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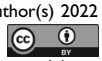
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Consumers' Environmental Sustainability Beliefs and Activism: A Cross-Cultural Examination

Constantinos N. Leonidou, Verena Gruber, and Bodo B. Schlegelmilch

Abstract

Environmental sustainability research suffers from a paucity of comprehensive, cross-cultural investigations and lacks insight into the interplay of human values and environmental beliefs and behaviors. In addition, despite the importance of understanding why consumers engage in active attempts to protect the environment, studies examining the role of environmental sustainability activism remain scarce, poorly integrated, and ill-defined. Against this backdrop, this research captures the links of specific human values with environmental sustainability beliefs and their subsequent relationships with individuals' environmental sustainability activism and quality of life. Using data from the United States and China, the authors show that religiosity and interdependence are consistently related to environmental sustainability beliefs, whereas, contrary to previous findings, materialism has no significant relationship. In addition, generativity is positively linked with environmental sustainability beliefs only in the U.S. sample, whereas family values are significant only in the China sample. The results show that environmental sustainability beliefs influence environmental sustainability activism, which in turn is linked with individual perceptions of superior quality of life. The study discusses several implications for practice and identifies fruitful future research directions.

Keywords

values, value–belief–norm theory, environmental sustainability, activism, beliefs, quality of life

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Consumers around the globe are becoming increasingly aware of sustainability issues in their everyday lives, and they espouse the adoption of corporate citizenship behaviors among companies (Hume 2010; Tran and Paparoidamis 2020). Although sustainability, commonly defined as "the development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development 1987, p. 43), encompasses not only environmental aspects but also social and economic dimensions (Elkington 1997), it is distress about environmental degradation that has reached unprecedented levels and has resulted in sustainability becoming a crucial topic for societies, public policy, and the private sector (Varadarajan 2014). However, some people question the human impact and severity of environmental problems, such as climate change, water pollution, and animal extinction (Poortinga et al. 2011). Thus, there are significant variations in the strength of consumers' environmental sustainability beliefs, which we define as an individual conviction that humanity has the ability to upset the balance of nature, that there are limits to growth for human societies, and that humanity has no right to rule over the rest of nature (Dunlap et al. 2000).

Understanding such differences in environmental sustainability beliefs is important as it can help us better understand individual consumer behavior and active attempts to protect the environment. Specifically, looking into environmental sustainability beliefs can shed light on why some consumers more easily adopt pro-environmental behaviors, such as reducing their car usage (Jakovcevic and Steg 2013), participating in smart energy systems (Van der Werff and Steg 2016), or

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marching to protest about environmental transgressions (Dono, Webb, and Richardson 2010).

Researchers widely investigate the influence of individuals' sociodemographic characteristics (e.g., gender, income) on sustainability beliefs and behavior (Diamantopoulos et al. 2003; Dietz, Stern, and Guagnano 1998). However, beyond this individual focus, communal (or group-level) influences receive less attention from marketing researchers. Among these influences, studies call for further research on the role of human value systems and the implications for global marketers (e.g., Chamorro, Rubio, and Miranda 2009; Kilbourne and Beckmann 1998). Although general and broad human value systems (Schwartz's typology) are widely studied, specific human values such as religiosity, materialism, and interdependence are mostly examined in isolation or receive less attention (e.g., family values, generativity) from scholars (Phillips et al. 2013; Sheth, Sethia, and Srinivas 2011). Examining explicitly related variables in isolation can produce biased results and lead to erroneous conclusions (Jean et al. 2016). This approach is worrisome given the important role that specific human values can play in helping policy makers understand how environmental sustainability beliefs are shaped and how concern about the state of the environment is manifested in actions.

More importantly, although the tendency toward sustainability accelerates with growing globalization and despite the fact that environmental knowledge and practices differ across countries (Grinstein and Riefler 2015), it still remains unclear "why cross-cultural differences exist" (Chwialkowska, Bhatti, and Glowik 2020, p. 1), thus highlighting the importance of appraising the social and cultural context (Hartmann and Uhlenbruck 2015; Zeriti et al. 2014) and examining sustainability issues with greater intensity in the international marketing domain (Eteokleous, Leonidou, and Katsikeas 2016). This research is important because managers have limited guiding frameworks on how to engage consumers with sustainability across international markets (Zeriti et al. 2014) and lack theoretical knowledge on the sustainability challenges derived from cross-cultural considerations and differences. Understanding environmental sustainability beliefs and how people become environmentally active in different contexts can aid in developing more effective marketing campaigns appealing to the idiosyncratic needs of those markets.

