to collect data from French Generation Y and Z consumers² using Qualtrics software. Qualtrics is a widely used online survey software that enables researchers to design and send surveys online. We focus on generation Y and Z as, compared to other generations, the green purchasing behavior of Gen Z is relatively underexplored (Su et al., 2019). Although younger consumers have been found to have strong environmental values (Su et al., 2019), compared with older consumers, they are less oriented towards green consumer behavior (Panzone et al., 2016), making them an interesting group to explore. Further, young adults, including university students, are a major target consumer group for the fast food industry (Harris et al., 2010). The electronic link to the survey was distributed to a convenience sample of students at a number of universities in France, covering most French regions. A total of 2567 responses were received. After removing incomplete responses, 2001 usable responses were available for analysis. Sixty four percent of the final sample were female, and 76% were from Gen Z (24% Gen Y).

To address concerns relating to common method bias, we used the Harmon one-factor (or single factor) test (Podsakoff et al., 2003; Podsakoff & Organ, 1986). A factor analysis was undertaken using all items from all the constructs in our study, from which multiple factors

with eigenvalues greater than 1 were generated (Sapientza et al., 2005). These factors accounted for 61.32% of the total variance, with the first factors accounting for only 25.33% of the variance. Therefore, no single factor emerged from the factor analysis, and no one factor accounted for most of the variance. Thus, it is unlikely that common method variance is a major problem in our data, supporting the validity of the measures (Stam & Elfring, 2008).

3.2 | Measures

The questionnaire items were all measured using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) and are shown in Appendix A. All constructs were measured using previously validated scales. Measurement items were translated into French and then back translated as a further check. Respondents were asked to name a fast food chain with which they were most familiar and to use this as the focal brand when completing the questionnaire. Consumers' environmental attitudes were captured by three constructs: environmental beliefs, environmental knowledge, and environmental concerns. *Environmental beliefs* were measured using four items derived from Kilbourne and Pickett (2008) and were designed to determine the respondent's beliefs of the existence of environmental problems. *Environmental knowledge* was measured using five items derived from Joshi and Rahman (2016). *Environmental concerns* were also drawn from Kilbourne and Pickett (2008) and comprised three items that captured the concerns the respondents had about the environment and the need to change to reduce environmental damage. *Green brand image* comprised 12 items exploring aspects of CSR reputation (Hur et al., 2014), green image, and green trust (Chen, 2010). Finally, *brand loyalty* was measured using five items derived from Xu (2014).

3.3 | Reliability and validity

To ensure reliability and validity of the data, a number of checks were made. First, the reliability of the constructs was assessed using Cronbach's alpha coefficients. The alpha ranged from .73 to .95, all above the acceptable level of .7 (Hair et al., 1998). Convergent validity was evaluated using the average variance extracted (AVE). All constructs had AVE values that exceeded .50, with the exception of *environmental beliefs*, which was marginally below, at .49. Though .5 is often considered the minimum level for convergent validity (Barclay et al., 1995), Fornell and Larcker (1981) suggest that, as long as AVE is

²There are multiple definitions of Gen Y and Gen Z, but we use the definitions provided by Pew Research (Dimock, 2019) where Gen Y comprises of individuals born between 1981 and 1996 and Gen Z of those born after 1997. Only Gen Z participants over 18 years old or older were eligible to participate.

not below .4 and composite reliability is above .6, this is within acceptable limits. Indeed, all of the composite reliability scores were above the threshold of .60 (Bagozzi & Yi, 1988), ranging from .78 to .94. To ensure the discriminant validity of the measures, the correlations between the constructs were examined. As indicated in Table 2, the square roots of the AVE (reported on the diagonal) exceeded the construct correlations, suggesting the constructs were more strongly related with their own measures than with any of the other constructs.

As a further check of construct validity, the factor structure of the variable measurement scales was examined using principal component analysis. The analysis showed a significant Bartlett's test of sphericity ($p = .00$) and a satisfactory value for KMO (KMO = .93). All

scales had acceptable factor structures, with all items having factor loadings above the common acceptance threshold of .40 (Kaya, 2006).

4 | RESULTS

Table 3 shows the results of the structural equation model in this study, with the full structural model shown in Figure 2. The overall fit of the model was acceptable, with Normed Fit Index (NFI) = .91, Incremental Fit Index (IFI) = .92, Comparative Fit Index (CFI) = .92. All estimated paths were significant, with support found for all the hypotheses. Both environmental beliefs (H1) and environmental knowledge (H2) were found to have a positive and significant impact

TABLE 2 Construct means (standard deviations) and correlations.

