



# Cultivating sustainable consumption: The role of harmonious cultural values and pro-environmental self-identity

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## Abstract

This paper investigates the connections between harmonious cultural values, pro-environmental self-identity and consumers' sustainable consumption behaviours spanning acquisition, usage and disposal. It evaluates the relevance of Chinese cultural values that purport harmony between humans, nature and society that is, man-nature orientation, and horizontal/vertical dimensions of individualism collectivism. The results from the online survey with 503 urbanised Chinese reveals these values disparately influence this consumption. Despite the limited direct behavioural effect of these harmonious values, pro-environmental self-identity plays an important role in mediating their indirect effects on the five behaviours. This paper therefore extends theorisation of the values-identity-behaviour relationship from a cultural-values orientation perspective. It offers new insights to understand urbanised Chinese consumers sustainable consumption behaviours.

## 1 | INTRODUCTION

Values are widely acknowledged as an important influence on sustainable consumption and pro-environmental behaviour (Schultz, 2001), and in addition are central to our identities (Gatersleben et al., 2014). The literature shows that environmental values (e.g., biospheric) can influence sustainable behaviours (e.g., Schultz et al., 2005; van der Werff & Steg, 2016), but does not fully explain them. This is because the antecedents of sustainable behaviour are diverse and complex. The uniqueness of beliefs, values and practices of different cultures may partly account for this complexity and variety in behavioural responses (Sharma & Jha, 2017). Thus, cultural values can be a useful lens to generate insight into these behaviours; albeit they have received less research attention.

Values increase understanding of how humans connect with nature via value orientations oscillating around anthropocentrism and ecocentrism (Schultz, 2001; Thomas & Barton, 1994). Anthropocentrism represents the inherent value of the environment to humans, as

a utility with monetary value and for human wellbeing. Ecocentrism recognises the importance of the environment, reflecting biospheric values. Navarro et al. (2017) propose an ecobiocentric extension which combines anthropocentric and ecocentric to advocate the value of humans to nature. Beyond this human-and-ecological framing, however, scholarly debate continues on how these multifaceted values influence sustainable consumption practices (Halkos & Matsiori, 2017; Kim & Stepchenkova, 2020). This debate should also extend to their cultural transferability to sustainable behaviour (McCarty & Shrum, 2001).

Retrofitting these relationships to cultures that are distinctly different to the West, for example China, may diminish any insight gained. Thus, the influence of culture on this values-behaviour relationship warrants research attention. Furthermore, research suggests that personal values, combined with identity, substantially contribute to explaining this values-behaviour influence (Gatersleben et al., 2014; Hitlin, 2003), in turn enhancing understanding of sustainable consumption behaviours (Dermody et al., 2018; Dermody

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et al., 2021; Kunchambo et al., 2017; Mayer et al., 2009; Mutum et al., 2021; Oyserman, 2009; Schultz & Tabanico, 2007; van der Werff & Steg, 2016; Whitmarsh & O'Neill, 2010).

Bringing these together, we propose a beneficial way forward is to consider the influence of cultural values and identity on sustainable consumption behaviour. This is because identity is experienced and expressed through cultural values, which influence how we think about our culturally-based 'self' and enact our values-identity behaviour (Anheier, 2020). This is reflected in a recent study (Huang et al., 2023) which examined the relationship between cultural values, self-identity and employees' green behaviour at work. Furthermore, McCarty and Shrum (2001) highlight the need to study cultural influence on pro-environmental behaviours at the individual psychological level, for example, identity. Currently, empirical evidence is rather limited, with no clear consensus on the cultural values-identity influence on pro-environmental, or sustainable consumption behaviours (Chwialkowska et al., 2020; Czarnecka & Schivinski, 2021; Soyez, 2012; Yuksei & Kaya, 2020), and with less endeavour connecting to identity (see Table 1, to be discussed in Section 2.1).

To address this, we uniquely explore the influence of cultural values and pro-environmental self-identity on urbanised Chinese consumers' sustainable consumption behaviours. We examine two types of harmonious cultural values pertinent to progressing sustainable consumption. First, the man-nature orientation (no intentional gender bias)<sup>1</sup> (Chan, 2001), which focuses on the harmonious relationships between humankind and nature (akin to ecocentrism and ecobiocentrism). Second, horizontal and vertical individualism and collectivism (Sivadas et al., 2008; Triandis & Gelfand, 1998), encompassing the harmonious relationships between humans and society (closer to anthropocentrism and ecobiocentrism). We assess the influence of these cultural values and identity on five behaviours representing different private and public consumption phases (acquisition, usage, disposal), and environmental impact advocated by Fischer et al. (2012). These are sustainable consumption buying (acquisition), usage and disposal (via sustainable curtailment, extending product lifetimes, avoiding food waste, and reusing own shopping bags). This accords with academic agreement that sustainability behaviours are not homogenous, the influence of identity depends on these consumption phases, and thus this behaviour should not be generalised into one broad pro-environmental category for measurement purposes (e.g., Chwialkowska et al., 2020; Dermody et al., 2018; Gatersleben et al., 2014).

Thus, this paper aims to address the knowledge gaps by investigating the connections between harmonious cultural values, pro-environmental self-identity (PESI) and sustainable consumption behaviours. Specifically, it contributes to understanding how cultural values-based PESI influences consumers' sustainable consumption behaviour spanning acquisition, usage and disposal. This is important

because it facilitates the merit of cultural and personal values, more holistically, in explaining the values-behaviour relationship underpinning sustainable consumption. Furthermore, this research responds to previous calls (Czarnecka & Schivinski, 2021) by including a culturally-based PESI to advance the understanding of consumers' sustainable consumption choices, and, in addition, how society can support the endurance of such behaviours.

Having introduced the paper, we now present a synopsis of Chinese harmonious cultural values leading to a more detailed rationale for cultural values and PESI within the research framework.

## 2 | LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### 2.1 | A synopsis of Chinese harmonious cultural values

Scholars are increasingly recognising the merit of researching cultural values to explain pro-environmental behaviour (Chan, 2001; Chekima et al., 2016; Chwialkowska et al., 2020; Czarnecka & Schivinski, 2021; Kuanr et al., 2021; McCarty & Shrum, 2001; Nguyen et al., 2022; Polonsky et al., 2014; Sreen et al., 2018; Yin et al., 2018; Yuksei & Kaya, 2020). This is because cultural values represent an enduring belief system that guides the roles and relationships of individuals within their society. Studies on Chinese harmonious cultural values reflect the centrality of nature, interpersonal and intrapersonal relationships, and social orientations to China's belief system (Cho et al., 2013; Sun et al., 2016; Wang & Juslin, 2009; Yau, 1988). Furthermore, while harmony within these values is complex, fundamentally it represents universal peace and harmonising relationships. Humankind comes to appreciate the importance of living in equilibrium with nature and each other, thereby progressing spirituality above material lifestyles (Li et al., 2016; Lun, 2012).

Two types of harmonious Chinese cultural values are central to this paper. First, human-nature values via the man-nature orientation (MNO) (Chan, 2001; Huang et al., 2023; Sreen et al., 2018; Yau, 1988). Second, human-society values, represented by horizontal and vertical individualism-collectivism (Singelis et al., 1995; Triandis & Gelfand, 1998) (H/V individualism-collectivism hereafter). These nature- and societal-human values are considered highly pertinent to facilitating sustainable consumption buying behaviour (Chan, 2001; Chwialkowska et al., 2020; Faure & Fang, 2008; Nguyen et al., 2017). Furthermore, human-nature harmony guides a growing body of sustainability research in China (e.g., Huang et al., 2023; Jiang et al., 2020; Wang et al., 2016; Wang et al., 2023; Yin et al., 2018) and neighbouring countries, for example, Malaysia (Chekima et al., 2016), India (Sreen et al., 2018), South Korea and Vietnam (Nguyen et al., 2022). This widening application of MNO illustrates its relevance to contemporary sustainability research. Indeed, in China the notion of harmony is considered synonymous with modern thinking on sustainability, and thus vital to resolving its environmental problems (Li et al., 2016).