In addition, although research examines various types of pro-environmental behavior such as recycling, waste reduction, and purchasing environmentally friendly products, studies on the role of environmental sustainability activism remain scarce, poorly integrated, and ill-defined (Dono, Webb, and Richardson 2010). Studying behaviors that demonstrate collective strength through involvement in social movements and environmental causes is important for more effective sustainable development (Paço and Rodrigues 2016), whereas the individual benefits of such involvement are still poorly understood. Finding ways to improve well-being without increasing resource consumption is a challenge for governments around the globe. One way to do this is to evaluate consumers' environmental behaviors and how their personal environmental activism can help enhance positive feelings about their lives. Being part of the solution to local and global sustainability problems can empower and inspire people to be happier and adopt more sustainable lifestyles at the same time.

Against this background, the primary objective of our research is to contribute a cross-cultural understanding of consumers' beliefs on environmental sustainability and how such beliefs can be associated with activism and quality of life. Taken collectively, our findings contribute to the international marketing and sustainability literature streams in two ways. First, we investigate the link between sustainability beliefs and environmental activism, such as participation in events organized by environmental groups, financial support given to such groups, circulation of environment-related petitions, and protests against current environmental conditions (Dono, Webb, and Richardson 2010), and we examine the implications of sustainability activism on perceptions of quality of life. To our knowledge, we are the first to study the link between environmental sustainability beliefs, activism, and quality of life in a cross-cultural context. This research is new and important because it sheds light on the interplay of environmental sustainability beliefs and activism in different cultures and allows scholars and practitioners to understand why individuals who are high in environmental sustainability beliefs might be more or less responsive to clarion calls for environmentally related actions in different cultural contexts. It also helps provide unique guidance on how to approach and communicate about environmental sustainability in different countries and offers an improved understanding of how people's relationship with and actions related to the environment can influence their own well-being in an increasingly global world.

Second, we draw a clear distinction between general and specific human value types, in contrast to the bulk of previous research that treats these types of values interchangeably. Such a distinction is relevant as specific values can be leveraged in marketing strategies, for example by priming the values more apt to encourage sustainable behaviors. Further, we include culture as a moderator and provide evidence on how values exert a distinct influence in different national contexts, making our study one of the few in this research domain to do so (e.g., Do Paço et al. 2013). By doing so, we help advance this important stream of work with the extension of the value–belief–norm (VBN) theory to the international marketing domain, and we illustrate how values relevant in a cross-cultural context play a role in the VBN framework.

Conceptual Background

Human Values and Their Relationship to Sustainability

Human values are "centrally held, enduring belief[s] which [guide] actions and judgments across specific situations and beyond immediate goals to more ultimate end-states of existence" (Rokeach 1968, p. 161). Value systems constitute the breeding ground for individual predispositions and thus "form a motivational core that ultimately manifests in human

behavior" (Marcus, MacDonald, and Sulsky 2015, p. 460). Individuals are socialized in value systems that predispose them to certain beliefs and that are further absorbed and reinforced in society.

Although the study of human values originates in the fields of anthropology and sociology (Bronowski 1956; Thomas and Znaniecki 1927), human values also receive interest in the social psychology literature as a means to understand behavior. Clawson and Vinson (1978, p. 400) propose that "values may prove to be one of the most powerful explanations of, and influences on, consumer behavior. They can perhaps equal or surpass the contributions of other major constructs including attitudes, product attributes, degrees of deliberation, product classifications, and life styles." Research examines human values to better understand various aspects of firms' entrepreneurial behavior (Morris, Davis, and Allen 1994), gift-giving (Beatty, Kahle, and Homer 1991), and management styles (Bigoness and Blakely 1996; Elenkov 1997; Morris et al. 1998). Human values can also influence identity, cognition, and various behaviors, including product usage, innovation adoption, and complaining (De Mooij and Hofstede 2011).