	Beliefs	Knowledge	Concern	GBI	Loyalty
Beliefs	.70				
Knowledge	.207***	.73			
Concern	.511***	.169***	.74		
Green brand image (GBI)	-.193***	-.008	-.193***	.77	
Loyalty	-.110***	-.109***	-.144***	.462***	.79
Mean (SD)	4.566 (.464)	3.181 (.786)	4.480 (.583)	2.506 (.807)	3.162 (1.082)

Note: The square root of the AVE is shown in italics on the diagonal.

TABLE 3 Results of the structural model.

Hypothesis	Path	Path coefficient	Results
H1	Environmental beliefs → Environmental concern	.72***	Supported
H2	Environmental knowledge → Environmental concern	.06**	Supported
H3	Environmental concern → Green brand image	-.26***	Supported
H4	Green brand image → Brand loyalty	.52***	Supported

** $p \leq .05$, and *** $p \leq .01$.

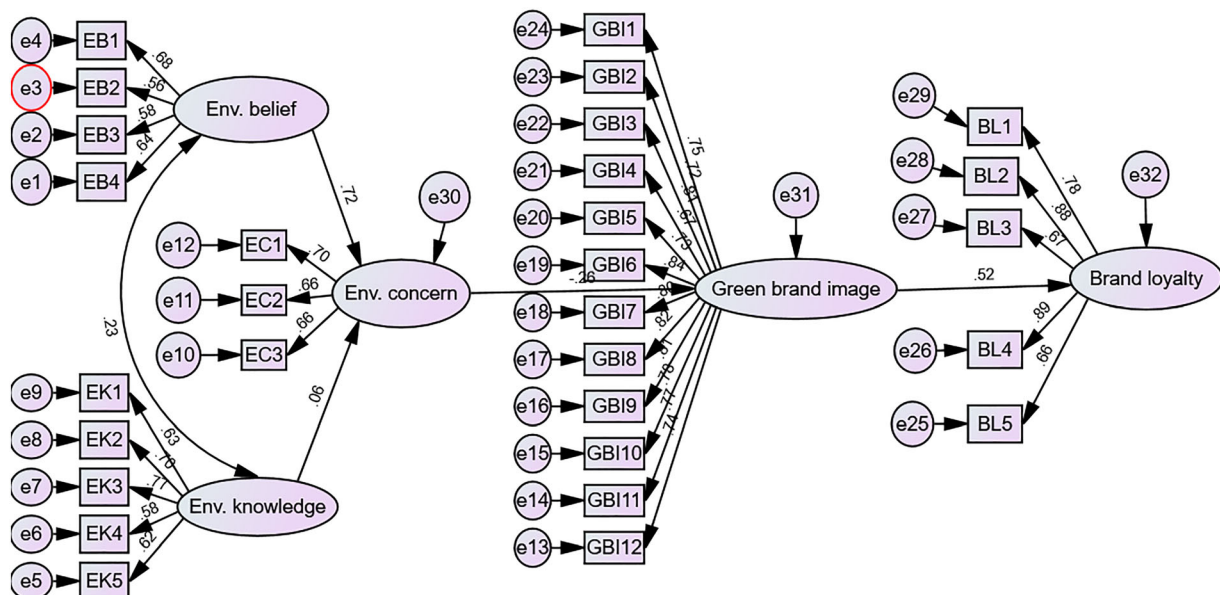


FIGURE 2 Structural equation model.

on environmental concern. Environmental concern, as predicted, negatively impacted green brand image perceptions (H3). In keeping with hypothesis H4, green brand image positively influenced brand loyalty. To test for the indirect effect of environmental concern on brand loyalty, the model was rerun using a bootstrapping procedure. Consistent with H5, green brand image mediated the relationship between environmental concern and brand loyalty, with a total indirect effect of $-.13$ (CI 95% $[-0.159; -0.10]$, $p = .00$). A multigroup analysis was also undertaken in SEM to determine if there were any differences between Gen Y and Gen Z consumers. No significant differences were found either in terms of overall model fit (constrained vs. unconstrained) or for any individual pathway.

5 | DISCUSSION AND CONCLUSION

This research provides new insights into how the (perceived) environmental performance of brands influences consumer attitudes towards the brands. While the *green consumers* research theme has provided a number of insights into factors that influence proactive green consumption choices, the effect of the presence or absence of environmental practices by mainstream brands, for which there might be long-held loyalties, is less clear. As Park and Kim (2016) note, although many companies have implemented a range of sustainability initiatives, the complexity of sustainability claims and conflicting messages about their impact on both society and the environment has created confusion among consumers. This may, in part, explain the attitude behavior gap noted by a number of authors between consumers' environmental attitudes and behaviors (Chaihanchai & Anantachart, 2023; Lisboa et al., 2022; Park & Lin, 2020). Consumers who have greater environmental concerns may be more willing (Zarei & Maleki, 2018) and able to scrutinize environmental claims by mainstream brands or are perhaps more skeptical of those claims. As a number of authors comment (Moreno & Kang, 2020; Nyilasy et al., 2014), consumers have become more discerning and skeptical of organizations' environmental claims, and skepticism appears to be greater among consumers with higher levels of environmental concern (do Paço & Reis, 2012). This can explain the negative relationship we found between environmental concern and green brand image. It is interesting to note the low mean score for green brand image (see Table 2), suggesting that the environmental performance of mainstream fast food brands is not held in high regard by consumers.

