

Moral Emotions as Pathways Linking Environmental Self-Identity and Sustainable Store Preference

Lay Peng Tan

Macquarie University

Riza Casidy

Macquarie University

Denni Arli

University of Tasmania

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Abstract

This study investigates how pro-environmental self-identity influences consumers' preferences for online retailers that adopt sustainable packaging. Drawing on identity, appraisal, and norm activation theories, we examine whether self-conscious emotions anticipated pride and guilt mediate this relationship and whether political conservatism moderates these effects. Survey data from 421 U.S. online shoppers were analysed using Hayes' PROCESS Model 8. Results show that PESI positively affects sustainable store preference directly and indirectly through both pride and guilt, with guilt exerting a stronger mediating effect. Conservatism moderates the pride pathway, indicating that conservative consumers feel greater pride when acting consistently with their environmental self-concept, while guilt operates similarly across ideological levels. These findings advance understanding of moral emotions as mechanisms linking identity and sustainable consumption and offer practical insights for promoting environmentally responsible retail practices.

Keywords: *pro-environmental self-identity, pride, guilt.*

Track: *Social Responsibility and Ethics*

1. Introduction

The rapid growth of e-commerce has intensified environmental concerns, particularly the surge in plastic packaging waste. E-commerce now accounts for about 35% of U.S. retail sales, generating 3.9 billion pounds of plastic packaging waste in 2022, projected to reach 6.9 billion pounds by 2027 (Oceana, 2024). Although recyclable or compostable options are available, adoption remains limited due to higher costs and operational constraints. Retailers still favour plastics for their durability and light weight. Yet consumer sentiment is shifting with over 40% of consumers identify plastic waste as a key concern, and three-quarters of UK shoppers expect sustainable packaging (Bailey & Brillault, 2023; Corbin, 2024). Despite these attitudes, it remains unclear whether environmental concern translates into sustainable shopping. This study examines how PESI influences sustainable store preference, mediated by anticipated pride and guilt, and moderated by conservatism.

2. Literature Review and Hypotheses

2.1 Direct Effect: Pro-Environmental Self-Identity (PESI)

PESI reflects the extent to which individuals see themselves as environmentally friendly (van der Werff et al., 2013). Identity theory posits that self-identity motivates consistent behaviour (Stets & Burke, 2000) while self-congruity theory (Sirgy, 1985) explains that consumers adopt behaviours congruent with their self-concept (Barbarossa et al., 2017). Strong PESI enhances motivation to act sustainably (van der Werff et al., 2014) and shapes environmental preferences (Confente et al., 2020). Prior research links PESI to recycling, eco-shopping, and waste reduction (Arlı et al., 2018; Mishra et al., 2023). Hence, we suggest:

H1: Pro-environmental self-identity positively influences store preference.

2.2 Mediation: Anticipated Pride and Anticipated Guilt

Pride and guilt are self-conscious emotions that arise from moral self-evaluation (Tangney et al., 2007). Pride reinforces desired actions; guilt deters harmful ones. According to appraisal theory (e.g., Ellsworth, 2013; Smith & Ellsworth, 1985), individuals experience pride when acting consistently with environmental standards and guilt when they fail to do so (Bissing-Olson et al., 2016). The norm activation model (Schwartz, 1977) and value-belief-norm theory (Stern, 2002) further explain how moral norms evoke these emotions: pride follows fulfilment of moral duty, guilt follows violation. These moral emotions thus mediate the link between self-identity and behaviour (Onwezen et al., 2013). Consumers with strong PESI feel pride when supporting sustainable stores and guilt when choosing non-sustainable ones.

Thus, we propose the following hypotheses:

H2: Pride mediates the relationship between PESI and store preference.

H3: Guilt mediates the relationship between PESI and store preference.

2.3 Boundary Condition (Moderated Mediation): Conservatism

Political conservatism reflects a preference for stability, emphasizing the preservation of existing systems and resistance to change (Conover & Feldman, 1981). In the context of environmental ideology, Carrus et al. (2018) found that conservatives are more likely to deny climate change, but this effect is strongest among those highly interested in politics. When political interest is low, the link between conservatism and climate denial is much weaker. So, political interest amplifies climate change denial among conservatives. Therefore, the model posits that conservatism moderates these relationships. Building on moral foundations and ideological belief literature, political conservatism is theorised to weaken the link between PESI and moral emotions, given conservatives' greater emphasis on tradition and lower prioritisation of environmental issues relative to liberals (Kennedy & Muzzerrall, 2022). Thus, pride and guilt are expected to mediate the effect of PESI on sustainable store preference, and these indirect effects are contingent on the level of conservatism. Conservatism influences the extent to which PESI elicits pride. Because conservative individuals tend to place less emphasis on environmental issues (Antonetti & Maklan, 2014), the pride arising from acting in line with a green self-identity may be weaker for them. Hence, we suggest:

H4: Conservatism moderates the indirect effect of PESI on store preference through pride, such that the indirect effect is weaker at higher levels of conservatism.