Researchers most widely use Schwartz's values to investigate value systems in the environmental sustainability domain. Schwartz (1992) categorizes human values into ten categories (e.g., power, achievement, tradition) that can be reorganized into four more general value categories: conservation, self-transcendence, openness to change, and self-enhancement. Because Schwartz's typology is intentionally general and broad (Burroughs and Rindfleisch 2002), many researchers explore specific values within the environmental context, including materialism (e.g., Kilbourne and Pickett 2008; Strizhakova and Coulter 2013), collectivism–individualism (Morren and Grinstein 2016), interdependence–independence (e.g., Liu and Segev 2017; McCarty and Shrum 2001), "concern for and commitment to the well-being of future generations" (McAdams and Logan 2004, p. 16), a concept known as generativity (e.g., Urien and Kilbourne 2011; Wells et al. 2016), family (Sheldon, Nichols, and Kasser 2011), and religiosity (e.g., Felix et al. 2018; Minton, Kahle, and Kim 2015). These specific human values appear to be the most prominent in this literature stream. Web Appendix A presents relevant studies organized by the main values examined.

In terms of dependent variables examined, studies assess the relationship of values with the perceived inconvenience and importance of recycling (McCarty and Shrum 2001), pro-environmental behaviors (Kalamas, Cleveland, and Laroche 2014), new environmental paradigms (Mostafa 2007), sustainable (consumption) behavior (Sharma and Jha 2017), and environmentally friendly tendencies (Strizhakova and Coulter 2013). In addition, many studies explore the relationship of values with environmental beliefs (e.g., Collins, Steg, and Koning 2007; Kilbourne and Pickett 2008), attitudes (e.g., Cho et al. 2013; Leonidou, Leonidou, and Kvasova 2010), and concerns (e.g., Do Paço et al. 2013; Felix et al. 2018). On the one hand, this pluralism helps demonstrate the role of values in many different areas within the environmental sustainability domain; on the other hand, the lack of uniformity in the dependent variables limits theoretical advancement and empirical comparability.

With regard to the direction of results, the literature provides contradicting evidence. For instance, generativity is found to have a conducive role in influencing environmental concern (Do Paço et al. 2013), consumers' sensitivity to corporate social performance (Giacalone, Paul, and Jurkiewicz 2005), and eco-friendly behavioral intentions (Urien and Kilbourne 2011). Similarly, results from studies conducted by Leonidou, Leonidou, and Kvasova (2010) and Liu and Segev (2017) corroborate the positive effect of collectivism and interdependence on environmental values and attitudes, respectively.

Similarly, studies relating to materialism also show inconsistent results. Kilbourne and Pickett (2008) find that materialism has a negative association with environmental beliefs, whereas Strizhakova and Coulter (2013) report no significant association between materialism and concern for environmentally friendly products, willingness to pay extra for environmentally friendly products, or likelihood to engage in environmentally friendly behavior. Along the same lines, Felix and Braunsberger (2016) find no significant link between intrinsic religious orientation with environmental attitudes, whereas Felix et al. (2018) report a positive association between religiousness and concern for the environment. Our review of the literature illustrates important inconsistencies that scholars need to address. We contend that such inconsistent findings are due to (1) a lack of consideration for the cultural context and (2) the tendency to examine general and specific values in isolation or to use different measures.

Early studies examine human value systems in the United States, Denmark, and the United Kingdom, whereas more recently, researchers increasingly investigate value systems in emerging market settings, such as China, Brazil, and India. Only a handful of studies employ cross-cultural research designs and draw comparisons between samples (e.g., Felix et al. 2018; Strizhakova and Coulter 2013). Thus, the literature still lacks a comprehensive analysis of how relationships to such values can vary in cross-cultural contexts, and there is a need to investigate human values, understand deviations across cultures, and theorize why associations with such values might not hold universally across different countries.

Given that awareness of environmental sustainability beliefs is increasing on a global scale but varies across cultures (Morren and Grinstein 2016; Mostafa 2007), approaching this area from a cross-cultural standpoint is important. The United States and China are two particularly interesting cases: these countries are the two largest emitters of carbon dioxide in the world (Boden, Marland, and Andres 2017) but, at the same time, face distinct environmental problems and follow disparate strategies to combat them (BBC 2020). In addition, the political, economic, and cultural context is very different. For example, leaders in China "once believed that humans could and should conquer nature and that only capitalist societies suffered from environmental damage" (Liu and Diamond 2005, p. 1181). Consumers in these two countries have different

