Achieving sustainability: Determinants of conscious green purchasing behavior during the COVID-19 pandemic

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Abstract
The COVID-19 pandemic has spread worldwide, resulting in crises in public health and sustainable development. Aimed at understanding the determinants of conscious green purchasing behavior (GPB), this paper developed a comprehensive framework linking the moderating effect of negative environmental affective reactions (NEAR) to COVID-19 based on the S–O–R paradigm. Using randomly selected urban residents from China’s Yangtze River Delta and Bohai Rim regions, the empirical study was conducted using 559 valid responses. The results show that media and peers are the major social forces activating altruistic and egoistic motivations, while family influence was not significant. Dual motivations significantly mediated the relationships of unconditional and conditional GPB with media exposure and peer influence. Contrary to expectations, NEAR negatively moderated the formation process of conscious GPB. The findings indicate that the influence of peers on conscious GPB through dual motivations is stronger compared to media. Negative affective reactions to COVID-19 were also found to inhibit the impact of peer influence on altruistic and egoistic motivations, as well as the path of altruistic motivation on unconditional GPB. The results of this study have important theoretical and practical implications for enterprise marketing and environmental campaigns, and narrowing the green attitude-behavior gap.

KEYWORDS
conditional green purchasing behavior, COVID-19 emergency, dual motivations, S–O–R model, unconditional green purchasing behavior

1 | INTRODUCTION

While rapid economic growth has greatly improved people’s living standards, it has also intensified human activities, disrupted ecological balance, and put increased pressure on the environment (Chaihananchai & Anantachart, 2022; Dai & Sheng, 2022). But with the rise of pollution-related health issues, climate-related disasters, and resource shortages (Yarimoglu & Binboga, 2019), people have started to see the dysfunction of decoupling the economy with the environment. And with the global COVID-19 pandemic beginning in 2020, societies have started to realize the importance of achieving harmonious coexistence between humans and nature (Mi et al., 2021), strongly advocating for ecocentric living. Environmental, business, and academic circles overwhelmingly agree that achieving sustainable development and promoting ecological balance would require accelerating green consumption (Chaihananchai & Anantachart, 2022; Werff et al., 2013; Yang et al., 2021).

With the emergence of the environmental protection movement, accelerating pro-environmental behavior and attitude by the public has become a major research field in environmental psychology and eco-economy (Mi et al., 2021; Testa et al., 2021). Researchers have developed or applied theoretical frameworks for modeling and simulating environmental behavior, such as the Theory of Planned Behavior (Ahmad et al., 2020; Yeh et al., 2021), Norm-Activation Theory
(Schwartz, 1977). Focus Self-Construal Theory (Dai et al., 2022), Goal-Framing Theory (Lindenberg & Steg, 2007; Yang et al., 2020), and Value-Belief-Norm Theory (Stern, 2000). In green consumption research, numerous integrated models (extended models) have been proposed expanding on these theoretical models (e.g., Dai & Sheng, 2022; Yang et al., 2021) to improve their explanatory power. However, the pervasive attitude-behavior gap suggests substantial deficiencies in the existing theoretical frameworks (Geng et al., 2017; Sharma & Foropon, 2019; Shaw et al., 2016; Yang et al., 2020). While some have argued that integrated models can significantly improve the model’s explanatory power, new research perspectives should be explored to further enhance the research framework for green consumption (Ahmad et al., 2020).

The Goal-Framing Theory argues that an individual’s environmental behaviors are driven by multiple motives composed of gain goal frames, hedonic goal frames, and normative goal frames (Lindenberg & Steg, 2007). Gain goals and hedonic goals reflect the individual’s egoistic appeals (Yang et al., 2021), while normative goals embody the individual’s altruistic appeals. Divorcing dual appeals may easily lead to a motivation–behavior gap (Shaw et al., 2016; Yang et al., 2020). Similarly, the Value-Belief-Norm Theory posits that the individual’s environmental behaviors result from egoistic and altruistic values that exhibit mutual restriction (Whitley et al., 2018). Previous studies have focused on the impact of altruistic and egoistic appeals on environmental behaviors (Birch et al., 2018; Herziger et al., 2020) and have largely overlooked the drivers of these appeals (Yang et al., 2020). For the Stimulus (S)–Organism (O)–Response (R) model, external stimuli can affect an individual’s behaviors by activating motivations (Choi & Kandampully, 2019; Dhir et al., 2021). In the context of green consumption, a number of studies have investigated the influencing mechanism of media and interpersonal interactions on green consumption, respectively (Jan et al., 2019; Lucas et al., 2018). However, these studies ignored the combined effects of these information dissemination channels on green consumption. More specifically, the analysis and comparison of the effectiveness of these diffusion channels were missing, which is also a major limitation of the persuasion theory.

The characterization and assessment of green purchasing behavior (GPB) in previous studies have been mostly one dimensional (e.g., Lee, 2008; Suki & Suki, 2019). While most agree that GPB is only one of the dimensions of green consumption behavior (Mostafa, 2007; Suki & Suki, 2019), this approach does not fully and effectively reflect the consumer’s genuine daily purchasing activities in the green market (Sharma & Foropon, 2019). Researchers have largely focused on analyzing and modeling the driving mechanism of GPB (Ahmad et al., 2020; Whitley et al., 2018; Zaremohzabieh et al., 2021) but have overlooked the complex dimensions of purchasing preferences and habits. Recently, some studies (e.g., Sharma & Joshi, 2017) have elaborated on the definition and dimensions of GPB. For instance, Sharma and Foropon (2019) investigated three types of green purchasing patterns depending on the degree of environmental concern: unconditional, conditional, and accidental. Unconditional and conditional purchases belong to intentional (conscious) green consumption, while accidental purchases are unintentional (unconscious) acquisitions. In this study, the driving mechanisms and generation logic for unconditional and conditional GPB will be addressed due to the practical value of the green consumption market.

The massive changes in the external context from the COVID-19 pandemic have considerably impacted people’s perception of the relationship between man and the environment (Shakil et al., 2020). Individuals have had different preferential and behavioral reactions to the pandemic outbreak. Mi et al. (2021) characterized the environmental affective responses to the COVID-19 spread as either positive or negative. While many agree on the active role in people’s environmental behavior resulting from positive environmental affective reactions (Mi et al., 2021), others have argued that the major event such as the COVID-19 pandemic may have caused adverse environmental reactions in some consumers due to excessive fears (Lee, 2008). Obviously, more research is needed to determine whether there is a “reversion effect” (positive attitude returning to indifference) caused by excessive fears due to negative environmental affective reactions (NEAR).