Importantly, we also find that where consumers hold a positive green brand image, this positively impacts brand loyalty. This finding is in keeping with other studies that have explored the impact of perceptions of CSR performance and brand loyalty (Jung et al., 2020; Latif et al., 2020; Marin et al., 2009). However, despite the frequently cited assertion that green marketing can positively impact consumer attitudes and behavior towards a brand (Fraj-Andrés et al., 2009), there are only a limited number of empirical studies that have focused on green branding issues (Lin et al., 2017a; Rizomyliotis et al., 2020), and they tend to focus on high involvement purchase decisions (Kataria et al., 2021). We believe that this study, therefore, provides

an important contribution to this stream of research. There are reasons to believe that not all dimensions of CSR will have the same influence on consumer purchase behavior. For example, Wheale and Hinton (2007), in their study of ethical consumers, found that environmental issues were considered to be of greater importance (compared with human rights and animal welfare), while Lin and Chung (2019) found, in the context of restaurants, that environmental issues did not significantly impact brand loyalty in contrast to community issues. There is also some evidence to suggest that consumer sensitivity to environmental issues may vary according to the product/service context. For example, Wheale and Hinton (2007) found that ethical consumers show greater concern with ethical issues in purchasing food products compared to brown products (e.g., TVs). Even within dining settings, differences have been found in the potential influence of environmental issues. For instance, Namkung and Jang (2013) found that, for fast food restaurants, the impacts of environmental issues on purchase intentions are less than for more up-scale dining restaurants. This may reflect the more routine nature of fast food dining. However, whereas their research used hypothetical scenarios to explore the relationship between green practices, ours considers attitudes towards familiar chains where perceptions and loyalties will have developed based upon a range of experiences and exposure to potentially conflicting messages about the brand. Our findings suggest that, in the context of fast food at least, environmentally concerned consumers are likely to hold a less positive image of the green performance of the brand, but where brands have a favorable green brand image, this positively impacts brand loyalty.

5.1 | Theoretical contributions

Our study establishes a critical linkage between consumers' environmental concerns and brand loyalty by including green brand image as a mediator. Much of the extant literature that has considered the impact of environmental concern on purchase behavior (or purchase intention) has focused on decisions to buy green products or services, exploring either the direct relationship between environmental values (measured in various ways) and green buying behavior/purchase intention (Huang, 2016; Joshi & Rahman, 2016; Verma et al., 2019) or mediated through overall brand impressions (favorable or unfavorable) (Hartmann & Apaolaza-Ibáñez, 2012; Park & Kim, 2016; Shin et al., 2017; Zaremohzzabieh et al., 2021). As such, our study provides new insights not only into the process by which environmental concern might influence brand loyalty (both attitudinal and behavioral) but also provides insights into this process in a context where brands are not primarily positioning themselves on environmental values. We are, therefore, able to see how both the presence and absence of a green brand image impact loyalty, focusing on brand loyalty per se, rather than green brand loyalty more specifically. Thus, we are able to capture the potential for brands to be punished for negative environmental behavior, as well as be rewarded for a proactive positioning.

We find that consumers who have greater concern for the environment are likely to have lower green brand image perceptions of

mainstream fast food chains. This contrasts with the findings of Butt et al. (2017) who found a positive relationship between environmental values and green brand image. However, Butt et al. (2017) explored green brand purchases, while we explore purchases from brands that do not primarily position themselves as green (although they may seek to provide assurances as to the sustainability of their operations). Combined, the findings suggest that brand positioning may impact the mediating effect of green brand image. This finding provides new insights into the relationship between environmental values and green brand image formation.

Further, we shed new light on the interrelationships between different environmental value constructs. We find that consumers who have a stronger belief that environmental issues are real and are more knowledgeable about their impacts have greater concern for the environment. In this regard, we provide clarity on the interrelationships between the key constructs of environmental concern, which as Pagiaslis and Krontalis (2014) note have been somewhat muddled within the extant literature.