<sup>1</sup>Man-nature orientation has existed for nearly four decades (e.g., Yau, 1988). The 'man' terminology is widely used in this literature without specifying it is gender-related (e.g., Chan, 2001; Sreen et al., 2018; Yin et al., 2018). We follow this tradition to align with scholarship and do not intentionally suggest any gender bias by using it. We abide by EDI to promote gender equality and inclusiveness. Any perceived gender bias is unintentional.

**TABLE 1** Academic studies utilising cultural values to explore pro-environmental behaviours.

Source	PEB <sup>a</sup>	Theoretical underpinning	Cultural Values <sup>b</sup>	H-V dims. of I-C <sup>c</sup>	Method	Country (sample size)	Key findings associated with cultural Values <sup>b</sup>
Chan (2001)	Green purchase	Attitudes towards green purchase & cultural values	MNO & collectivism	No	Survey via personal interviews	China (n = 549)	MNO and collectivism positively influence green purchase via attitudes
McCarty and Shrum (2001)	Household recycling behaviours (newspapers, cans, glass jars/bottles)	Value orientations, economic status & pro-environmental belief	Individualism-collectivism, locus of control	No	Mail questionnaire, stratified random sampling	USA (n = 534)	Collectivism orientation, or internal locus of control relate to importance of recycling beliefs. Individuals with individualistic, or lower economic status believe recycling is inconvenient.
Cho et al. (2013)	PEB	Perceived consumer effectiveness (PCE), environmental attitude, PEB commitment /intention & cultural values	H/V dimensions of individualism-collectivism	Yes	Survey; student sample	South Korea & USA (n = 726)	Horizontal collectivism and vertical individualism influence PCE. PCE positively influences environmental attitude for PEB commitment & intention.
Chekima et al. (2016)	Green purchase	Environmental attitudes & cultural values	MNO	N/A	Survey via convenience sampling	Malaysia (n = 405)	MNO positive direct influence on green purchase intention; with a greater effect on females than males.
Wang et al. (2016)	Pro-environmental consumption behaviour	Attitudes & cultural values	MNO & collectivism	No	Door-to-door personal interviews survey	China (n = 972)	MNO and collectivism positive direct effect on pro-environmental consumption behaviour intention respectively.
Nguyen et al. (2017)	Green purchase	TPB & cultural values	Hofstede's cultural value dimensions: collectivism, long-term orientation (LTO)	No	Online questionnaire	Vietnam (n = 682)	Stronger collectivism and LTO increase likelihood of green purchase behaviour.
Sreen et al. (2018)	Green purchase	TPB and cultural values	Constructs included in TPB, MNO, collectivism, long-term orientation	No	Online survey, quota sampling	India (n = 452)	Collectivism and MNO direct positive relationship with attitudes; but not LTO. Collectivism, LTO and MNO influenced green purchase intention indirectly, via attitudes.

TABLE 1 (Continued)

Source	PEB <sup>a</sup>	Theoretical underpinning	Cultural Values <sup>b</sup>	H-V dims. of I-C <sup>c</sup>	Method	Country (sample size)	Key findings associated with cultural Values <sup>b</sup>
Yin et al. (2018)	Public bicycle-sharing scheme	Value-attitude-behaviour	MNO and collectivism	No	Survey, systematic sampling method (mall- and street-intercept)	China (n = 755)	MNO direct effect on intention to adopt. Collectivism no significant direct effect. Collectivism indirect effect on intention via materialism, teleological evaluation and deontological evaluation.
Sheng et al. (2019)	Green purchase	Lifestyle, cultural values and environmental knowledge	The Doctrine of the Mean	N/A	Online survey, quota sampling	China (n = 456)	Specific cultural values were positively related to green purchase.
Chwialkowska et al. (2020)	PEB	Theory of planned behaviour (TPB) & cultural value	Hofstede's cultural value dimensions	No	N/A	N/A	Conceptual paper. No empirical evidence.
Jiang et al. (2020)	Low carbon consuming behaviour	TPB & cultural values	MNO & collectivism	No	Online and field survey, random sampling	China (n = 484)	MNO and collectivism do not directly affect carbon consuming behaviour, only via attitudes.
Mi et al. (2020)	PEB (public and private-sphere PEB)	Cultural values	Hofstede's five dimensions of cultural values (e.g., Power distance, LTO)	No	Survey (self-completion, convenience sample in Xuzhou city)	China (n = 475)	Cultural values varying effects on residents' PEB. Collectivism and LTO positive effect on public- and private-sphere PEB.
Czarnaiecka and Schivinski (2021)	Consumption impact on the environment, community and employee wellbeing	Global-local identity & cultural values	H/V dimensions of individualism – collectivism	Yes	Survey, stratified sampling (by age, income and location)	Poland (n = 432)	Individuals with greater vertical orientation more likely to believe in their consumption effectiveness to benefit environment, community and employee welfare. A higher level of global identity could strengthen this.
Kuanr et al. (2021)	Anti-consumption behaviours (voluntary simplicity & brand avoidance)	Value-belief-norm & cultural values, self-efficacy as mediator	Individualism – collectivism	No	Online survey	India (n = 339)	Collectivistic values positively influence anti-consumption behaviours. A positive indirect relationship occurs between individualism and anti-consumption, via self-efficacy.

(Continues)

TABLE 1 (Continued)

Source	PEB <sup>a</sup>	Theoretical underpinning	Cultural Values <sup>b</sup>	H-V dims. of I-C <sup>c</sup>	Method	Country (sample size)	Key findings associated with cultural Values <sup>b</sup>
Rahman and Luomala (2021)	Green purchase intention	Environmental responsibility, attitudes, cultural values	Only horizontal individualism (HI) and vertical collectivism (VC)	Partly	Online questionnaire; convenience sample	Finland (n = 193), Pakistan (n = 172)	HI does not directly affect Finnish consumers' attitudes towards green products. VC does not affect attitudes among Pakistan sample. Environmental responsibility indirectly positively influences the relationship between HI and attitudes towards green purchase for Finnish sample; environmental responsibility also indirectly affects VC to attitudes for Pakistani sample.
Cui et al. (2022)	Ethical consumption (eco, socio-economic, e.g., fairtrade, local)	Cultural values, consumer happiness	H/V dimensions of individualism – collectivism	Yes	Consumer panel survey	USA (n = 938)	VI-no effect on eco-ethical, or socio-economic ethical consumption. HI, HC, & VC influence eco-ethical and socio-economic ethical consumption.
Huang et al. (2022)	Public- and private-sphere PEB, policy support, environmental volunteering	Personal/group values & cultural values	Collectivism	No	Online survey	USA (n = 469), Singapore (n = 410)	Collectivism moderates influence of personal/group values on the behaviours; varying between American and Singaporean culture.
Hussain and Huang et al. (2022)	Green purchase intention	TPB, PCE, environmental attitudes (EA), ecological concern, cultural values	Collectivism & Long-Term Orientation (LTO)	No	Online survey; random urban sample	China (n = 371)	Collectivism and LTO directly influence green purchase intention. Collectivism indirectly affects intention via ecological concern and PCE. LTO indirectly affects intention via EA and PCE. Cultural values support intention by improving environmental attitudes, ecological concerns and PCE, and reducing perceived inconvenience of green purchasing.