To address the current knowledge gaps, the objectives of this study are as follows: (1) to determine the influence mechanism of external stimuli (media exposure, family influence, and peer influence) on conscious GPB; (2) to investigate the relative importance of egoistic and altruistic motivations in generating conscious GPB and their potential mediation effect; and (3) to examine the potential moderating effect of negative affective reactions caused by the COVID-19 and determine the intervention effect of negative emotional experience on conscious GPB.

2 | THEORETICAL BACKGROUND AND HYPOTHESES

2.1 | S–O–R theory

The S–R theory posits that human behavior is a response to an external stimulus and has been used to explain human behavior. Here, complex human behavior is decomposed into two parts: stimulus and response (Yang et al., 2021). Expanding on the S–R theory, the S–O–R model proposed by Mehrabian and Russell (1974) added the “organism” (O) as a mediation variable to include the psychological state of a stimulated person. The S–O–R model has been widely applied in behavioral research since proposed. In this model, “S” is the driver of consumer attitude or behavior, which does not have a specific range. “O” reflects an individual’s psychological state and includes three different emotional states: pleasure, arousal, and dominance in the original model (Choi & Kandampully, 2019). “R” is the outcome of an individual’s psychological state influenced by stimuli (Dhir et al., 2021). For this study, “S” was composed of three drivers (i.e., media, family, and peer). “O” refers to the emotional state of altruistic motivation and egoistic motivation, and “R” refers to conscious GPB.
2.2 | GPB

Although varying definitions have been used to characterize GPB, the essential part of the definition has largely been consistent (De Silva et al., 2021; Lee, 2008; Trivedi et al., 2018). For example, Mostafa (2007) describes GPB as an eco-friendly purchasing style and argues that the green products that consumers buy should be sensitive, recyclable, and beneficial to the environment. Yang et al. (2021) define GPB as purchasing environmentally friendly products to satisfy consumer needs with minimal harm to the environment.

In recent years, researchers have started compartmentalizing the concept of GPB. Sharma and Joshi (2017) first suggested that GPB may vary in form depending on the degree of environmental concern. The consumer’s concern level may be influenced by environmental consciousness, environmental knowledge, and consumption context (e.g., product benefits, commercial promotion, and financial subsidies) (Diamantopoulos et al., 2003). Building on the conclusions and recommendations of Sharma and Joshi (2017) and Sharma and Foropon (2019), this study focused on exploring the development of conscious GPB. In this study, unconditional GPB refers to the purchase related to green products without condition, indicating that consumers’ deep environmental concern supersedes green benefits concerns, such as high price, low quality, and low durability. Conditional GPB occurs when consumers with lower environmental concerns are influenced into purchasing green products due to their explicit benefits (e.g., price, quality, functionality and convenience). For accidental GPB, consumers unintentionally buy green products, not for environmental concerns (Sharma & Foropon, 2019) but due to economic incentives and unmatched product benefits (e.g., cost-effectiveness, cost-efficiency, and excellent quality) (Preuss, 1991). Figure 1 depicts the extent to which the degree of environmental concern turns into different green purchase types and their transformation and evolution rule.

Unconditional GPB is mainly driven by people’s deep concern and altruistic motivation to care for the environment (Trivedi et al., 2018) and can be strengthened by achieving egoistic goals (Lindenberg & Steg, 2007). The “moral person” assumption is unrealistic and unreasonable, oversimplifying an individual’s complex motivations and reasoning (Yang et al., 2020). When the consumption scenario and other conditions change, individuals tend to balance altruistic and egoistic appeals (Shaw et al., 2016). This causes a trade-off and complementation of product benefits associated with green products (Sharma & Foropon, 2019) and transforms consumer behavior into conditional GPB. The consumer’s unconditional GPB converts into accidental due largely to a lack of green consumption knowledge and skill, while conditional to accidental GPB mainly occurs due to attractive economic incentives.

2.3 | Altruistic motivation and egoistic motivation

In the green consumption context, individual behavioral motivation consists of altruistic and egoistic appeals (Shaw et al., 2016). Balancing dual appeals is considered a key initiative in steadily reaching pro-social or pro-environmental behavior (Lindenberg & Steg, 2007; Yang et al., 2020). Individuals with altruistic motivation care about the long-
term interests and welfare of society and may even be willing to sacrifice their own interests for the collective good (Lindenberg & Steg, 2007). In comparison, individuals with egoistic orientations maximize their self-interests and attach particular importance to self-development and self-improvement (Birch et al., 2018). According to Stern’s (2000) Value-Belief-Norm theory, altruistic motivation is driven by altruistic and biosphere values (Snelgar, 2006), while egoistic motivation is driven by egoistic values that are negatively correlated with environmentalism. Differentiating the two values, De Groot and Steg (2007, 2008) described altruistic value as being beneficial to society, while biosphere value promotes the good of the environment. Moreover, Lee et al. (2014) divided altruistic values into social value orientation and biosphere value orientation. They found that altruistic values positively influence environmental concerns, confirming the positive role in promoting pro-environmental behavior while overlooking egoistic appeals. Numerous studies have explored and differentiated altruistic and egoistic appeals. For instance, Chang (2014) characterized altruistic appeals as when an individual sympathizes with people in need, with the ultimate goal of enhancing the happiness and welfare of others. In contrast, individuals with egoistic appeals adopt helping behaviors to gain social rewards or avoid public aversion in order to achieve their self-goals.

While some studies suggest that altruistic appeals can be more effective than egoistic appeals in influencing environmental attitude or behaviors (Yang et al., 2020), it remains uncertain whether egoistic appeals can significantly promote green consumption due to rather differing views (Lindenberg & Steg, 2007; Stern, 2000). Chang (2014) further argues that the influence of altruistic and egoistic appeals on an individual’s attitude can change due to individual, cultural, and contextual differences.

2.4   Hypothesis

2.4.1   External stimuli and altruistic motivation

Media exposure refers to media platforms and advertisements that aim to activate environmental awareness and promote environmental action through the dissemination of vital environmental information (Yang et al., 2020). Studies have shown that the media is an important influence on the public’s awareness and patronage of green products (Ivanova et al., 2019). Drew and Weaver (1990) concluded that the guidance and shaping power of media could significantly impact an individual’s cognition and attitude. Similarly, Wartick (1992) argues that media exposure could effectively influence corporate reputation due to its strong persuasive power in modern society. Media has been shown to successfully guide people to pay attention to environmental issues by setting specific agendas (Yang et al., 2021) and has played an important role in arousing public ecological awareness (Yu et al., 2017). Thus, media influence can increase environmental concern and promote green purchasing intention (Trivedi et al., 2018). Similarly, Yang et al. (2020) found that media persuasion could significantly affect GPB by activating altruistic motives (normative goals). So it can therefore be assumed that media exposure could accelerate the formation of environmental values, shape ecological awareness, and ascribe responsibility, thus strengthening altruistic motivations (Lee, 2011). Based on the discussion, this paper hypothesizes that:

H1. Media exposure positively influences altruistic motivation.