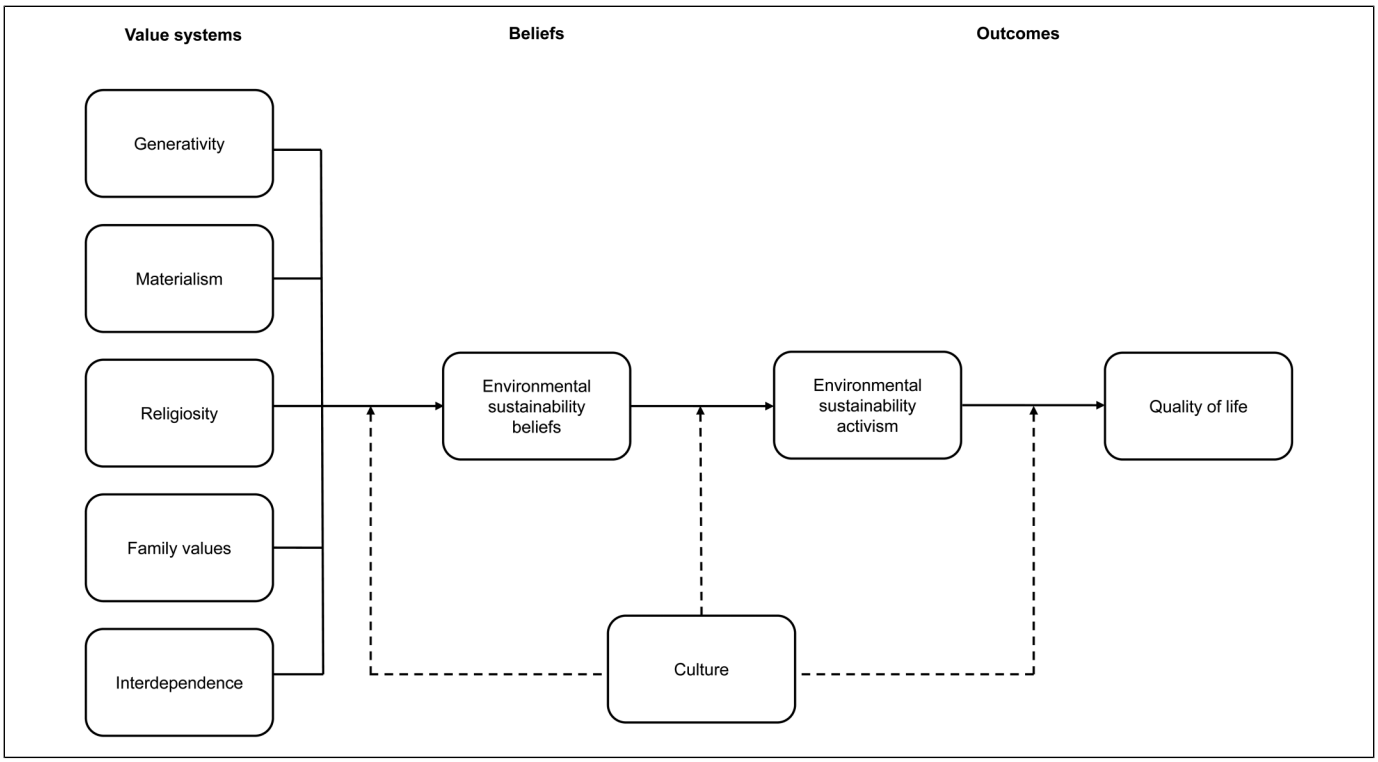

Figure 1. Conceptual model.

relationships with material possessions, a different approach to viewing the environment as a public good that needs protection or a resource to be mobilized, and different interests in environmentally friendly consumption (Chan 2001). Because of their unique cultural backgrounds, we expect to find differences in the way cultural values relate to environmental sustainability beliefs and behaviors.

VBN Theory

VBN theory is a theoretical framework that scholars have widely used to understand environmental behavior (Stern et al. 1999). This theory proposes that beliefs and normative considerations about the environment are rooted in values that serve as guiding principles in life (Schwartz 1992; Stern et al. 1999) and that these, in turn, affect pro-environmental behaviors (Hiratsuka, Perlaviciute, and Steg 2018; Steg, Dreijerink, and Abrahamse 2005; Van der Werff and Steg 2016). Individuals adopt actions based on their beliefs, aiming to alleviate their worries about the environmental situation (Bouman, Steg, and Perlaviciute 2021; Oreg and Katz-Gerro 2006). Initial evidence from Argentina (Jakovcevic and Steg 2013), Russia (Ünal, Steg, and Granskaya 2019), and several European countries (De Groot and Steg 2008) provides support for the cross-cultural applicability of VBN theory. The original conception of VBN includes altruistic, egoistic, traditional, and openness-to-change values (Stern et al. 1999), although more recent research informed by VBN theory adapts and expands the use of various personal and country-level value orientations (Oreg and Katz-Gerro 2006; Steg, Dreijerink, and Abrahamse 2005).