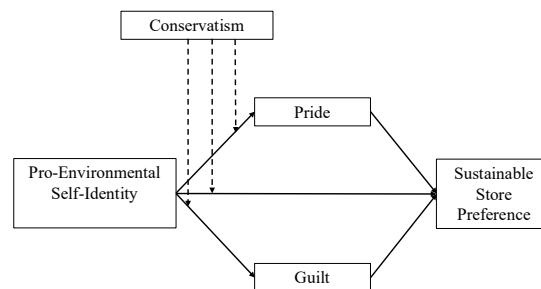
Similarly, conservatism can attenuate the emotional discomfort that results from inconsistency between one's self-identity and behaviour. McCright and Dunlap (2011) found that politically conservative individuals, especially conservative white males, are far more likely to reject the scientific consensus on climate change. Highly conservative individuals may feel less guilt when failing to support environmentally responsible stores, reducing the likelihood that guilt translates into stronger store preference. Conservatives' strong desire to defend the existing social and economic order makes them more resistant to accepting environmental problems that demand major societal change. Thus, we suggest:

H5: Conservatism moderates the indirect effect of PESI on store preference through guilt, such that the indirect effect is weaker at higher levels of conservatism.

In sum, the model tests a moderated parallel mediation, where conservatism moderates the paths from PESI to pride, guilt, and direct store preference, shaping how self-identity

translates into sustainable consumption choices. Our conceptual framework is depicted in Figure 1.

Figure 1 Conceptual Framework



3. Methodology

A survey of 421 U.S. online shoppers (43% male, 55% female) recruited via Prolific tested the hypotheses. Respondents reported shopping for clothing online at least every few months. We adopted or adapted established scales from prior literature.

To mitigate concerns of common method bias (CMB), we followed procedural recommendations from MacKenzie and Podsakoff (2012) during survey design, including reducing questionnaire length and randomising item order. Following Podsakoff et al. (2003), we also conducted a common method factor analysis by incorporating a latent “common method factor” into the structural model. All indicators of the latent constructs were allowed to load on this factor. Results confirmed that the relationship between all constructs remained statistically significant after accounting for the common method factor, indicating that CMB did not materially affect the findings. These results suggest that our measures and analyses are robust to CMB.

Table 1. Standardised Factor Loadings of All Constructs

	Estimate	S.E.	t
<i>Pro-Environmental Self-Identity</i> (adapted from van der Werff et al., 2013)			
Acting environmentally-friendly is an important part of who I am.	.881	.012	73.262
I am the type of person who acts environmentally-friendly.	.960	.006	168.261
I see myself as an environmentally-friendly person.	.962	.006	171.956
<i>Pride</i> (adapted Antonetti & Maklan, 2014)			
When shopping online, if I choose sustainable packaging that minimise the negative impact on the environment			
I would feel proud.	.903	.011	82.147
I would feel good about myself	.955	.008	121.574
I would feel pleased.	.892	.012	74.485
<i>Guilt</i> (adapted Han et al., 2017)			

When shopping online, if I Do NOT choose sustainable packaging that minimise the negative impact on the environment			
I would feel guilty.	.950	.006	164.176
I would feel remorseful	.972	.004	230.673
I would feel sorry.	.958	.005	186.132
<i>Sustainable Store Preferences</i> (adapted from Jamal & Goode, 2001)			
I would be inclined to shop at online retailers that use sustainable packaging over those who do not	.921	.009	97.982
I prefer to shop at online retailers that use sustainable packaging	.860	.014	60.060
I would shop at online retailers that use sustainable packaging more often than any other online retailers	.953	.007	127.197

SE=Standard Errors

4. Data Analyses

We assessed the measurement model using confirmatory factor analysis (CFA). The model fit the data well ($\chi^2 = 171.162$, $df = 56$; $NC = 3.06$; $RMSEA = .070$; $CFI = .982$; $TLI = .975$).

Convergent validity was established: all standardised factor loadings were significant and exceeded .80; composite reliability (CR) values for all constructs were above .90; and average variance extracted (AVE) values were above .80, exceeding the .50 threshold.

Importantly, the square root of AVE for each construct was greater than its correlations with other constructs. Together, these findings confirm that the constructs are conceptually distinct and reliably measured (see Table 2).