Aside from media platforms, interpersonal channels are a major force that can affect motivations and behavior toward green consumption (Lee, 2014; Trivedi et al., 2018; Yang et al., 2021). Peers and family are the two most common forces under interpersonal factors (Ivanova et al., 2019). Peer influence refers to the impact of friends with similar cultural backgrounds, social customs, and values on a person’s environmental behavior (Suki & Suki, 2019), while family influence is the influence of the individual’s family members in terms of green purchases (Ivanova et al., 2019). Lee (2011) concluded that peers and parents are important social forces that influence values, norms, and attitudes and that this influence mechanism can also translate into environmental protection. According to the Social comparison theory (Festinger, 1954), people constantly evaluate their own views and abilities using information and perspectives of others, conducting self-assessments by comparing themselves with objective information and criteria. Social comparison can drive individuals to act in relation to others and produce a convergence effect (Lee, 2011).

Similarly, prior studies argued that social groups are indispensable forces influencing behavioral intention (e.g., Vermeir & Verbeke, 2008). Generational similarities were particularly observed in people’s altruistic consumption attitude (sustainable consumption); the more frequent the parents and child communicate, the more pronounced the generational similarities (Essiz & Mandrik, 2022). Moreover, Lee (2011) concluded that family and peer influence activate altruistic motivations by directing attention to environmental issues, positively influencing sustainable consumption. Based on these arguments, the following hypotheses are proposed:

H2. Family influence positively affects altruistic motivation.

H3. Peer influence positively affects altruistic motivation.

2.4.2   External stimuli and egoistic motivation

Media can also help disseminate important information on environmental dangers and calamities, emphasizing the usefulness of green products (Trivedi et al., 2018). Consumers are more likely to choose green products to mitigate ecological risks (Birch et al., 2018), thus increasing egoistic motivation. De Silva et al. (2021) argued that environmental benefits from green products promote consumer purchasing motivation (egoistic motivation). Meanwhile, Yang et al. (2020) and Wang et al. (2019) suggested that the “fear appeal” strategy by
the media may activate ecological neuroticism, triggering emotional
traits such as anxiety, self-consciousness, impulse and vulnerability
(Lee, 2008; McCrae & Costa, 1987) and increasing egoistic motivation.
Based on these arguments, this study proposes that:

**H4.** Media exposure positively affects egoistic motivation.

Family and peers are vital social forces. Large amounts of environ-
mental and green consumption information are generated through
these channels (Essiz & Mandrik, 2022; Ivanova et al., 2019). Common
values, likes, and interests strengthen peer endorsements and rein-
force the credibility and persuasiveness of information (Lee, 2008;
Suki & Suki, 2019). Environmental information conducive to the indi-
vidual's psychosomatic health are often prioritized due to the close
relationships among family members (Lee, 2011) and become more
effective in generating egoistic motivation. Bray et al. (2011) and Lee
(2014) found that parents and peers can significantly influence a per-
son's cognition and behavior through norm expression and exemplary
behavior. Wolske et al. (2020) argued that neighborhood energy
conservation can affect one's motivation to save energy. Moreover,
Childers and Rao (1992) concluded that intergenerational influence
by family and peers on cognition and motivation transcends time
and cultures. Therefore, the following hypotheses are proposed:

**H5.** Family influence positively affects egoistic motivation.

**H6.** Peer influence positively affects egoistic motivation.

### 2.4.3 | Altruistic motivation and conscious GPB

The Norm-Activation Model proposed by Schwartz (1977) posited
that altruistic behaviors originate from internal values and personal
norms and that moral duty enhanced by awareness of consequences
and ascription of responsibility can motivate consumers to adopt GPB
(Yang et al., 2021). Likewise, the Goal-Framing Theory originally sug-
gested by Lindenberg and Steg (2007) stated that normative goal
frames (altruistic motivations) serve as the core guiding environmental
behavior. This argument was consistent with other research, which
found that normative goal frames were the strongest factor driving
urban residents to go green (Yang et al., 2020). In another study, Zare-
mozhzabieh et al. (2021) found that both environmental awareness
and environmental concern in altruistic motivations positively affect
green purchasing intention. Also, Werff et al. (2013) reported that
altruistic motivations emerging from environmental self-identity have
a positive impact on people's environmental behavior. Thus, the fol-
lowing hypothesis is proposed:

**H7.** Altruistic motivation positively affects unconditional GPB (H7a) and conditional GPB (H7b).

### 2.4.4 | Egoistic motivation and conscious GPB

Egoistic motivations reflect personal concerns about health con-
sciousness and whether the goods on sale are environmentally
friendly (Birch et al., 2018). Faced with ecological problems, people
become very concerned about their personal and their family's health,
quality of life, and well-being. They become highly involved in health
choices, such as during shopping, to reduce environmental hazards
(Pleniak et al., 2008). Griskevicius et al. (2010) argued that personal
reputation concerns in egoistic motivations positively influence GPB.
In a follow-up study, Herziger et al. (2020) concluded that egoistic
goals positively influence consumption curtailment. Egoistic motiva-
tions have also been found to increase consumer preference for
organic food (Birch et al., 2018). Many of these studies suggest that
health consciousness contributes strongly to the preference for green
products and promotes conscious GPB. Based on these arguments,
the following hypothesis is proposed:

**H8.** Egoistic motivation positively affects unconditional
GPB (H8a) and conditional GPB (H8b).

### 2.4.5 | Moderated effect of NEAR

Affective reactions are emotions or moods experienced resulting from
the assessment of the external environment (Chang et al., 2019).
Humanity has greatly suffered from the COVID-19 pandemic, causing
serious psychological distress and producing adverse environmental
affective reactions. These NEAR toward COVID-19 reflect people's
negative emotions, such as anxiety about the consequences of eco-
logical damage, worry about human–nature interaction, and anger
about environmental degradation (Mi et al., 2021). Increased concerns
for the environment, as well as anger, remorse, fear, and guilt from
ecological destruction, can trigger self-reflection on past non-
environmental behavior.