Figure 1 shows the conceptual model of the study, which is grounded in VBN theory and comprises three major parts: value systems, beliefs, and outcomes. The model outlines the relationships of the specific values of generativity, materialism, religiosity, family values, and interdependence with environmental sustainability beliefs, which focus on the "beliefs about humanity's ability to upset the balance of nature, existence of limits to growth for human societies, and humanity's right to rule over the rest of nature" (Dunlap et al. 2000, p. 427). Although some of these values have been examined in the environmental sustainability domain, they have been evaluated in isolation and without a focus on cross-cultural differences. Finally, building on insights from the literature, the model links environmental sustainability beliefs with environmental sustainability activism and quality-of-life perceptions. Accordingly, we develop 14 hypothesized links between the constructs of the model.

Generativity

The psychoanalyst Erik Erikson (1950) introduced the concept of generativity and later described it as the concern to establish and guide the next generations (Erikson 1963, p. 267). Kotre (1984) builds on Erikson's work and suggests that generativity is what motivates individuals to invest in work and life projects that outlive them. Although Erikson (1950) believes that generativity develops early in one's personality development and is

passed on through parenthood, teaching, mentoring, and leading, Kotre (1984) contends that this value is not associated with a particular life stage but can exist throughout life. From a sociological perspective, generativity is a resource encouraging people to operate in the interest of the public good to maintain intergenerational continuity (Urien and Kilbourne 2011). The seminal work of McAdams and De St. Aubin (1992) conceptualizes generativity as the configuration of seven interrelated psychosocial features grouped around the individual and cultural goals of giving to the next generation, namely cultural demand, inner desire, generative concern, belief in the species, commitment, generative action, and personal narration. It is important to distinguish between generative concern and generative action because the two are related but manifested in different ways. Our focus is on the former, and for the purposes of this study, generativity is defined as an individual's conscious concern and a commitment to having a positive and enduring impact on others in society and ultimately helping future generations (McAdams, De St. Aubin, and Logan 1993; McAdams and Logan 2004).

An adult high in generativity is concerned about contributing to society in general and the next generation in particular. Engagement in prosocial behaviors is one way to address such concerns about the well-being of future generations (Barnett, Archuleta, and Cantu 2019; Lawford and Ramey 2015). In a similar vein, environmentalism constitutes an important factor in expressing generativity (Jia et al. 2016), and generativity has been shown to mediate the influence of political orientation on pro-environmental attitudes (Barnett, Archuleta, and Cantu 2019). This is because environmental issues are not only intragenerational problems but intergenerational ones too, as they are present over different generations, including future generations (Shahen, Shahrier, and Kotani 2019). Jia et al. (2016) conduct a longitudinal analysis over nine years and four measurement waves and find that higher levels of generative concern lead to a more salient environmental narrative identity. Wells et al. (2016) find that employee attitudes with regard to water and energy saving at both home and work are positively linked to generativity. Shiel, Do Paço, and Alves (2020) find a positive link between generativity and an individual's green consumption values. Against this background, we posit the following:

H_{1a}: Generativity is positively related to environmental sustainability beliefs.

Western and Eastern cultures have very different temporal orientations. Western cultures, such as U.S. culture, are short-term oriented, with a more static mentality and a tendency to preserve past and present realities (Hofstede and Bond 1988). Western societies have a tendency to seek immediate results and avoid looking well into the future. Eastern cultures, such as China, have more future-oriented values as individuals are proactive in nature, have a strong work ethic, and are characterized by thrift (Hofstede and Minkov 2010). They are willing to persevere and play the long game. Historically, China has been a farming country, where conservation was important for long-term planning and thriftiness was a highly valued virtue that to this day forms the backbone of China. This thinking guides people to be cautious and engage in long-term thinking, in line with the teachings of Confucius (Fu et al. 2007). In addition, people from China generally put significant emphasis on personal connections and relational ties that are developed over time, further reinforcing the long-term perspective prevalent in Chinese society (Wang, Shi, and Barnes 2015). In such contexts, environmental sustainability beliefs might be more strongly linked with generativity than they are in Western contexts, where consumers might be less motivated to take a long-term view and instead focus on the short term. Thus, we hypothesize:

H_{1b}: The positive link between generativity and environmental sustainability beliefs is weaker for consumers in Western cultures than for consumers in Eastern cultures.