TABLE 1 (Continued)

Source	PEB <sup>a</sup>	Theoretical underpinning	Cultural Values <sup>b</sup>	H-V dims. of I-C <sup>c</sup>	Method	Country (sample size)	Key findings associated with cultural Values <sup>b</sup>
Nguyen et al. (2022)	Green purchase	TPB & cultural values	Attitudes, MNO, 3 selected dimensions of Hofstede's cultural values (i.e., collectivism, LTO)	No	Online questionnaire	South Korea (n = 216); Vietnam (n = 342)	Positive relationship between MNO, attitudes and intention only occurs in the Vietnamese sample, not South Korean. Collectivism and LTO influence green purchase indirectly via the constructs derived from TPB.
Huang et al. (2023)	Employees' green behaviour	Cultural values, green identity, environmentally specific transformational leadership (ETFL)	MNO	No	Questionnaire	China (n = 362)	Effect of ETFL on green identity positive among those employees with strong MNO; effect was insignificant for those with weak MNO. Indirect effect of ETFL to green behaviour, via green identity, greater for employees with a strong MNO orientation.
Wang et al. (2023)	Tourists' PEB during travelling (e.g., eco-friendly tourism products, reducing garbage, protect the natural environment)	Social norms, ethical evaluation, cultural values	Collectivism, human-to-nature orientation (essentially MNO)	No	Personal interview survey with intercept techniques	China (n = 573)	Collectivism significantly relates to tourists' PEB. It positively moderates the effect of injunctive norm and descriptive norm on their PEB. MNO significantly relates to tourists' PEB. No positive interaction effect of MNO and injunctive norm, MNO and descriptive norm.
Current study	Five sustainable consumption behaviours (Buying, Curtailment, Extend Lifetimes, Reduce Food Waste, Reuse Shopping Bags)	Cultural values & identity theory (PEI as a mediator)	MNO & H/V dimensions of individualism – collectivism	Yes	Online survey, Qualtrics panel, urban sample	China (n = 503)	MNO, HC, VC, HI positive effect on PEI PEI significant effect on all PEBs Variant direct effects of cultural values on 5 PEBs PEI mediates relationship between MNO, HC, VC, HI and 5 PEBs

<sup>a</sup>PEB = Pro-environmental behaviour.

<sup>b</sup>Only cultural theories being listed above.

<sup>c</sup>H/V dimensions of individualism – collectivism.



Table 1 summarises studies utilising cultural values theory in a pro-environmental context, with specific focus on MNO and H/V individualism–collectivism. The table shows a small number of recent studies, with growing interest since 2020. However, this research is typically limited to green purchase, or broad in scope of pro-environmental behaviours. Sustainable consumption is not examined as acquisition, usage, and disposal. Collectivism and long-term-orientation are popular cultural values choices. MNO features less frequently, as do horizontal and vertical dimensions of collectivism/individualism. Identity receives minimal attention in this evidence-base.

The limited inclusion of identity is notable given the interplay between cultural values and PESI. This is because identity, including PESI, is enacted and performed through cultural values, in turn influencing values-identity behaviour (Anheier, 2020; Carpenter, 2000; Czarnecka & Schivinski, 2021). More broadly, identity is a major influence on consumer behaviour (Oyserman, 2009; Reed et al., 2012). Consequently, interest in this values-identity influence is also growing in sustainable consumption research (Barbarossa et al., 2015; Brick & Lai, 2018; Dermody et al., 2015; Dermody et al., 2018; Mutum et al., 2021; van der Werff et al., 2014; Whitmarsh & O'Neill, 2010).

This study builds from both the evidence gaps and tentative findings represented in Table 1. We enrich understanding by bringing MNO, H/V collectivism–individualism, and identity together to explain the cultural values-PESI-sustainable consumption relationship.

## 2.2 | Man-nature orientation

Man-nature orientation is a cultural value orientation representing harmony between humankind and nature. It views humans as an integral part of the natural world, not separate from it, or protectors or rulers of it (Chan, 2001; Kluckhohn & Strodtbeck, 1961; Li & Ernst, 2015; Yau, 1988). A connection with the natural world is also considered important in western nations, for example, new environmental paradigm (NEP) (Dunlap, 2008), psychological restoration (Whitburn et al., 2018); and oneness with nature (Brügger et al., 2011; Schultz & Tabanico, 2007).

There appears to be distinctive differences in how the West perceives and engages with nature compared with the Chinese culture. For example, it is argued that there is an increasing separation between humans and nature in western nations (Li & Ernst, 2015; Strife & Downey, 2009; Vining et al., 2008); whereby individuals and organisations act as rulers, or stewards of nature for human need and benefit. However, MNO is anchored to harmony, which advocates a balanced co-existence among people and the natural world (Zhang, 2013). This means humans should live with nature in its 'natural state', and not change it to benefit their lives. Thus, harmony is rooted in Taoism (discussed below). This harmonious balance distinguishes MNO from Western scholarship, which explains the interaction in terms of attitudes (connection) to nature, human benefits of nature, and attitudes towards environmental issues characterised in the NEP (Kaiser et al., 2011; Whitburn et al., 2018). A possible exception is oneness with nature (Brügger et al., 2011), albeit results

are tentative for equivalence in non-western cultures (Nguyen et al., 2022; Sreen et al., 2018).

While pursuing harmony is a strong part of China's cultural heritage, the meanings, principles and practices of harmony vary (Li, 2006). Taoism and Confucianism philosophies help understand such variation. Both philosophies influence how the Chinese manage these meanings and paradoxes in their everyday lives in pursuing harmony that is intrapersonal (with the self), interpersonal (with another individual), social (with individuals in groups or society) and universal (harmony between humanity and everything in the universe) (Lun, 2012). A harmonious relationship with nature should begin with intrapersonal harmony. Progressing towards harmony with the universe will significantly enhance this relationship, potentially because it aids grand harmony. These interpretations of harmony and MNO are pertinent because they enhance understanding of what constitutes a harmonious relationship for unity between humans and nature.

The Taoist interpretation of MNO advocates that human beings are a part of nature and must live in harmony with it (Yau, 1988). Taoism seeks ways for creating grand harmony because of the superlative capacity of its teachings to sustain all lifeforms (Lun, 2012). Thus, it brings reciprocal and retributive benefits to both humankind and the natural world (Wang & Juslin, 2009). Attempting mastery of nature would break this harmony, potentially dividing humans from the natural world and going against nature as '*the Way*' (or '*dao*', meaning the path, principle, method or law of nature). Thus, when humankind comes to understand the importance of harmonious living in equilibrium with nature and each other, their lives should become more spiritual and less material (Li et al., 2016; Lun, 2012).

However, as China transforms and its people becomes more urbanised and materialistic (Dermody et al., 2021; McKinsey, 2017), there is concern that the virtues and relevance of harmony between humankind and nature could break down. Evidence showing the detrimental impact of industrialisation on the natural world in western nations, as well as an increasing impact in China, supports this disquiet. For example, Vining et al. (2008) highlight the psychological and physical separation of humans from nature that occurs when nations industrialise into developed economies. This separation partly occurs because industrialisation triggers expanding urbanisation, which can reduce opportunities for younger urban generations to experience nature (Li & Ernst, 2015; Strife & Downey, 2009). Theoretically, such separation could inhibit young Chinese urbanites from pursuing harmony advocated by MNO. Overall, the magnitude of this relationship for the future wellbeing of humans and nature is evident from a broad range of studies within the natural and social sciences that attest a positive relationship with nature is more likely to result in pro-environmental behaviours (e.g., see Li & Ernst, 2015; Nisbet et al., 2009; Vining et al., 2008; Whitburn et al., 2018), albeit some contradictory findings are also identified. Specifically, previous research indicates a direct positive link between MNO and intentions to participate in bicycle-sharing (Yin et al., 2018), green purchase intentions among Chinese consumers (Chan, 2001; Chekima et al., 2016) and those in Vietnam but not in South Korea (Nguyen et al., 2022). Additionally, no significant direct effect is found for low-

carbon behavioural intention (Jiang et al., 2020). To better understand MNO, our study extends the literature by testing whether MNO directly influences the sustainable consumption behaviours of Chinese urbanised consumers. Thus, we hypothesise:

**Hypothesis 1.** MNO has a direct positive influence on (a) sustainable buying (b) sustainable curtailment (c) product lifetime extension, (d) avoiding food waste, and (e) reusing own shopping bags behaviours.