In addition, the empirical findings in previous studies provided
strong evidence that emotional responses triggered by external events
continuously influence human behavior (e.g., Weiss & Cropanzano, 1996).
Chang et al. (2019) further posited that negative emotional responses could affect the formation of pro-environmental
tention due to watching environmental destruction. Mi et al. (2021)
concluded that NEAR caused by the COVID-19 pandemic would
aggravate anxieties over environmental crises and may moderate the
formation of GPB. Similarly, Wang et al. (2019) concluded that the
perceived seriousness of environmental problems could significantly
moderate energy-saving behaviors. Besides, the negative affective
reactions resulting from the lasting effects of the COVID-19 pandemic
would likely trigger ecological neuroticism. And according to the five-
factor model (McCrae & Costa, 1987), the stronger the negative emo-
tions, the more apparent the individual's neuroticism traits
e.g., anxiety, anger, depression, and vulnerability. This suggests that
the low and high NEAR subgroups will generate different levels of
ecological neuroticism and moderate the conscious GPB generation.
Based on the discussion, this article proposes the following hypothesis:

**H9.** Compared with the low NEAR subgroup, individuals in the high NEAR subgroup are more affected by ME, FAI, and PEI, activating their altruistic and egoistic appeals more easily and making them more receptive to unconditional (H9a) and conditional GPB (H9b).

To summarize the research hypotheses, the research model is presented in Figure 2.

### 3 | METHODOLOGY

#### 3.1 | Samples and procedures

The formal survey was conducted from November to December 2021. The respondents were randomly selected from China’s Yangtze River Delta and Bohai Rim regions and consisted of urban residents, who are generally better-educated and more likely to understand the quantification metrics than their rural counterparts. In addition, the green consumption among urban residents has a demonstration and guidance effect on rural residents. Since the coronavirus pandemic was ongoing during the survey period, the questionnaires were sent online using the Tencent platform via WeChat and QQ, and the respondents were encouraged to send the link to their workgroup. To partially eliminate social desirability bias and obtain more reliable responses (Shaw et al., 2016), additional items were added to the questionnaire to screen invalid samples. Aside from asking for their city locations, the respondents were asked to name the usual green products purchased in the past 3 months and their approximate consumption (Yang et al., 2021). Of the 616 completed samples, 559 of which were valid, with a curative rate of 90.75%. The sample demographic characteristics are summarized in Table 1.

#### 3.2 | Measures

Media exposure adopted Yang et al.’s (2021) four-item scale developed by Lee (2011). The three-item scale for family influence and the four-item scale for peer influence were derived from Ivanova et al. (2019). The altruistic motivation was measured using a four-item scale based on Yarimoglu and Binboga (2019), while the five-item scale (the first five items) derived from Birch et al. (2018) measured egoistic motivation. And the four-item scale of NEAR to COVID-19 was borrowed from Mi et al. (2021). The constructs and items were summarized in Appendix A. All scales were measured using a 7-point Likert type from 1 = strongly disagree/never to 7 = strongly agree/always, and SPSS 25 was used to evaluate the internal consistency reliability. Cronbach’s alpha for all the constructs exceeded 0.8, fulfilling the recommended reliability requirements (Hair et al., 2020).

The scales adopted in this paper have been validated in previous studies and conducted in a pro-environmental context to ensure the validity of the measurements. Minor modifications were implemented according to the research objective and content of this study. The English scale was translated and proofread by three experts (with Ph.D.) in consumer behavior, and the questionnaire was pilot-tested on 43 college students to identify possible errors and elicit recommendations.

#### 3.3 | Common method bias

Since the questionnaires were self-administered, the analysis might be vulnerable to common method bias (CMB). To reduce the threat of CMB, this study ensured the anonymity of the survey responses, randomized the item order, and conducted the Harman’s single-factor test to detect CMB (Podsakoff et al., 2003). Based on the exploratory factor analysis without rotation, the first factor explained 32.35% of the total variance, indicating that CMB was not serious.

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**FIGURE 2** Research model
4 | ANALYSIS AND RESULTS

4.1 | Normality test

The normality test results show that the maximum absolute value of the univariate skewness coefficient was 1.774, while the maximum absolute value of the univariate Kurtosis coefficient was 4.430, with majority of the values less than 3 (Hair et al., 2020). No outlier was detected in the sampling data, and the multivariate CR value was close to 60. The results suggest that the data exhibit a multivariate normal distribution and that the maximum likelihood method employed is robust.

4.2 | Measurement model

Following the two-step method recommended by Anderson and Gerbing (1988), this paper used AMOS 23 with maximum likelihood estimation for the measurement model. Using an eight-factor measurement model for the confirmatory factor analysis, the goodness-of-fit results are $\chi^2$/df(1144.224/436) = 2.624, RMSEA = 0.054, CFI = 0.953, NFI = 0.926, TLI = 0.946, IFI = 0.953, and SRMR = 0.036, indicating that the model fits the data well (Jackson et al., 2009; Kline, 2010). The standardized factor loading for each item was greater than 0.6, and the composite reliability (CR) and average variance extracted (AVE) values exceeded the recommended criteria of 0.7 and 0.5, respectively (Fornell & Larcker, 1981; Hair et al., 2020), confirming good convergent validity for all measures, the results were summarized in Table 2. For discriminant validity, the square root of the AVE value for each construct was greater than the correlations between it and all other constructs, indicating acceptable discriminant validity (Hair et al., 2020). In addition, a nested model comparison recommended by Bagozzi and Phillips (1982) was conducted to confirm discriminant validity. As shown in Table 3 and Appendix B, the chi-square differences between the restricted and default model provide further evidence of acceptable discriminant validity.

4.3 | Structural model

To determine the causal link and verify the hypothesis, this study performed structural equation modeling in AMOS 23. The fit statistics reveal that the data fitted the model well ($\chi^2$/df(1086.794/331) = 3.283, RMSEA = 0.064, CFI = 0.945, NFI = 0.923, TLI = 0.937, IFI = 0.945, SRMR = 0.061). The results show that media exposure positively affected altruistic ($\beta = .220$, $p < .001$) and egoistic motivations ($\beta = .131$, $p < .001$), whereas family influence did not have a significant impact on altruistic ($\beta = .052$, $p > .1$) and egoistic motivations ($\beta = -.006$, $p > .1$). Peer influence had a positive effect on altruistic ($\beta = .605$, $p < .001$) and egoistic motivations ($\beta = .635$, $p < .001$). After controlling the influence of three independent variables, altruistic ($\beta = .566$, $p < .001$) and egoistic motivations ($\beta = .414$, $p < .001$) were found to positively influence unconditional GPB. Similarly, altruistic ($\beta = .271$, $p < .001$) and egoistic motivations ($\beta = .293$, $p < .001$) positively influenced the individual's conditional GPB.
suggest that media, family, and peer have different levels of influence on altruistic and egoistic motivations and that altruistic and egoistic motivations have similar effects on conscious GPB. Especially, this result indicates that peer influence is more effective in activating altruistic and egoistic motivations than media exposure. Therefore, H1, H3, H4, H6, H7a, H7b, H8a, and H8b were confirmed, while H2 and H5 were rejected.