Materialism

The importance ascribed to material possessions is another key value for understanding variation in environmental sustainability beliefs. Materialism is a multifaceted human value orientation that captures the degree of importance and centrality that individuals attach to possessions (Belk 1985; Richins and Dawson 1992; Segev, Shoham, and Gavish 2015). The stronger this orientation, the more prominent possession and acquisition of material goods are as means to reach important life goals (Ahuvia and Wong 2002; Richins 2017). Research commonly conceptualizes materialism by how much value individuals ascribe to possessions (Burroughs and Rindfleisch 2002; Kasser and Ryan 1993; Richins and Dawson 1992) and how much happiness they derive from them (Segev, Shoham, and Gavish 2015). Richins and Dawson (1992, p. 307) define materialism as "the importance a person places on possessions and their acquisition as a necessary or desirable form of conduct to reach desired end states."

The relationship between materialism and sustainability-related outcomes can be seen through negative lenses. As a single value related to sustainable behavior, Banerjee and McKeage (1994) examine materialism's relationship to environmentalism, defined as a set of beliefs leading to behavioral consequences such as consumption choices or environmental protection. They find a negative relationship between materialism and environmentalism and conclude that they are competing value orientations toward the conservation of the environment and broader social goals. One of the basic reasons for this compatibility issue is that materialism focuses on the importance of material possessions, embraces consumerism, and encourages conspicuous consumption, which seem to be some of the culprits for current environmental problems. Thus, people with materialistic values have lower levels of pro-environmental views and are less likely to exhibit pro-environmental behaviors (Gu et al. 2020). In addition, the more materialistic individuals are, the

less they believe that environmental problems exist (Kilbourne and Pickett 2008). This is because materialistic individuals are likely to distort (or even block) environmental information that conflicts with their materialistic lifestyles. Because environmentalism is a newer phenomenon, it is less integrated into cognitive structures within societies, in comparison to materialistic values, which seem to be better institutionalized (Kilbourne and Pickett 2008; Podoshen, Li, and Zhang 2011). As a result, a conflict between materialism and environmentalism likely ends in favor of the former.[1] Thus, we hypothesize:

H_{2a}: Materialism is negatively related to environmental sustainability beliefs.

For many decades, environmentalism has been at odds with materialism because of the idea that materialism has been driving the production of more goods and discounting the importance of reducing consumption, reusing products, and recycling raw materials. Thus, tensions existed when balancing economic and environmental responsibilities and realities. This has changed in the last two decades, with increasing discussions emphasizing how the two can coexist in harmony. For consumers in Western cultures, these tensions might be more difficult to overcome given the long history and tradition of a particular consumerist lifestyle. In contrast, consumers in Eastern cultures were introduced to materialism and environmentalism more recently and roughly at the same time, and thus they may find it easier to balance the two perspectives in a "symbiotic" way (Strizhakova and Coulter 2013). In their study of Asian countries, Awanis, Schlegelmilch, and Cui (2017) find important differences between self- and collective-oriented materialists in terms of their value structure. Collective-oriented materialists display more prosocial behavior, which suggests that they are also more likely to display pro-environmental beliefs. Thus, materialism will be in greater congruence with environmental sustainability beliefs among consumers in Eastern cultures than among consumers in Western cultures. Given the previous arguments, we propose the following:

H_{2b}: The negative link between materialism and environmental sustainability beliefs is stronger for consumers in Western cultures than for consumers in Eastern cultures.

[1] In some cases materialism might be positively linked to environmental sustainability beliefs. This is due to the importance materialists attach to judgments of others (Chang and Arkin 2002) and their social insecurity, which leads them to modify their behavior to suit others (Richins 2017). Given the rising media coverage on and social concern about environmental degradation, materialists might seek products/services to confer status (Goldsmith and Clark 2012), fit the narrative, and self-represent by projecting pro-environmental sustainability beliefs and behaviors. Indeed, Griskevicius, Tybur, and Van den Bergh (2012) show that when status is activated, people are more likely to choose green products in an effort to signal their environmental friendliness.