### 2.3 | Horizontal and vertical individualism–collectivism

The discussion now shifts to the relational and socially-harmonious value of H/V individualism–collectivism within China. Premised on the work of Hofstede (1983), historically China has been viewed as a collectivist society that prioritises harmonious group and social norms. Whilst western cultures are considered individualistic as me-oriented; from this perspective, the relational orientations of Chinese consumers would be premised on interdependent values that emphasise a we-orientation (Sivadas et al., 2008). This dichotomous ‘either-or’ cultural construction is over-simplistic. It overlooks personal differences within collectivistic and individualistic societies (Singelis et al., 1995; Triandis, 2004; Triandis & Gelfand, 1998), for example, given the rise of individualism within China (Ye et al., 2012). Paradoxically, collectivism and individualism may coexist (Faure & Fang, 2008) – potentially across individuals and social groups, and in a pro-environmental context (i.e., recycling) (McCarty & Shrum, 2001).

Confucianism helps explain the interpersonal and social aspects of harmony (Li, 2006; Lun, 2012). Being socially-embedded in nature, Confucianism not only prescribes harmonious social relationships based on ethical and moral codes, it also shapes H/V individualism–collectivism. These codes involve voluntary adherence to core virtues associated with Confucianism (e.g., humaneness and righteousness). The virtues conform to core principles (e.g., self-cultivation) in order to maintain the interrelationships between an individual at the level of their family, the community/society, the nation and the world (Li, 2006). Therefore, Confucianism differs from the Taoist's interpretation of harmony because the interpersonal and socially-embedded nature of Confucianism has potential to give primacy to humankind in managing and mastering the natural world for ‘communal good’. In brief, the Confucian interpretation of harmony denotes principles of ethics (how humans should behave) and the meta-physical world (how the world operates). Studies demonstrating the relevance of Confucianism include its influence on business ethics (Ip, 2009; Wang & Juslin, 2009), sustainability marketing (Sun et al., 2016) and sustainability behaviours in China (Li & Ernst, 2015).

The influence of such interpersonal and social cultural-values on Chinese consumers' behaviours depends on the relative importance associated with H/V dimensions of individualism–collectivism, whereby horizontal represents equality and vertical recognises social hierarchy. The relational orientations of individualism–collectivism

manifest as: (1) horizontal collectivism, (2) vertical collectivism, (3) horizontal individualism and (4) vertical individualism (Singelis et al., 1995; Triandis & Gelfand, 1998). These H/V dimensions provide a more nuanced level of evaluation in the context of sustainable consumption (Czarnecka & Schivinski, 2021; McCarty & Shrum, 2001).

Within horizontal collectivism, individuals will value common goals, identify duties and obligations that signal their similarity, thus recognising equality (Sivadas et al., 2008). For example, individuals demonstrate their willingness to work towards achieving collective communal goals. However, individuals will not readily capitulate to authority. In contrast, vertical collectivism represents an interdependent self where individuals prioritise their in-group goals, typically those associated with their family or individuals within groups. They will sacrifice their own interests by acquiescing to authority or social hierarchies for the good of their family/group. Both horizontal and vertical collectivism (alongside vertical individualism) remain relevant within the increasing market forces of China's modernisation. For example, Cleveland and Bartikowski (2018) suggest that these specific dimensions may stimulate market mavenism to Chinese consumers at home and abroad; potentially contributing to their shifting consumption patterns. Similarly, Chinese consumers have potential to use this dual collectivism to drive ethical and sustainable markets. For example, by acting as influencers or followers within the marketplace to recommend specific products (e.g., organic, energy efficient) and behaviours (e.g., reduction, recycling, reuse).

With respect to individualism, while the independence of the self is fundamental to both horizontal and vertical individualism (Sivadas et al., 2008), there is disparity in how this is manifested. Within horizontal individualism, individuals are strongly self-reliant, focusing on their own goals of gaining self-transcendence as they pursue higher levels of equality and freedom (Cleveland & Bartikowski, 2018; Triandis & Gelfand, 1998). In contrast, vertical individualism represents individuals driven by their competitive needs to be different and better compared with others, manifested through acquisition of status symbols. If vertical individualism is emerging in China, its modernisation could partially account for this because of increased interaction between Chinese people and developed economies. Such interactions include exposure and influence of western values and lifestyles on Chinese consumers (Faure & Fang, 2008). Such upward socio-economic changes are evident in rising individualism across the globe (Czarnecka & Schivinski, 2021), supported by increased conspicuous spending among affluent Chinese consumers (McKinsey, 2017). Overall, if vertical individualism is growing, belief in the quintessence of harmonious living may decline, with negative consequences for sustainable consumption. In turn, potentially the positive influence of collectivism on Chinese consumers' pro-environmental attitudes and purchasing intention identified by Chan (2001), Jiang et al. (2020), Yin et al. (2018), may be undergoing change; albeit these studies did not specify the H/V dimensions of collectivism.

Given these issues, we apply the specificity of individualism–collectivism to evaluate their relative influence on the five sustainable consumption behaviours. In particular, expecting positive effects of horizontal and vertical collectivism on Chinese consumers' sustainable



consumption behaviours due to their more harmonious obligations and in-group goals. Similarly, positive effects are anticipated of horizontal individualism that seeks self-transcendence, which aligns with a positive correlation between self-transcendent values, altruistic and biospheric concerns (Schultz et al., 2005). We propose negative effects for vertical individualism (self-enhancement) due to its more individualistic nature and potentially a less harmonious emphasis. Hence, we hypothesise:

**Hypothesis 2.** Horizontal collectivism has a direct positive influence on (a) sustainable buying, (b) sustainable curtailment, (c) product lifetime extension, (d) avoiding food waste, and (e) reusing own shopping bags behaviours.

**Hypothesis 3.** Vertical collectivism has a direct positive influence on (a) sustainable buying, (b) sustainable curtailment, (c) product lifetime extension, (d) avoiding food waste, and (e) reusing own shopping bags behaviours.

**Hypothesis 4.** Horizontal individualism has a direct positive influence on (a) sustainable buying, (b) sustainable curtailment, (c) product lifetime extension, (d) avoiding food waste, and (e) reusing own shopping bags behaviours.

**Hypothesis 5.** Vertical individualism has a direct negative influence on (a) sustainable buying, (b) sustainable curtailment, (c) product lifetime extension, (d) avoiding food waste, and (e) reusing own shopping bags behaviours.

## 2.4 | Pro-environmental self-identity

Identity is recognised across disciplines as a main driver to understand human behaviour, including consumption choices (Oyserman, 2009). This is because identity underlies the self-expression in much consumption, synchronises the stability between attitudes and behaviours, and is thus a better predictor of consumption decisions than attitudes or values (Oyserman, 2009; Reed et al., 2012). This extends to understanding how pro-environmentalism and sustainable consumption behaviours become normalised among consumers as an inherent part of their self-concept (Barbarossa et al., 2015; Brick & Lai, 2018; Dermody et al., 2015; Kashima et al., 2014; Mutum et al., 2021; Udall et al., 2020; van der Werff et al., 2014; van der Werff & Steg, 2016; Whitmarsh & O'Neill, 2010); albeit more cultural insight is needed. Whitmarsh and O'Neill (2010) derived PESI from this theory foundation, which was expanded by Dermody et al. (2015, 2018, 2021). PESI is a dynamic and adaptive environmentally-friendly self-concept shaped by intra-personal and socio-cultural forces, for example, values, normative behaviour. The small number of studies utilising PESI confirm its contribution in explaining a mix of sustainable consumption acquisition, usage and disposal behaviours among consumers from different cultures (Dermody et al., 2018; Dermody et al., 2021).

Research suggests identity can become even more potent in explaining behaviour when combined with values systems. Pro-environmental examples of this values-based identity include the connection between self and nature reflected in biospheric values and environmental concern (Mayer et al., 2009; Schultz & Tabanico, 2007), the relationship between biospheric values, identity, and personal norms (van der Werff & Steg, 2016), and the influence of cultural values (MNO) and identity on employees work-based pro-environmental behaviour (Huang et al., 2023).

However, this values-identity-behaviour connection, to date, has not extended beyond personal and environmental standpoints, to include a cultural values perspective in a sustainable consumption context; even though there are calls for such research to be undertaken (Carpenter, 2000; Czarnecka & Schivinski, 2021). This study addresses this gap by examining the indirect influence(s) of harmonious cultural values, via PESI, on urbanised Chinese consumers' sustainable consumption behaviours. We propose PESI is valuable to this because socio-cultural forces underpinning it potentially include the enduring beliefs embedded within cultural values. Thus, building from Anheier (2020), this enables research exploration of consumers' culturally-based PESI self-concept and the broader enactment of their cultural values-identity based sustainable consumption behaviour spanning acquisition, usage and disposal.