4.3.1 | Mediation effect testing

The mediation test process proposed by Zhao et al. (2010) and the Bootstrap method recommended by Mackinnon et al. (2004) and Hayes (2018) were then used to determine the potential total mediation effect. Numerous researchers have suggested that tests may reveal a statistically significant mediation effect even if the total effect is not significant. This paper resampled 5000 in the AMOS 23 program, with the confidence level set to 95%. As shown in Table 4, the results show that dual motivations significantly mediated the relationships of media exposure and peer influence with unconditional GPB but not between family influence and unconditional GPB. Similarly, dual motivations significantly mediated the relationships of conditional GPB with media exposure and peer influence, but not family influence. The results suggest that family influence does not have a significant role in forming conscious GPB.

4.3.2 | Specific mediation effects test

To explore specific mediation effects, we used Process v3.3 (Model 4) to conduct the statistical analysis with the mean structure of the latent variable (VIF ranging from 1.015 to 2.489, indicating no serious multicollinearity). We calculated the 95% confidence intervals (CI) based on a 5000 bootstrap resampling. Taking the unconditional GPB and conditional GPB as dependent variables, the point estimates and corresponding confidence intervals for specific mediation effects of dual motivations were calculated and are presented in Table 5. The results indicate that dual motivations significantly mediated the relationships between media exposure and unconditional GPB, as well as the relationship between media exposure and conditional GPB.
Similarly, dual motivations provided significant mediation roles in the paths of peer influence on unconditional and conditional GPB. Contrary to expectations, no significant mediation effects were found in the hypothesized paths of family influence on unconditional and conditional GPB.

4.3.3 | Moderating effect test

The moderating effects of NEAR to COVID-19 emergency were examined using multi-group structural equation modeling (Kautish et al., 2019; Wu & Chen, 2015). To understand the moderating effects, the whole sample was split into upper (last 73%, \( n = 174 \)) and lower (top 27%, \( n = 176 \)) subgroups (Wu & Chen, 2015); this 27% rule is commonly used in item analysis. A fully constrained model was generated, and the chi-square difference between the restricted and the default models was used to determine the invariance across the two subgroups. As shown by the results in Table 6, \( \Delta \chi^2 \) varied significantly (\( \chi^2 = 34.665, df = 662, p < .001 \)), indicating the significant moderating effects of NEAR. Concretely, the outcomes suggest that the relationships between peer influence and altruistic motivation, peer influence and egoistic motivation, and altruistic motivation and unconditional GPB were significantly moderated by NEAR. Interestingly, the path coefficients in the lower subgroup exceeded those in

| Table 4 | Results for the total mediation effects (\( N = 559 \))
|-----------------------------------------------|-------------------|-------------------|-------------------|
| Hypotheses | Product of coefficients | Bootstrap (5000 bootstrap samples) | 
| | | Point estimation | Boot SE | Z value | Bias-corrected 95% CI | Percentile 95% CI |
| Indirect effects | | | Lower | Upper | Lower | Upper | Lower | Upper |
| ME \( \rightarrow \) Mediator \( \rightarrow \) UGPB | 0.146 | 0.037 | 3.946 | 0.081 | 0.223 | 0.079 | 0.221 |
| FAI \( \rightarrow \) Mediator \( \rightarrow \) UGPB | 0.024 | 0.030 | 0.800 | -0.034 | 0.086 | -0.033 | 0.087 |
| PEI \( \rightarrow \) Mediator \( \rightarrow \) UGPB | 0.589 | 0.071 | 8.296 | 0.466 | 0.749 | 0.462 | 0.739 |
| ME \( \rightarrow \) Mediator \( \rightarrow \) CGPB | 0.069 | 0.020 | 3.450 | 0.036 | 0.014 | 0.034 | 0.011 |
| FAI \( \rightarrow \) Mediator \( \rightarrow \) CGPB | 0.009 | 0.015 | 0.600 | -0.020 | 0.039 | -0.019 | 0.041 |
| PEI \( \rightarrow \) Mediator \( \rightarrow \) CGPB | 0.292 | 0.049 | 5.959 | 0.211 | 0.406 | 0.204 | 0.394 |

| Table 5 | Results for specific mediation effects (\( N = 559 \))
|-----------------------------------------------|-------------------|-------------------|-------------------|
| Mediation paths | Dependent variable = UGPB | 
| | Effect | Boot SE | BootLLCI | BootULCI | 
| | | | | | | | |
| ME \( \rightarrow \) ALM \( \rightarrow \) GPB | 0.0685 | 0.0170 | 0.0385 | 0.1046 | 0.0329 | 0.0095 | 0.0160 | 0.0532 |
| ME \( \rightarrow \) EGM \( \rightarrow \) GPB | 0.0417 | 0.0112 | 0.0212 | 0.0646 | 0.0300 | 0.0083 | 0.0150 | 0.0476 |
| Difference | 0.0268 | 0.0190 | -0.0090 | 0.0672 | 0.0029 | 0.0123 | -0.0215 | 0.0271 |
| FAI \( \rightarrow \) ALM \( \rightarrow \) GPB | 0.0152 | 0.0122 | -0.0068 | 0.0407 | 0.0073 | 0.0060 | -0.0037 | 0.0207 |
| FAI \( \rightarrow \) EGM \( \rightarrow \) GPB | -0.0005 | 0.0110 | -0.0223 | 0.0222 | -0.0004 | 0.0079 | -0.0016 | 0.0018 |
| Difference | 0.0158 | 0.0116 | -0.0059 | 0.0394 | 0.0077 | 0.0077 | -0.0078 | 0.0229 |
| PEI \( \rightarrow \) ALM \( \rightarrow \) GPB | 0.2100 | 0.0340 | 0.1463 | 0.2800 | 0.1009 | 0.0244 | 0.0554 | 0.1526 |
| PEI \( \rightarrow \) EGM \( \rightarrow \) GPB | 0.2153 | 0.0354 | 0.1482 | 0.2872 | 0.1551 | 0.0316 | 0.0924 | 0.2195 |
| Difference | -0.0053 | 0.0566 | -0.1172 | 0.1083 | -0.0542 | 0.0456 | -0.1422 | 0.0364 |

Abbreviations: ALM, altruistic motivation; CGPB, conditional green purchasing behavior; EGM, egoistic motivation; FAI, family influence; ME, media exposure; NEAR, negative environmental affective reactions; PEI, peer influence; UGPB, unconditional green purchasing behavior.