We tested our hypotheses using Hayes (2024) PROCESS Model 8, with PESI as the predictor, pride and guilt as the parallel mediators, sustainable store preferences as the outcome variable, and political ideology as the moderator. Figure 2 summarises the results, and Table 3 details the relationships between the key constructs.

Table 2. Discriminant Validity

	CR	AVE	1	2	3	4	5
1. Pro-Environmental Self-Identity	.954	.874	.935				
2. Pride	.941	.841	.626	.917			
3. Guilt	.972	.922	.616	.568	.960		
4. Sustainable Store Preferences	.937	.832	.759	.646	.698	.912	
5. Political Ideology	NA	NA	-.236	-.123*	-.195	-.253	NA

*significant at .05 level; all other correlations are significant at $p < .001$ level. CR=Composite Reliability; AVE=Average of Variances Extracted; Figure in bold and italics indicate square root of average variance extracted

All hypothesised direct relationships were significant and in the expected direction. Pro-environmental self-identity (PESI) exerted a strong positive effect on sustainable store preference (PREF) ($\beta = 0.410$, $SE = 0.072$, $t = 5.72$, $p < .001$), supporting **H1**. Individuals

with a stronger sense of environmental self-identity were also more likely to experience both pride ($\beta = 0.364$, $SE = 0.079$, $t = 4.60$, $p < .001$) and guilt ($\beta = 0.714$, $SE = 0.107$, $t = 6.67$, $p < .001$) in relation to sustainable consumption. In turn, both pride ($\beta = 0.202$, $SE = 0.044$, $t = 4.64$, $p < .001$) and guilt ($\beta = 0.231$, $SE = 0.032$, $t = 7.18$, $p < .001$) were significant predictors of store preference. These findings suggest that individuals who view themselves as environmentally responsible not only directly prefer stores that adopt sustainable packaging but also experience stronger self-conscious emotions that reinforce this preference.

Figure 2 Summary of Key Results

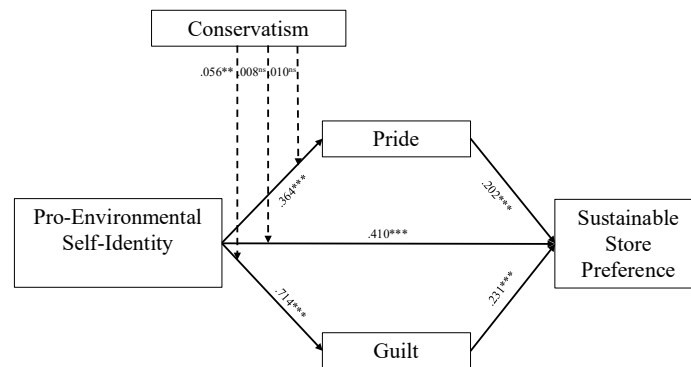


Table 3. Direct and Indirect Effects

		β	SE	t	p
<i>Direct effects</i>					
H1	PESI --> PREF	.410	.072	5.719	<.001
	PESI --> Pride	.364	.079	4.603	<.001
	PESI --> Guilt	.714	.107	6.673	<.001
	Pride --> PREF	.202	.044	4.644	<.001
	Guilt--> PREF	.231	.032	7.177	<.001
<i>Indirect effects</i>					
		β	SE	CI (95%)	
				Lower Limit	Upper Limit
H2	PESI --> Pride --> PREF	.114	.034	.0510	.1836
H3	PESI --> Guilt --> PREF	.181	.030	.1227	.2413
<i>Conditional Indirect Effects</i>					
<i>Conservatism</i>					
H4	Low PESI --> Pride --> PREF	.096	.032	.0376	.1641
	High PESI --> Pride --> PREF	.142	.042	.0607	.2249
H5	Low PESI --> Guilt --> PREF	.169	.030	.1123	.2290
	High PESI --> Guilt --> PREF	.178	.034	.1158	.2492

PESI=Pro-Environmental Self-Identity; PREF=Sustainable Store Preferences;
CI=Confidence Interval

The mediation analyses (analysed separately with PROCESS Model 4 without the inclusion of political ideology as the moderator) further supported **H2** and **H3**. The indirect effect of PESI on sustainable store preference through pride was positive and significant ($\beta = 0.114$, $SE = 0.034$, 95% CI [0.0510, 0.1836]), indicating that pride serves as a meaningful psychological mechanism linking self-identity to preference for sustainable stores. Similarly, the indirect effect through guilt was also significant ($\beta = 0.181$, $SE = 0.030$, 95% CI [0.1227, 0.2413]), suggesting that guilt associated with inconsistencies between one's self-identity and behavior may also motivate pro-environmental consumption. Together, these results confirm that both pride and guilt mediate the effect of pro-environmental self-identity on store preference, with guilt exerting a slightly stronger indirect influence.