While recognising cultural values facilitate the experience and expression of identity, it is unclear how this occurs. Specifically, how MNO and H/V individualism-collectivism cultural values influence urbanised Chinese consumers' PESI and sustainable consumption. Based on the conceptualisation in this article, we propose the enduring beliefs in harmonious human-nature and relational values can infuse Chinese consumers PESI and subsequent sustainable consumption choices. Tentative evidence for this supposition is supported by a small number of studies provisionally showing PESI can operate as a mediator (indirect effects) for pro-environmental and sustainable consumption behaviours (e.g., Dermody et al., 2015; Dermody et al., 2018; Dermody et al., 2021; Huang et al., 2023; Mutum et al., 2021; van der Werff et al., 2014; Whitmarsh & O'Neill, 2010). Thus, we hypothesise:

**Hypothesis 6.** MNO has an indirect positive influence via PESI on (a) sustainable buying, (b) sustainable curtailment, (c) product lifetime extension, (d) avoiding food waste, and (e) reusing own shopping bags behaviours.

**Hypothesis 7.** Horizontal collectivism has an indirect positive influence via PESI on (a) sustainable buying, (b) sustainable curtailment, (c) product lifetime extension, (d) avoiding food waste, and (e) reusing own shopping bags behaviours.

**Hypothesis 8.** Vertical collectivism has an indirect positive influence via PESI on (a) sustainable buying, (b) sustainable curtailment, (c) product lifetime extension, (d) avoiding food waste, and (e) reusing own shopping bags behaviours.

**Hypothesis 9.** Horizontal individualism has an indirect positive influence via PESI on (a) sustainable buying, (b) sustainable curtailment, (c) product lifetime extension, (d) avoiding food waste, and (e) reusing own shopping bags behaviours.

**Hypothesis 10.** Vertical individualism has an indirect negative influence via PESI on (a) sustainable buying, (b) sustainable curtailment, (c) product lifetime extension, (d) avoiding food waste, and (e) reusing own shopping bags behaviours.

Figure 1 presents the Research Model and illustrates the core argument proposed in our research study.

### 3 | METHODOLOGY

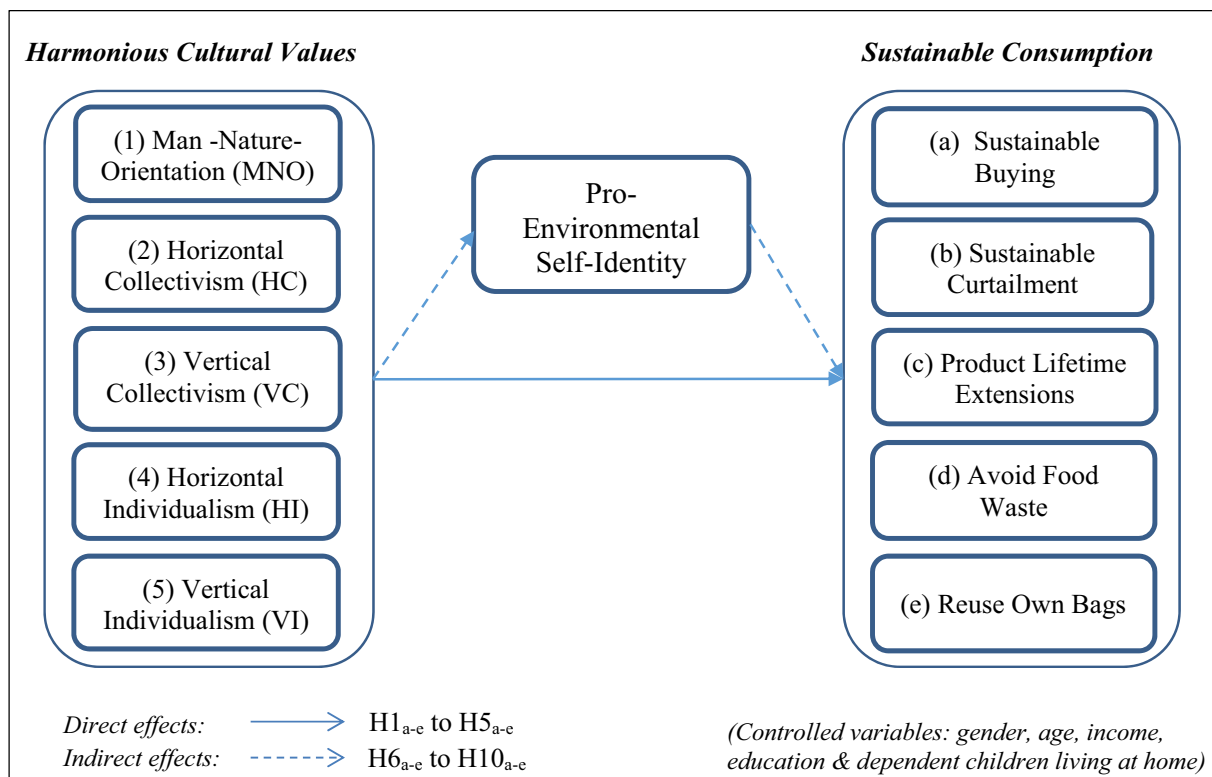
#### 3.1 | Sample and procedures

A cross-sectional survey was conducted to test the hypotheses. Data were collected via a Qualtrics online-panel from city-dwelling middle-class Chinese consumers resident in China. As discussed in the literature review, China's population is increasingly urban, relatively wealthy, and disposed towards sustainable consumption (Shao, 2019); albeit there are challenges for the contemporisation of harmonious cultural values (Czarnecka & Schivinski, 2021; Li & Ernst, 2015).

Hence, this sample was pertinent to our study. The questionnaire was translated into Chinese, independently back-translated, and pre-tested for conceptual equivalence. Prior to full-launch, the survey was soft-launched to test the scales. In total, 510 responses were recorded (Appendix 1). The data was checked for missing values and the final sample size eligible for analysis was 503. The sample consisted of predominantly well-educated, employed, urbanised consumers with middle-class incomes – in-line with the requirements for this study. The gender split closely matches China's national gender profile. A full sample profile is presented in Appendix 1. The data were analysed with structural equation modelling (CB-SEM) and the bootstrap approach using AMOS 27.0 software. This study forms part of our ongoing research on sustainable consumption in China (Dermody et al., 2018; Dermody et al., 2021).

#### 3.2 | Measures

Man-nature orientation was captured by five statements from Chan (2001), derived from the Kluckhohn and Strodtbeck (1961). H/V dimensions of individualism–collectivism were measured by adapting the work of Sivadas et al. (2008) and Triandis and Gelfand (1998). PESI consisted of four items adapted from Whitmarsh and O'Neill (2010) and van der Werff and Steg (2016). Five sustainable consumption buying, usage and disposal behaviours were measured following Whitmarsh and O'Neill (2010), Dermody et al. (2018), and Chan et al.



**FIGURE 1** Conceptual model.

**TABLE 2** Construct correlations and average variance extracted (square-root).

Constructs	MNO	HC	VC	HI	VI	PESI	Buying	Curtailment	Life-times	Food waste	Reuse bags
MNO	.799										
HC	.370	.762									
VC	.462	.471	.720								
HI	.081	.158	.110	.761							
VI	.425	.491	.409	.239	.738						
PESI	.483	.586	.499	.198	.407	.762					
Buying	.335	.517	.375	.115	.329	.538	.803				
Curtailment	.395	.247	.198	-.010	.187	.339	.452	.717			
Lifetimes	.261	.314	.292	.198	.262	.469	.602	.567	.731		
Food Waste	.330	.224	.261	.022	.219	.336	.423	.643	.578	n/a	
Reuse Bags	.227	.161	.134	.011	.108	.299	.339	.526	.557	.518	n/a

Note: Square-root of AVEs shown in the diagonal. Abbreviations: Buying, Sustainable Buying; Curtailment, Sustainable Curtailment; Food Waste, Avoid Food Waste; HC, Horizontal Collectivism; HI, Horizontal Individualism; Lifetimes, Product Lifetime Extension; MNO, Man-Nature Orientation; PESI, Pro-environment Self-Identity; Reuse Bags, Reuse Own Shopping Bags; VC, Vertical Collectivism; VI, Vertical Individualism.