Similarly, dual motivations provided significant mediation roles in the paths of peer influence on unconditional and conditional GPB. Contrary to expectations, no significant mediation effects were found in the hypothesized paths of family influence on unconditional and conditional GPB.

4.3.3 | Moderating effect test

The moderating effects of NEAR to COVID-19 emergency were examined using multi-group structural equation modeling (Kautish et al., 2019; Wu & Chen, 2015). To understand the moderating effects, the whole sample was split into upper (last 73%, \( n = 174 \)) and lower (top 27%, \( n = 176 \)) subgroups (Wu & Chen, 2015); this 27% rule is commonly used in item analysis. A fully constrained model was generated, and the chi-square difference between the restricted and the default models was used to determine the invariance across the two subgroups. As shown by the results in Table 6, \( \Delta \chi^2 \) varied significantly (\( \chi^2 = 34.665, df = 662, p < .001 \)), indicating the significant moderating effects of NEAR. Concretely, the outcomes suggest that the relationships between peer influence and altruistic motivation, peer influence and egoistic motivation, and altruistic motivation and unconditional GPB were significantly moderated by NEAR. Interestingly, the path coefficients in the lower subgroup exceeded those in
TABLE 6  Results for the moderating effects (N = 559)

| Paths          | Lower NEAR | Upper NEAR | Model comparison |
|----------------|------------|------------|------------------|
|                | $\beta_{\text{Lower}}$ | $\beta_{\text{Upper}}$ | Default model CMIN = 1463.741, df = 662 |
| ME $\rightarrow$ ALM | 0.177*     | 0.324***  | 1464.657, 0.916  |
| ME $\rightarrow$ EGM | 0.096      | 0.225**   | 1463.772, 0.031  |
| FAI $\rightarrow$ ALM | 0.037      | 0.005     | 1463.936, 0.195  |
| FAI $\rightarrow$ EGM | -0.037    | -0.039    | 1463.781, 0.040  |
| PEI $\rightarrow$ ALM | 0.608***   | 0.481***  | 1471.529, 7.788** |
| PEI $\rightarrow$ EGM | 0.624***   | 0.419***  | 1471.430, 7.689** |
| ALM $\rightarrow$ UGBP | 0.662***   | 0.141     | 1470.966, 7.225** |
| EGM $\rightarrow$ UGBP | 0.430***   | 0.609***  | 1466.302, 2.562  |
| ALM $\rightarrow$ CGPB | 0.344**    | 0.170     | 1463.764, 0.023  |
| EGM $\rightarrow$ CGPB | 0.227*     | 0.224**   | 1464.270, 0.529  |
| ME $\rightarrow$ UGBP | 0.055      | 0.059     | 1463.948, 0.207  |
| PEI $\rightarrow$ UGBP | 0.004      | -0.002    | 1463.748, 0.007  |
| ME $\rightarrow$ CGPB | -0.143     | 0.225**   | 1472.671, 8.930** |
| FAI $\rightarrow$ CGPB | -0.100     | -0.096    | 1464.148, 0.407  |
| PEI $\rightarrow$ CGPB | 0.378***   | 0.587***  | 1468.515, 4.774  |
| Overall test | 1497.806   | 34.065*** | L $\neq$ U       |

Note: L = Lower NEAR, U = Upper NEAR.
Abbreviations: ALM, altruistic motivation; CGPB, conditional green purchasing behavior; EGM, egoistic motivation; FAI, family influence; ME, media exposure; NEAR, negative environmental affective reactions; PEI, peer influence; UGBP, unconditional green purchasing behavior.
*p < .05. **p < .01. ***p < .001.

The upper subgroup. This outcome is contrary to the hypothesis that NEAR plays a positive moderating role in the research model. Hence, H9a and H9b were partially confirmed.

5 | DISCUSSION AND CONCLUSION

This study is one of the first attempts to explore the influence mechanism of external stimuli on conscious GPB through altruistic and egoistic appeals, particularly on the effect of individual rationality (egoistic motivation) on conscious GPB. In addition, the potential moderating effects of NEAR to the COVID-19 pandemic were also analyzed.

In line with previous studies (e.g., Lee, 2014; Yang et al., 2020), the results show that media and peers are major factors influencing an individual’s altruistic and egoistic motivations. The activation ability of peer influence is found to be significantly stronger than that of media, while family influence do not activate dual motivations. This suggests that individuals have an emotional attachment and perceived trust in their peers, given their similar values, interests, and hobbies (Lucas et al., 2018; Suki & Suki, 2019), thereby having the strongest impact on green consumption. The strong influence of peers on conscious GPB can also be due to homophily and group pressure (Lee, 2011).

This finding enriches the study of Ivanova et al. (2019) and extends our understanding of the true role of three social groups in promoting conscious GPB.

Contrary to expectations, family members do not significantly influence conscious GPB through dual motivations. This somewhat surprising outcome is far from environmentalists’ expectations (Essiz & Mandrik, 2022; Ivanova et al., 2019). This unexpected result may be explained by Yang et al.’s (2021) study, which found that the individual’s public-sphere environmental behavior tends to exhibit an ideal self, while private-sphere environmental behaviors are inclined to show their true self to intimate relations, such as the family members (Birch et al., 2018). Thus, the major challenge for environmental advocates is how to reactivate family influence to promote conscious GPB.

Altruistic and egoistic motivations were also found to positively associate with conscious GPB, and the dual motivations have similar influence. This finding supports the idea that altruistic motivation is the core driving factor for conscious GPB (Lee et al., 2014; Stern, 2000). The results also suggest that egoistic motivation is not always a disincentive to green consumption due to the implied positive environmental affective reactions (Birch et al., 2018; Lindenberg & Steg, 2007). This means that individuals concerned that ecological degradation may pose a threat to themselves and
their families will be guided toward conscious GPB (Yang et al., 2020) and that this influence is comparable to altruistic motivation.

As expected, the results indicate that unconditional and conditional GPB widely exist in daily life, broadly supporting the work of Sharma and Foropon (2019). The higher the level of environmental concern, the more sensitive people are to environmental issues (Mostafa, 2007), leading to a higher probability of unconditional green purchases (Lindenberg & Steg, 2007). Importantly, the results suggest that altruistic and egoistic motivations have mediation effects leading to conscious GPB. In addition, the empirical findings in this study show no significant difference in the specific mediation paths, indicating that altruistic and egoistic appeals are intrinsic to achieving conscious green purchases and are equally important (De Groot & Steg, 2008; Yang et al., 2021). This supports the conclusions of Chang (2014) and Yang et al. (2020), expanding our understanding of conscious GPB and the corresponding driving mechanisms.