To examine **H4** and **H5**, conditional indirect effects were tested across levels of conservatism. For the pride pathway (H4), the magnitude of the indirect effect increased gradually across conservatism levels. At low conservatism ($Q28 = 2$), the indirect effect of PESI on store preference via pride was 0.096 ($SE = 0.032$, 95% CI [0.0376, 0.1641]); at moderate conservatism ($Q28 = 4$), it was 0.119 ($SE = 0.036$, 95% CI [0.0502, 0.1908]); and at high conservatism ($Q28 = 6$), it reached 0.142 ($SE = 0.042$, 95% CI [0.0607, 0.2249]). The index of moderated mediation for this pathway was significant (Index = 0.0113, $SE = 0.0051$, 95% CI [0.0020, 0.0219]), indicating that the indirect effect of PESI on store preference through pride becomes stronger as conservatism increases. Contrary to the initial expectation that conservatism would weaken the identity-pride link, the findings suggest that pride in acting consistently with one's environmental values is felt more strongly among individuals with higher conservative orientations. Thus, **H4** is supported, though the direction of moderation is opposite to what was originally hypothesised.

For the guilt pathway (H5), the conditional indirect effects were positive and significant across all levels of conservatism. At low conservatism, the indirect effect of PESI on store preference via guilt was 0.169 ($SE = 0.030$, 95% CI [0.1123, 0.2290]); at moderate conservatism, 0.174 ($SE = 0.030$, 95% CI [0.1164, 0.2355]); and at high conservatism, 0.178 ($SE = 0.034$, 95% CI [0.1158, 0.2492]). However, the index of moderated mediation for this pathway was not significant (Index = 0.0022, $SE = 0.0056$, 95% CI [-0.0079, 0.0144]), indicating that conservatism did not meaningfully moderate the indirect effect of PESI on store preference through guilt. These results suggest that the role of guilt as a self-regulatory mechanism in environmentally relevant decision-making operates consistently across ideological orientations. Hence, **H5** was not supported.

Overall, the results demonstrate that pro-environmental self-identity influences sustainable store preference both directly and indirectly through moral emotions. Pride and guilt both function as significant mediators, but only the pride pathway is moderated by conservatism. This indicates that conservative consumers may experience stronger pride when acting in ways that align with their environmental self-concept, whereas guilt-driven motivations appear relatively stable across ideological groups.

5. Findings and Discussion

This study extends the literature on pro-environmental self-identity by demonstrating that its influence on sustainable store preference operates through self-conscious moral emotions. Findings affirm that PESI drives preference for sustainable stores both directly and through pride and guilt. Pride motivates consistency with ecological values; guilt deters harmful choices. This supports appraisal theory and the norm activation framework, showing how moral emotions operationalise internalised norms. Guilt exerted a stronger indirect effect, suggesting that avoidance-oriented emotions may prompt immediate behavioural correction (Antonetti & Maklan, 2014). Unexpectedly, conservatism intensified the pride pathway. Conservative consumers may derive pride from fulfilling personal responsibility rather than ideology, echoing moral self-worth arguments. Guilt, however, acted as a stable, universal motivator across ideologies. Together, these findings clarify how moral emotions function across identity and ideological contexts.

Practically, the results highlight the value of emotionally resonant sustainability communication: pride appeals can affirm self-image, while subtle guilt cues may encourage behavioural correction. Simple strategies such as positive feedback at the point of purchase (e.g., “Great choice, you are making a difference”), highlighting collective impact, or visually positioning sustainable options as the choice made by customers can confirm feelings of pride and reinforce identity-consistent behavior (Van der Werff et al, 2014). Moreover, while guilt may encourage behavior correction, guilt-based messaging should be used cautiously, as it can lead to backlash if perceived as moralising. More supportive prompts that reinforce alignment with personal values are likely to be more effective. In conclusion, tailoring messages by ideology emphasising stewardship for conservatives and collective responsibility for liberals can broaden engagement.

6. Limitations and Future Research

This study used cross-sectional U.S. survey data. Experimental or longitudinal designs could clarify causality. Future work could test this framework across other sustainability domains

and cultures. Political ideology was measured via a single item; multidimensional measures may capture richer variance. Cross-national research could further test the universality of these emotional mechanisms. Finally, this study focuses specifically on sustainable store preferences, which represent only one aspect of sustainable consumer behaviour. This highlights an interesting question regarding why consumers who identify as environmentally responsible may support sustainable stores but not consistently engage in other sustainable behaviors. Future research could compare whether the identity and emotional mechanisms observed here hold across behaviors such as sustainable product choice, ethical fashion, or energy conservation to better understand selective engagement in sustainability.

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