(2008). Appendix 2 details the measurement items, descriptive statistics, factor loadings and reliability indicators.

### 3.3 | Scale evaluations

Confirmatory factor analysis (CFA) assessed the reliability and validity of the measures. The final measurement model confirmed the proposed factor structure and an adequate model fit ( $\chi^2$  was 1156.5 with 473 degrees of freedom,  $p \leq .001$ ,  $\chi^2/df = 2.45$ , CFI = .92, TLI = .90, SRMR = .062, RMSEA = .054). Five scale items displaying insignificant and low values of factor loadings were dropped from further analysis (see Appendix 2). The standardised loading estimates were statistically significant and higher than the commonly used threshold of .5 (except one vertical individual item with a loading of .49 that was retained for subsequent analysis) (Hair et al., 2010). Average variance extracted (AVE) estimates exceeded the recommend threshold of .5 supporting convergent validity (Fornell & Larcker, 1981). Discriminant validity was supported as the square roots of AVE for each construct were greater than the corresponding inter-construct correlations (Chin, 1998). Composite reliabilities (CR) exceeded or were very close to .7 (i.e.,  $CR_{\text{Curtailment}} = .69$ ) demonstrating adequate reliability for all measures. Table 2 illustrates the correlation coefficients and the square roots of the AVE.

### 3.4 | Test for common method bias

Common method bias could arise as this study generated data through a self-reported survey from the same respondents. Guided by the literature (Podsakoff et al., 2012), several recommended procedural techniques were applied to address such potential concerns. This included proximal separation of independent and dependent variables, use of different measurement scales/response formats, quality-

checking questions applied for respondent eligibility, randomising of questionnaire items, and questionnaire pretesting to avoid ambiguity. Furthermore, a post-hoc Harman's one-factor test (Podsakoff et al., 2012) was conducted and the result of a single factor only accounted for 28.13% of the variance. In addition, a poor fit was achieved when applying the Harman's single-factor test in CFA ( $\chi^2$  was 4737.78 with 526 degrees of freedom,  $p \leq .001$ ,  $\chi^2/df = 9.01$ , CFI = .491, TLI = .458, SRMR = .111, RMSEA = .126). This suggests that common method bias is unlikely to be a substantial concern in this study.

## 4 | RESULTS

Introducing our findings, cultural values (with the exception of VI) influenced Chinese consumer's sustainable acquisition, usage and disposal behaviours. However, their direct effects were complex and varied with these behaviours, whilst the indirect effects via PESI were more consistent. We now present our data analysis approach discussing our hypothesised effects and follow this with a detailed discussion of our results.

CB-SEM was conducted to estimate the direct paths in the conceptual model and the bootstrapping method with 10,000 bootstrapped samples and 95% bias-corrected confidence intervals in AMOS were employed to test the mediating effect of PESI. The analysis statistically controlled for gender, age, income, education and dependent children living at home. The structural model was estimated with maximum likelihood estimation (MLE) and yielded a good model fit when assessed against the commonly used thresholds ( $\chi^2$  was 1295.81,  $df = 588$ ,  $p \leq .001$ ,  $\chi^2/df = 2.20$ , CFI = .917, TLI = .896, SRMR = .056, RMSEA = .049).

The results (Table 3 and Figure 2) show MNO exerted a significant direct and positive influence on curtailment ( $\beta = .323$ ,  $p < .000$ ), avoiding food waste ( $\beta = .179$ ,  $p < .002$ ) and reusing own bags

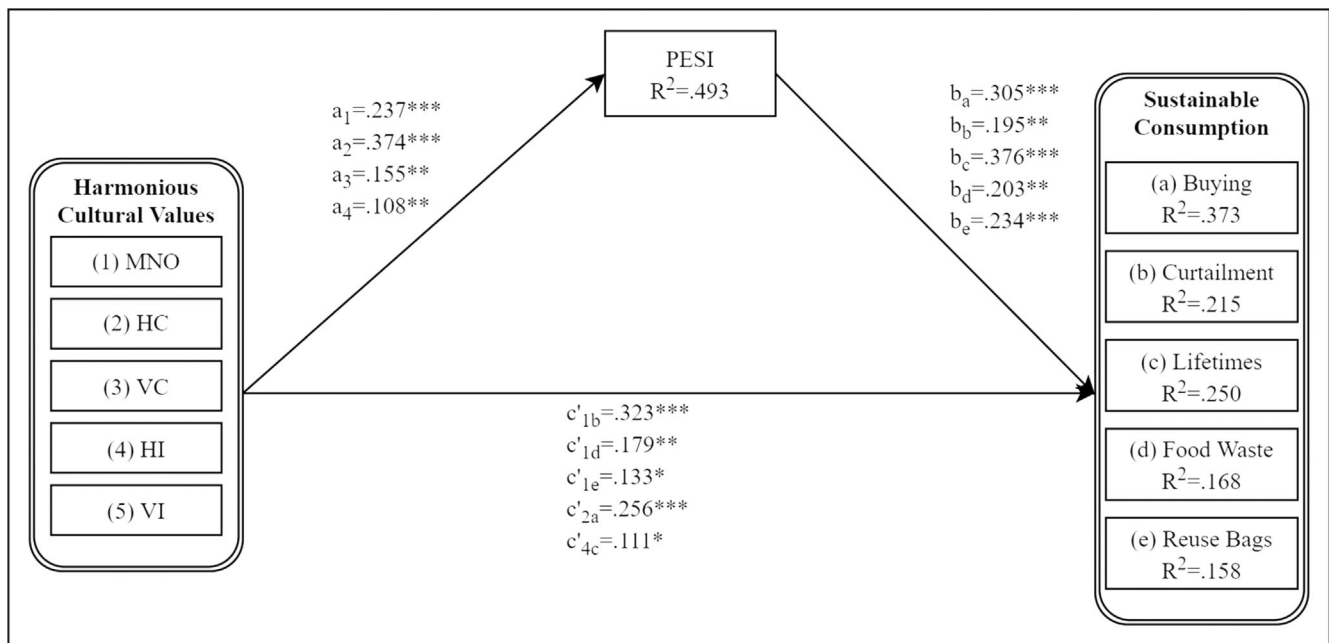
**TABLE 3** Direct and indirect effects.

Direct effects		(a) Buying		(b) Curtailment		(c) Lifetimes		(d) Food waste		(e) Reuse bags	
		$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>
H1	MNO	.058	.272	.323	.000	.012	.858	.179	.002	.133	.019
H2	HC	.256	.000	.059	.415	.031	.685	.010	.880	.010	.875
H3	VC	.045	.398	-.053	.403	.065	.334	.052	.365	-.041	.471
H4	HI	-.016	.705	-.082	.104	.111	.040	-.039	.389	-.026	.570
H5	VI	.026	.641	-.014	.831	.033	.627	.035	.551	-.040	.503
	PESI	.305	.000	.195	.010	.376	.000	.203	.003	.234	.000
	Age	-.070	.702	.071	.176	.024	.635	.103	.022	.179	.000
	Gend	-.015	.098	.060	.229	.047	.320	-.018	.667	.174	.000
	Inc	.080	.065	.025	.642	.019	.710	-.029	.534	.067	.143
	Edu	-.017	.678	.014	.781	.117	.016	.053	.222	.076	.083
	Child.	0.07	.097	-.071	.167	-.088	.071	-.033	.453	-.052	.245

Indirect effects		95% BC CI			95% BC CI			95% BC CI			95% BC CI			95% BC CI		
		Effect	LL	UL	Effect	LL	UL	Effect	LL	UL	Effect	LL	UL	Effect	LL	UL
H6	MNO	.072	.035	.129	.046	.009	.102	.089	.042	.156	.048	.012	.094	.055	.020	.103
H7	HC	.114	.060	.198	.073	.010	.168	.140	.069	.248	.076	.016	.159	.087	.027	.173
H8	VC	.047	.013	.011	.030	.004	.089	.058	.015	.131	.032	.006	.082	.036	.007	.089
H9	HI	.033	.007	.076	.021	.002	.062	.041	.009	.089	.022	.003	.058	.025	.004	.640
H10	VI	.002	-.039	.045	.001	-.026	.035	.002	-.046	.058	.001	-.027	.035	.001	-.029	.039

Abbreviations:  $\beta$  = standardised effect, Bootstrap sample size = 10,000, BC CI = Bias-corrected Confidence Interval, LL = Lower Limit, UL = Upper Limit.