Religiosity

Religion is a guiding value in the life of many individuals, but despite its pervasive influence, marketing research offers only limited insights (Mathras et al. 2016). Religion is the belief in a particular divine or spiritual concept that an individual adheres to or the religious group (e.g., Christian, Jewish, Muslim) and denomination (e.g., Baptist, Presbyterian) that a person belongs to. Religion (or religious affiliation) is different from religiosity (or religious values), which is defined as "the commitment one has to belief in the divine and the importance one places on religion in life" (Burroughs and Rindfleisch 2002, p. 357). Religiosity captures the strength of one's beliefs and can influence important aspects of an individual's life, everyday activities, interactions, and behaviors (Zolfagharian and Ulusoy 2017). Research on the link between religiosity and sustainability beliefs and attitudes is fragmented and provides mixed results.

On the one hand, Glock and Stark (1965) suggest that religiosity helps deal with worldly problems, whereas evidence from Mazereeuw-van der Duijn Schouten and Kaptein (2014) shows that an individual's religiosity positively relates to some social and ethical aspects, such as ethical/philanthropic responsibility. More recently, some studies provide support for a positive relationship between religiosity and socially conscious consumer behavior (Pepper, Jackson, and Uzzell 2011) and between sustainable consumption attitudes and behaviors (Minton 2013; Minton, Johnson, and Liu 2019). Similarly, in a large 34-country study, Felix et al. (2018) highlight a weak but positive relationship between religiosity and pro-environmental values.

On the other hand, Wolkomir et al. (1997) and Minton (2013) find that individuals high in religiosity are less likely to adopt sustainable practices than individuals low in religiosity. This is because individuals high in religiosity may have more pronounced religious priorities (e.g., focusing on people, family, morals) that are strictly followed and overrule environmental sustainability beliefs. Furthermore, these individuals tend to be less willing to be associated with an outgroup that is more focused on environmental matters (Minton, Johnson, and Liu 2019). In addition, Arbuckle and Konisky (2015) find that people who are low in religiosity are more concerned about environmental protection; their study empirically demonstrates a negative link between religiosity and environmental concerns. From this reasoning, individuals who are high in religiosity will focus primarily on their respective religious doctrine, which can interfere with and overrule other beliefs, such as those related to environmental protection. Against this background, we hypothesize:

H_{3a}: Religiosity is negatively related to environmental sustainability beliefs.

In line with the continuous efforts of governments to bring sustainability to the forefront of their political agendas, religious leaders increasingly embrace environmental issues. Thus, there is evidence of a paradigm shift among religious people

around the world (Felix et al. 2018), even though there are some important differences across cultures in the role of religiosity in motivating sustainable behaviors (Kaplan and Iyer 2021).

In Western religious traditions, the predominant religious doctrines (such as Christianity) are based on a fundamentally anthropocentric worldview and thus could contradict pro-environmental values (Minton, Kahle, and Kim 2015; White 1967). For example, the Christian doctrine emphasizes the role of humans in controlling and dominating the natural environment and cultivates the belief in divine intervention and the acceptance of catastrophes as God's power and will. Instead, Western religious traditions emphasize the importance of helping, loving, and caring for others and improving overall standards of living. A 2015 religious landscape study in the United States revealed that consumers following Western religious doctrines seem to believe more strongly in the negative impact of environmental laws and regulations on jobs and the economy, whereas belief in God seems to be correlated with this negative economic view as well (Pew Research 2015a). Similarly, empirical findings point to a negative relationship between environmental concern and a belief in the Bible (Eckberg and Blocker 1989) or Biblical literalism (Schultz, Zelezny, and Dalrymple 2000). In addition, people in Western countries, such as the United States, seem to be more individualistic in nature, emphasizing more self-enhancement and short-term gratification (Hofstede 2001).