Last but not least, the most interesting finding is that NEAR to COVID-19 significantly moderate the generation process of conscious GPB. Surprisingly, NEAR are found to inhibit the impact of peer influence on altruistic and egoistic motivations, as well as the path of altruistic motivation on unconditional GPB. This rather unexpected result may be explained by the studies of Yang et al. (2021) and Lee (2008), which argued that excessive anxiety resulting from negative affective reactions might lead to a “reversion effect” (desensitization), causing individuals to doubt the perceived effectiveness of pro-environmental behavior and become pessimistic, thus negatively moderating pro-environmental behavior. The findings report here contribute to our understanding of the impact of negative affective results from environmental disaster on conscious GPB and enrich the knowledge first reported in Mi et al.’s (2021) study.

6 | IMPLICATIONS

6.1 | Theoretical implication

The findings of this study have several theoretical contributions. First, this study extends the connotation of GPB (both conscious and unconscious). This broadens the definition of GPB in current studies and provides new understanding of the complex generation mechanism of GPB, which can be used to narrow the attitude-behavior gap due to this study determined the distinct type of green purchases and various factors for the discrepancy in motivations and actual purchase behavior (Sharma & Foropon, 2019).

Second, this article provides a deeper insight into the effectiveness of media and interpersonal channels. The results can help understand how to expand conscious GPB and the corresponding implementation paths, providing a theoretical basis for optimizing green consumption policies and measures. The empirical findings reveal the shortcomings of family influence in encouraging environmental behavior and highlight the importance of social groups in promoting green consumption. This study provides the first comprehensive assessment of the environmental dimension of egoistic motivation, showing that a dynamic balance can be achieved between individual and collective rationalities in green consumption. Overall, the present study enhances our understanding of achieving green consumption sustainability, providing theoretical guidance on how to use social forces to strengthen environmental education.

Third, this paper is one of the first attempts to thoroughly examine the potential moderating effects of NEAR to the COVID-19 pandemic on the development of conscious GPB. The study results provide several theoretical directions, such as the use of public health emergencies for environmental education and guiding the public in ecological reflections. Consequently, these results have significant implications for understanding how to accelerate the shift to an ecological lifestyle and promote harmonious coexistence with nature.

6.2 | Practical implications

The empirical results of this study provide several suggestions for green practitioners. First, governments and environmental organizations are accustomed to promoting green consumption by advocating collective rationality and restricting individual rationality. However, our results show that egoistic appeals (individual rationality) can encourage green purchases when their concerns about their personal and family health are embedded in egoistic motivation. Hence, environmental advocates and marketers should highlight the functional value of green products, guiding consumers on the green value and the overall importance of green consumption. Experience of consumption strategies can be used to strengthen the perceived benefits of green products. Moreover, given that peers and media were found to have a significant effect on consumers’ conscious GPB, green practitioners should look into tapping social media influencers to promote conscious green purchases. They could also establish a greater presence on social media platforms (e.g., WeChat, Youtube, and Microblog) that will connect those new to green products with those already knowledgeable about sustainable consumption. They could also create green consumption ambassadors, using popular influencers as a proxy to peers, to encourage green consumption and promote sustainable lifestyles. Green practitioners must resolve the disparity between collective and individual rationality and consider the individual’s altruistic and egoistic appeals when promoting green products (Geng et al., 2017), converting dual motivations to actual conscious GPB and reducing the attitude-behavior gap (Shaw et al., 2016).

Second, green practitioners should stop decoupling altruistic appeals with egoistic appeals and instead improve the matching degree of dual appeals, placing them in the “golden quadrant” (Aaker et al., 2012) and exploiting their synergistic effect, thereby earning privilege in terms of green standard and forming core competence in the green market. Additionally, green practitioners need to deal with the specialization and coordination of dual motivations because they specialize in different “pain points” resulting from green consumption.
In particular, altruistic motivation should concentrate on guiding the unconditional GPB, while egoistic motivation should focus on driving the conditional GPB. This would make dual motivations complement each other better and jointly promote the diffusion and adoption of green products.

Finally, green practitioners should help guide individuals to make different types of green purchases given the multidimensional GPBs determined in this study. Appropriate and effective measures should be taken based on the generation logic of the two types of conscious green purchases. For unconditional green purchases, marketers should strengthen the delivery ability regarding the functional and symbolic values of green products. Green purchases should be represented by environmentally conscious citizens (e.g., environmental ambassadors and environmental pioneers) and the environmental value of green products should be promoted to make consumers believe in the effectiveness of environmental behavior (Griskevicius et al., 2010). For conditional green purchases, decision-makers may consider improving infrastructure and providing proper incentives for product innovation related to green consumption. These measures would help instill the ecological value of green products and highlight the importance of harmonious coexistence between humans and nature.

The results of this study also suggest that NEAR to COVID-19 have negatively moderated the generation of conscious GPB. This supports the idea that negative emotions encourage people to focus on survival and choose short-term solutions, which may contradict green consumption and environmentalism. So, excessive negative affective should be prevented to minimize the “reversion effect,” which may deflate consumers’ conscious GPB. Instead, appropriate environmental affective reactions should be promoted to enhance the appeal of environmental protection works.

7 | LIMITATIONS AND FUTURE DIRECTIONS

There are a number of limitations of this study. Since this paper used a cross-sectional study, the causal links among the variables would have to be further determined using longitudinal research. Additional uncontrolled factors may have been overlooked or could become more relevant in succeeding years, given the continuing challenges posed by the COVID-19 pandemic. People’s environmental affective reactions may also change, and the posed by the COVID-19 pandemic. People’s environmental affective should be prevented to minimize the “Rebound Effect” which may deflate consumers’ conscious GPB. Instead, appropriate environmental affective reactions should be promoted to enhance the appeal of environmental protection works.

CONFLICT OF INTEREST

We declare that we have no financial and personal relationships with other people or organizations that can inappropriately influence our work. So the authors declare no conflict of interest.

NOMENCLATURE

ALM altruistic motivation
EGM egoistic motivation
FAI family influence
GPB green purchasing behavior
ME media exposure
NEAR negative environmental affective reactions
PEI peer influence
U(C)GPB (un)conditional green purchasing behavior

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**APPENDIX A**

**TABLE A1**: Constructs and items

**UGPB**: Unconditional green purchasing behavior, AVE = 0.730, CR = 0.916
- My green purchase habits are affected by my concern for the environment.
- I have unconditionally switched non-green products for ecological reasons.
- I have avoided buying a product because it had potentially harmful environmental effects.
- I intentionally purchase green products as I am concerned about the environment.