**FIGURE 2** Interaction between harmonious cultural values, pro-environmental self-identity and sustainable consumption. Source: Only significant direct paths are presented, \*\*\* $p \leq .001$ , \*\* $p \leq .01$ , \* $p \leq .05$ .

( $\beta = .133$ ,  $p < .019$ ) thus supporting H1b, H1d and H1e. No support was found for H1a (buying) and H1c (product lifetimes). Horizontal collectivism had a significant direct positive effect on buying only

( $\beta = .256$ ,  $p < .000$ ) supporting H2a. H2b-e were not supported. H3a-e were unsupported – vertical collectivism had no significant direct influence on any of the behaviours. The results indicated that

horizontal individualism had a significant direct positive influence only on product lifetime extension behaviours ( $\beta = .111, p < .040$ ), supporting H4c. No support was found for H4a, H4b, H4d and H4e. The results did not support H5a–e, as vertical individualism had no significant direct effect on the five behaviours.

The hypothesised indirect effects were assessed with bootstrapping analysis of 10,000 samples with a 95% bias-corrected confidence interval. Table 3 shows that MNO had a positive significant indirect effect via PESI, on all five sustainable consumption behaviours, as the 95% bias-corrected bootstrap confidence intervals were entirely above zero. Therefore, H6a–e were supported. Similarly, horizontal collectivism, vertical collectivism and horizontal individualism also exerted a significant positive indirect effect on buying, curtailment, product lifetime extension, avoiding food waste and reusing own bags behaviours via PESI. Accordingly, H7a–e, H8a–e, and H9a–e were supported. The results confirmed PESI mediated the positive effects of harmonious cultural values on these five behaviours, with the exception of the effect of vertical individualism. Vertical individualism did not have an indirect influence via PESI on any of the behaviours. Thus, H10a–e were not supported. Appendix 3 offers a summary of the results.

## 5 | DISCUSSION

The findings from our study surpass the evidence-base presented in Table 1 – offering new insight on how cultural values-based PESI influences the acquisition, usage and disposal sustainable consumption behaviours of Chinese consumers. We now discuss the detail of this contribution.

### 5.1 | The influence of harmonious cultural values on sustainable consumption

This study confirms that cultural values influence the sustainable consumption choices of urbanised Chinese consumers. Thus, our findings go beyond current evidence (e.g., Chan, 2001; Chekima et al., 2016; Jiang et al., 2020; Polonsky et al., 2014; Sreen et al., 2018; Wang et al., 2016; Wang et al., 2023; Yin et al., 2018) identifying the effects of enduring beliefs of living-in-harmony with nature and with each other on the acquisition, usage, and disposal phases of sustainable consumption. These values, encapsulated within Taoism and Confucianism, guide urbanised Chinese consumers to develop their faith in the importance of human-nature relationships to their society. This concurs with Li et al. (2016), and Lun (2012), who attest a harmonious life is possible when humans comprehend the importance of living in equilibrium with nature and each other. Hence, while critics argue western culture struggles with the notions of the interdependence between humans, nature and society (e.g., Li & Ernst, 2015; Rayman-Bacchus & Radavoi, 2019; Strife & Downey, 2009; Vining et al., 2008), these tensions appear somewhat less evident in urbanised China. Thus,

these cultural values are insightful to understanding these different phases of sustainable consumption behaviours in China.

However, two caveats emerge regarding the applicability of these harmonious cultural values. First, their direct influence on sustainable consumption behaviour varies. Second, the relationship between this harmony and behaviours is identity-dependent (i.e., indirect effects, see Section 5.2).

With respect to caveat one, the direct effects of MNO (see Table 3) mean the more strongly urbanised Chinese consumers believe in humankind-and-nature harmony, the more frequently they reduce their energy consumption such as turning off lights (H1b), avoid wasting food (H1d) and reuse their shopping bags (H1e). This suggests they use the principles in MNO advocating harmony with nature, to evaluate and reduce their consumption usage and disposal. Surprisingly, this direct and positive influence was not evident in their repairing/reuse behaviour of extending product lifetimes (H1c), nor their buying behaviours (H1a).

These results reinforce the importance of distinguishing between the phases of sustainable consumption (acquisition, usage, disposal) (Fischer et al., 2012) to understand the relative direct (and indirect) influence of MNO. This can help navigate mixed findings in previous studies. Our finding showing the insignificant direct influence of MNO on buying concurs with Jiang et al. (2020), and their insignificant link from MNO to low-carbon consumption behaviours. This suggests MNO affects buying-behaviour more indirectly (see Section 5.2) – lending support to previous work (Chan, 2001; Nguyen et al., 2022; Sreen et al., 2018) who found an indirect relationship between MNO and buying. Our findings give additional support to Chwialkowska et al. (2020) who pinpoint the indirect influence of cultural values (over direct effects) on pro-environmental behaviours. Moreover, Nguyen et al. (2022) show cultural distinctions within this relationship, which was found for Vietnamese but not South Korean consumers. However, this lack of a direct influence from MNO to buying contradicts the work of Chekima et al. (2016). Differences in methodological design may partially explain this variation, including: (1) specific actual behaviour (this study) versus broader pro-environmental consumption or purchase intention; (2) whether mediators are examined (see Section 5.2, caveat two). Notably, however, our study strengthens the evidence-base by highlighting the complex direct and indirect relationships between MNO and the different acquisition, usage and disposal junctures of sustainable consumption.

Moving on to the harmonious cultural values of H/V individualism–collectivism, our results show gradation in the direct behavioural effect of intrapersonal, interpersonal and social orientation. Only two direct effects are observed: on sustainable buying (H2a) and product lifetime extension behaviours (H4c). Specifically, horizontal collectivism only had a significant direct effect on sustainable buying (H2a, Figure 2). This suggests the more these consumers prioritise group goals, duties and obligations, the more frequent their sustainable buying behaviours. Conceivably, sustainable buying (e.g., buying organic food, products with less packaging) is more socially visible as a public behaviour with responsibilities, thus it directly benefits the collective good of the group. This proposition



aligns with horizontal collectivism, which serves to convey equality between individuals. However, horizontal collectivism did not directly affect curtailment (H2b), product lifetimes (H2c), food waste (H2d), and bag reuse (H2e). These results suggest these collective priorities are firmly located within buying, but not yet usage and disposal phases involving reduction or waste prevention behaviours, where there may be less social pressure.

While the direct effects of horizontal individualism on all behaviours were hypothesised (H4a–e), a significant direct effect was only found for product lifetime extension (H4c, Figure 2). This means that the greater self-reliance these consumers feel, the more frequently they will repair/reuse their existing products instead of throwing them away and avoid using disposable products. These consumers might assign their meanings or psychological attachment to the repair/reuse that is, ‘treasured possessions’ (Dermody et al., 2020). Repairing or reusing may also convey an individual's creativity, self-reliance, and competence. In turn, these consumers are able to express their uniqueness and achieve self-transcendence.