Our research thus contributes to two key strands of the environmental marketing literature, behavioral and branding oriented perspectives, and builds upon the work of Butt et al. (2017) in empirically linking these two schools of research. By focusing on fast food restaurants, we also enhance the literature on green practices in the tourism and hospitality sector, given this literature has been dominated by studies of the hotel sector (Chan & Hsu, 2016). Few studies have considered the fast food context, despite their important role within the hospitality sector (Perrigot et al., 2021).

5.2 | Practical implications

Our study has important implications for fast food brands. Our results suggest that consumers who are concerned with the environment appear to hold the major fast food brands in poor regard in relation to their green brand image. Given the positive relationship between green brand image and brand loyalty, it is clear that improvements in the environmental performance of the brands have the potential to enhance customer loyalty. Mainstream brands, therefore, need to improve their green brand image. To do so, they need to develop their environmental practices, particularly in relation to waste management (both volume and proportion recycled) where they have a poor record,³ and ensure they provide credible marketing communications. It would seem that the awareness of the possibility of greenwashing has meant that consumers may be skeptical about brand-managed environmental messaging, and it may be difficult for brands to regain trust (Chen et al., 2020). To provide credible communications, brands should ensure that their communications are factual and focused and use an open and straightforward communication style (Schmeltz, 2012). As Moreno and Kang (2020) note, communications that are deemed inauthentic (vague and unevidenced) or self-

promoting in tone are likely to lead to greater skepticism. However, brands that are able to achieve a green brand image through both their practices and credible communication of their environmental values will be rewarded with enhanced brand loyalty.

5.3 | Limitations and future research

The findings from this study should be considered within the context of its limitations. Firstly, our study focused on Generation Y and Z consumers and was drawn from a student sample. While young adults, including university students, are a major target consumer group for the fast food industry (Harris et al., 2010), future research that includes other age groups is needed. Secondly, the survey was conducted at a single point in time. It would be interesting to explore consumer perceptions over time, mapped against environmental initiatives, to explore how quickly perceptions may change in response to changes in environmental practices. Furthermore, our survey focused on a single country. Future studies could consider if in different institutional and cultural contexts the relationships are the same. Lastly, our study focused on the fast food sector, one that has attracted negative publicity about its environmental practices (Scott, 2020) but that, compared with other sectors (e.g., the airline industry), has a relatively small environmental impact. Replicating the study in different retail/service contexts might determine if the relationships hold. It may be, for example, that for high involvement purchases, or in more routine settings such as grocery shopping, the results would differ. We argue that our results, showing that environmental concern is associated with lower green brand image, are because consumers with greater concern have more knowledge of environmental issues, are willing to search for information about environmental practices, and may be more skeptical about environmental claims. Future studies could test these assertions empirically by exploring how consumers assess environmental information and factors that might influence this process. Despite these limitations, we believe our study provides new insights into the role of environmental practices on consumer decision making and, as such, will be of interest to both academics and practitioners.

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CONFLICT OF INTEREST STATEMENT

The authors declare that they have no conflict of interest.

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APPENDIX A: QUESTIONNAIRE ITEMS AND STATISTICS

	Alpha
Environmental beliefs (adapted from Kilbourne & Pickett, 2008)	.73
Many types of pollution are rising to dangerous levels	
Shortages of some important resources will occur in the near future	
Global warming is becoming a problem	
Ozone depletion is an environmental problem	
Environmental knowledge (adapted from Joshi & Rahman, 2016)	.79
I know where to buy environmentally friendly products and packaging	
I know more about recycling than the average person	
I know how to select products and packages that reduce the amount of waste ending up in landfills	
I understand the environmental phrases and symbols on the product package	
I am very knowledgeable about environmental issues	
Environmental concern (adapted from Kilbourne & Pickett, 2008)	.74
Major political change is necessary to protect the natural environment	
Major social changes are necessary to protect the natural environment	
Anti-pollution laws should be enforced more strongly	
Green brand image (adapted from Hur et al., 2014 and Chen, 2010)	.95
XXX is a socially responsible company	
XXX is concerned to improve the well-being of society	
XXX behaves responsibly regarding the environment	
XXX brand is regarded as the best benchmark of environmental commitments	
XXX brand is professional about its environmental reputation	
XXX brand succeeds with regards to environmental performance	
XXX brand is well established in the environmental field	
XXX brand is trustworthy when it comes to environmental promises	
I think XXX brand's environmental performance is generally dependable	
I think XXX brand's environmental argument is generally trustworthy	
I think XXX brand's environmental concern meets my expectations	
I think XXX brand keeps its promises and commitments in terms of environmental protection	
Brand loyalty (adapted from Xu, 2014)	.89
I think I am loyal to XXX	
I often recommend XXX to my friends and relatives	
I like XXX more than other fast food restaurants	
I will continue to recommend XXX	
I will give priority to XXX if I dine out in a fast food restaurant	