**CGPB**: Conditional green purchasing behavior, AVE = 0.719, CR = 0.911
- I am willing to buy more green products if the prices are reduced.
- I am willing to buy green product only if they are cost effective.
- I am willing to buy if green products are energy/fuel efficient.
- I am willing to buy if green products are at par in price, quality and functionality with other conventional products.

**ALM**: Altruistic motivation, AVE = 0.576, CR = 0.844
- Contributions to community organizations can greatly improve the lives of others.
- Many of society’s problems result from selfish behavior (e.g., non-green consumption).
- It is my duty to help other people when they are unable to help themselves.
- Use of renewable energy is the best way to combat global warming.

**EGM**: Egoistic motivation, AVE = 0.720, CR = 0.928
- I’m very conscious about my health and the health of others for whom I shop in the household.
- I take responsibility for the state of my health and the health of others for whom I shop in the household.
- I’m very involved with my health and the health of others for whom I shop in the household.
- I’m very concerned about the amount of harmful ingredients in goods when shopping.
- The safety of non-green products nowadays concerns me.

**ME**: Media exposure, AVE = 0.785, CR = 0.936
- How often do you come across program/news relate to environmental problems on TV?
- How often do you come across environmental problem messages on advertisements?
- How often do you come across program/news relate to environmental problems on radio?
- How often do you come across environmental problem information on the Internet?

**FAI**: Family influence, AVE = 0.744, CR = 0.896
- I use green products because my family use them or have used them.
- I buy green products because my parents buy/have bought.
- I use green products because they remind me of my family.

**PEI**: Peer influence, AVE = 0.804, CR = 0.942
- Most friends that are important to me care about the environment.
- Most friends that are important to me consider the environmental impact of the purchase decisions they make.
- Most friends that are important to me buy green products.
- Most friends that are important to me think that global warming is a real threat.

**NEAR**: Negative environmental affective reactions to COVID-19 pandemic, AVE = 0.534, CR = 0.819
- The cognition of COVID-19 emergency makes me scared about the consequences of environmental damages.
- The cognition of COVID-19 emergency makes me feel worried about the current situation of the relationship between human beings and nature.
- The cognition of COVID-19 emergency makes me feel guilty for neglecting wildlife protection in the past.
- The cognition of COVID-19 emergency makes me feel angry about the destruction of the ecological environment by others.
## APPENDIX B

### Table B1: Results for discriminant validity (N = 559)

| Relationships          | Restricted model | Default model | Model comparison |
|------------------------|------------------|---------------|------------------|
|                        | $CMIN$ | df | $CMIN$ | df | $\Delta CMIN$ | $\Delta df$ | p value |
| ME $\rightarrow$ FAI  | 2204.970 | 437 | 1144.224 | 436 | 1060.746 | 1 | .000 |
| ME $\rightarrow$ PEI  | 2729.728 | 437 | 1144.224 | 436 | 1585.504 | 1 | .000 |
| ME $\rightarrow$ EGM  | 2784.903 | 437 | 1144.224 | 436 | 1640.679 | 1 | .000 |
| ME $\rightarrow$ ALM  | 1781.701 | 437 | 1144.224 | 436 | 637.476  | 1 | .000 |
| ME $\rightarrow$ CGPB | 2505.621 | 437 | 1144.224 | 436 | 1361.379 | 1 | .000 |
| ME $\rightarrow$ NEAR | 1688.797 | 437 | 1144.224 | 436 | 544.573  | 1 | .000 |
| ME $\rightarrow$ UGPB | 2396.560 | 437 | 1144.224 | 436 | 1252.335 | 1 | .000 |
| FAI $\rightarrow$ PEI | 2208.412 | 437 | 1144.224 | 436 | 1064.188 | 1 | .000 |
| FAI $\rightarrow$ EGM | 2212.024 | 437 | 1144.224 | 436 | 1067.800 | 1 | .000 |
| FAI $\rightarrow$ ALM | 2199.183 | 437 | 1144.224 | 436 | 1054.958 | 1 | .000 |
| FAI $\rightarrow$ CGPB| 2211.076 | 437 | 1144.224 | 436 | 1066.852 | 1 | .000 |
| FAI $\rightarrow$ NEAR| 2214.651 | 437 | 1144.224 | 436 | 1070.426 | 1 | .000 |
| FAI $\rightarrow$ UGPB| 2204.250 | 437 | 1144.224 | 436 | 1060.026 | 1 | .000 |
| PEI $\rightarrow$ EGM | 2176.652 | 437 | 1144.224 | 436 | 1032.427 | 1 | .000 |
| PEI $\rightarrow$ UGPB| 2176.652 | 437 | 1144.224 | 436 | 1032.427 | 1 | .000 |
| PEI $\rightarrow$ NEAR| 1676.600 | 437 | 1144.224 | 436 | 532.376 | 1 | .000 |
| PEI $\rightarrow$ UGPB| 1994.872 | 437 | 1144.224 | 436 | 850.648  | 1 | .000 |
| EGM $\rightarrow$ ALM | 1331.093 | 437 | 1144.224 | 436 | 186.869  | 1 | .000 |
| EGM $\rightarrow$ CGPB| 1785.648 | 437 | 1144.224 | 436 | 641.424  | 1 | .000 |
| EGM $\rightarrow$ NEAR| 1616.132 | 437 | 1144.224 | 436 | 471.908  | 1 | .000 |
| EGM $\rightarrow$ UGPB| 1553.923 | 437 | 1144.224 | 436 | 409.699  | 1 | .000 |
| ALM $\rightarrow$ CGPB| 1463.558 | 437 | 1144.224 | 436 | 319.334 | 1 | .000 |
| ALM $\rightarrow$ NEAR| 1314.394 | 437 | 1144.224 | 436 | 170.170 | 1 | .000 |
| ALM $\rightarrow$ UGPB| 1259.895 | 437 | 1144.224 | 436 | 115.670 | 1 | .000 |
| CGPB $\rightarrow$ NEAR| 1704.582 | 437 | 1144.224 | 436 | 560.358 | 1 | .000 |
| CGPB $\rightarrow$ UGPB| 1828.519 | 437 | 1144.224 | 436 | 684.295 | 1 | .000 |
| NEAR $\rightarrow$ UGPB| 1554.601 | 437 | 1144.224 | 436 | 410.377 | 1 | .000 |

Abbreviations: ALM, altruistic motivation; CGPB, conditional green purchasing behavior; EGM, egoistic motivation; FAI, family influence; ME, media exposure; NEAR, negative environmental affective reactions; PEI, peer influence; UGPB, unconditional green purchasing behavior.