However, neither vertical collectivism (H3a–e), nor vertical individualism (H5a–e) significantly directly influenced sustainable consumption acquisition, usage or disposal, thus precluding support for these hypotheses. This insignificant finding differs from Cho et al. (2013) who found a negative link between vertical collectivism and environmental attitudes. We propose two tentative explanations. First, our insignificant finding on vertical collectivism (hierarchy, authority, and in-group goals) suggests Chinese consumers do not experience any demand from their in-groups, or authorities to achieve superiority over competing out-groups. Second, our insignificant effects of vertical individualism (competing for status, desire for uniqueness and hedonism) suggest the sustainable consumption phases offer no enhanced status to Chinese consumers. Potentially a direct effect might exist if their sustainable consumption entails status seeking for example, buying green luxury items. Overall, the absence of significant links partially echo Cleveland and Bartikowski (2018) who found no direct effect from H/V individualism–collectivism to market mavenism.

In summary, these limited direct effects of H/V individualism–collectivism confirm that collectivism alone cannot fully explain the sustainable consumption of urbanised Chinese consumers. This must also embrace the horizontal collectivism and individualism, thus supporting Singelis et al. (1995), and Triandis and Gelfand (1998). Further examination of these results shows a connection between these harmonious cultural values and PESI (Figure 2). The discussion now moves on to consider caveat two, the relationship between these cultural values, PESI and sustainable consumption behaviours.

## 5.2 | The relationship between cultural values, PESI, and sustainable consumption

Regarding caveat two, our findings show PESI partially or fully mediates the influence of MNO (H6), horizontal (H7) and vertical (H8) collectivism, and horizontal individualism (H9) on the five sustainable

consumption behaviours (see Appendix 3 for a summary of the hypotheses testing). Thus, our findings confirm a relationship does exist between cultural values, PESI and sustainable consumption. Building from Anheier (2020), Chwialkowska et al. (2020) and Czarnecka and Schivinski (2021), we illustrate how PESI absorbs the embedded beliefs in cultural values and translates this into consumers' responsibility to consume sustainably spanning acquisition, usage and disposal. Thus, we strengthen the evidence that PESI is an important mediator between values and Chinese consumers' sustainable buying and curtailment behaviours (Dermody et al., 2018); notably extending this to under-researched waste reduction and prevention consumption usage and disposal too. Furthermore, our findings on the differentiated effect of culturally-orientated self-expression on sustainable consumption acquisition, usage and disposal support the importance of recognising the heterogeneity and specificity of these behaviours (Chwialkowska et al., 2020; Dermody et al., 2018; Fischer et al., 2012; Gatersleben et al., 2014). In sum, we show how cultural values-based pro-environmental self-identity can influence the phases of sustainable consumption behaviour that consumers choose. The testing of H/V individualism–collectivism and five types of sustainable consumption offers further insight into the nuances in this relationship (see Table 2 for the indirect effects and Figure 2 for significant results).

Focusing on the specific cultural values offers further insight into their relationship with PESI and consumption. Thus, the influence of MNO on buying (H6a) and product longevity (H6c) fully mediated by PESI (Figure 2), suggests a harmonious nature-affinity balance within PESI. Hence, in line with Anheier (2020), Hitlin (2003), Schultz and Tabanico (2007), this nature orientation constitutes part of a cohesive PESI that directs the sustainable consumption choices of urbanised Chinese consumers. Additionally, the significant indirect effects of horizontal collectivism and vertical collectivism on all behaviours, via PESI, is interesting, given their limited/insignificant direct effects (i.e., HC-H2a, sustainable buying; VC-H3a–e). As identity expresses our cultural values (Anheier, 2020), in addition to a nature-identity affinity, PESI also represents the harmony within collectivistic interpersonal relationships and social ties, which helps explain these indirect effects. The influence of socio-cultural connected identity in motivating pro-environmental behaviours in the West is less understood (Brick & Lai, 2018). However, our findings on how Chinese socio-cultural harmonious cultural values influence PESI and sustainable consumption, offer insight for other cultures to explore.

Accordingly, our research contributes to understanding the relationship between harmonious cultural values (MNO, horizontal collectivism, vertical collectivism, and horizontal individualism), PESI, and sustainable consumption acquisition, usage and disposal behaviours (Figure 2). These values extend the explanation of consumers' culturally-orientated self-expression and its influence on consumption behaviour (Anheier, 2020; Carpenter, 2000; Oyserman, 2009). Thus, the enduring belief system underpinning these cultural values appears to infuse and guide PESI and sustainable consumption phases. This can reinforce consumers who have affinity with nature, value equality and freedom for the benefits they can bring to all, prioritise others



before themselves, and possess self-determination to drive these goals forward for ecological and societal good.

In contrast, this configuration excludes vertical individualism (H5a-e and H10a-e), which stresses independence and being unique, or different from others (Cleveland & Bartikowski, 2018; Singelis et al., 1995). This me-first value may reduce cooperation with others for mutual benefit, or societal goals. Thus, it contradicts the harmony in MNO and collectivism.

## 6 | CONTRIBUTION, IMPLICATIONS AND FUTURE RESEARCH

### 6.1 | Theoretical contribution

Our study increases understanding of the connection between harmonious cultural values facilitating nature- and social-human relationships, PESI and sustainable consumption behaviours. It illustrates how these cultural values influence this identity, to enable it to be experienced and expressed through sustainable consumption choices. Thus, it makes a distinctive contribution to theorising how cultural values-based self-identity influences sustainable consumption acquisition, usage and disposal behaviours. Specifically, the findings contribute to cultural values and identity theory by showing PESI-based sustainable consumption is equally rooted in a cultural, and thus a societal belief system premised on 'doing good' by living in harmony with nature (MNO) and humans (H/V individualism-collectivism) to sustain the planet.

A meso perspective bringing macro and micro orientations together is helpful here. Hence, a macro cultural-values perspective offers a deeper understanding of how societal belief structures can infuse PESI (typically viewed as micro-individual), in turn supporting consumers' endeavours to consume more sustainably. Interestingly, these values may be reconfiguring PESI as less individually-orientated and more socio-cultural beliefs directed than other types of consumption-based identity. Hence, consumers with a cultural values-based PESI do not behave as individuals. Instead, they engage with their nature and human wellbeing responsibilities as part of a shared societal change movement that is beneficial to all. China and Asian nations – broadly accepting harmonious cultures – may have some advantage here. Even so, change movements are embedded within western cultures, hence there is scope for this collaboration to grow. This is fertile ground for future research.

### 6.2 | Managerial implications

The cultural values-based self-identity theory contribution of this study means that academic researchers, policymakers and marketers need to widen their scope beyond perceiving sustainable consumption as predominantly a personal behaviour choice. Policies to support these endeavours are important in helping such initiatives to thrive. Potentially, our findings could act as a case study where other cultures

resurrect or strengthen cultural values beliefs of their societal heritage to help address the climate emergency now and in the future. This is a rich area for interdisciplinary future research, the reorientation of sustainable marketing practice, and policy development.

Our study also demonstrates the importance of researching the phases of sustainable consumption, namely private and public acquisition, usage and disposal to identify where and why cultural values and identity interact differently with these behaviours. Marketers can use this to develop more tailored messages, for example to inform consumers of the connection between nature and buying, and to reinforce increasing sustainable consumption usage and disposal – thus promoting more sustainable consumption behaviours. Such initiatives could align with new eco-labelling designed to increase consumers' comprehension, for example, wildlife-friendly labels on food, reflecting MNO. This also offers research and policy opportunities.

### 6.3 | Limitations and future research directions

Despite the contributions of this study, there are inevitable limitations. Its cross-sectional design could raise concerns regarding main effect, or generalisability of the findings. Additionally, while utilisation of an online consumer panel facilitated pertinent sample recruitment, sample representativeness should be evaluated. This study lays a foundation for future research using mixed and multi-method designs to help address these concerns. In addition to the further research identified in Section 6.1 and 6.2, future studies could introduce other mediating effects for example, combining with social norms and other cultural values. This is particularly pertinent given China's ongoing rapid transformation, where the influence of harmonious MNO and H/V individualism-collectivism may shift over time. Research endeavour is needed to capture these future differences to evaluate their identity, behavioural and societal implications.

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#### CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

#### DATA AVAILABILITY STATEMENT

Research data are not shared.

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## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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