In contrast, Eastern religions and traditions (such as Buddhism, Hinduism, and Taoism) tend to be more connected with nature and the importance of conservation for future generations. This is because the pantheistic view that comes from such religions and traditions tends to side with the view that destroying nature can hurt God and/or other divine beings (Hunt and Penwell 2008). For a long time, this has not applied to China, where the Chinese Communist Party once sought to restrict traditional religious practices as they were considered part of the country's "feudal" past (Poceski 2021). This gradually changed in the 1970s, as the party slowly permitted a more multifaceted revival of religion and traditions in China in an attempt to fill a moral void attributed to the rapid economic growth. Today, spiritual leaders in China are using concepts such as "karma" and "sin" in pointing out the problems of excessive economic development, while the country's leadership is now championing Chinese traditions, such as Taoism and Confucianism, and calling for an environmental awakening that emphasizes harmony with nature and collective behavior (Hernandez 2017). Atheism, however, remains the official party ideology in China, and the numbers of unreligious and agnostic people seem to be higher than in other countries (Albert and Maizland 2020). Although religiosity and spirituality seems to be "used" as a vehicle to promote a pro-environmental society (Yang and Huang 2018), overcoming years of religious prohibition and taboos on tradition is a difficult endeavor. Against this background, we expect:

H_{3b}: The negative link between religiosity and environmental sustainability beliefs is stronger for consumers in Western cultures than for consumers in Eastern cultures.

Family Values

A growing chorus of voices highlights that environmentalism can be derived from family values (Exter and Turner 2016; Kariyapperuma and Collins 2021). Family values are defined as the importance an individual places on cultivating and preserving close and caring connections with close family (Burroughs and Rindfleisch 2002; Faver 1981). Family plays a crucial role in the development of pro-environmental attitudes and beliefs because (1) values within a family socialize members into certain environmental beliefs and (2) the importance members attach to the family reveals their inclination to behave cooperatively. Literature on the former perspective demonstrates the relationship of family values with environmental attitudes and beliefs based on parent–child similarities, intergenerational transmission of environmental concerns, or the role of household descriptive norms. For example, Stevenson, Peterson, and Bondell (2019) draw on sociocultural learning theories to show the important role of the social environment, in particular family, in fostering climate change concerns among adolescents. The more central the role of the family is in a person's life, the more likely that person is to share views and discuss anthropogenic global warming and other environmental issues.

In a similar vein, Meeusen (2014) draws from a large-scale socialization study to examine the transmission of environmental attitudes within the family, a process that is further influenced by parenting style (Grønhøj and Thøgersen 2017) and parent–child similarities (Grønhøj and Thøgersen 2009). Research on the latter dimensions focuses on the positive influence of family values on environmental concern. Family values capture the importance of family as a source of purpose and meaning and reflect "the value placed on developing and maintaining close and caring relations with one's immediate family" (Burroughs and Rindfleisch 2002, p. 357).

Research explicitly linking family values with sustainability is scant, but preliminary evidence underscores an important relationship: Sheldon, Nichols, and Kasser (2011) find that activating intrinsic values such as family influences students' environmental policy recommendations. Similar results have been replicated in different contexts, from the prisoner's dilemma to expression of concern: people who score high on such intrinsic values behave more cooperatively and consider others in their decision-making (Crompton 2011). Confirming this finding, Unanue et al. (2016) conclude that intrinsic life goals, such as building close relationships, predict environmentally responsible behavior. Anecdotal evidence from the private sector corroborates these relationships, suggesting that family values are crucial in pushing business sustainability (Exter and Turner 2016). Thus, we hypothesize:

H_{4a}: Family values are positively related to environmental sustainability beliefs.

The importance of family is not universal, and the way it influences beliefs, social life and economy differs from country to

country. For example, family values are highly relevant for Eastern cultures, and particularly in China, where people regard the family as the most important life goal and the "building block" of Chinese society (Hu and Scott 2016). Families in China represent love and unity and are considered a safe place for individuals and a way to identify the character of people. For thousands of years, inheriting a good family value was something to be proud of and was highly appreciated in Chinese society (Peng 2021). Family values are also important in Western cultures, such as the United States, despite the fact that the notion of family is increasingly becoming more fluid, as there is no longer a dominant family form (Pew Research 2015b). Traditional U.S. family values give way to contemporary family values, becoming free of some of the limitations present in the traditional belief systems.

Certain family-related distinctions between China and the United States allow for a stronger link between family values and environmental sustainability beliefs to exist. For example, Chinese families encourage harmony, require family members to keep on the rails, emphasize children's love and respect for their parents, and support older family members by living with them in the same household, whereas American families uphold individual characters, equality, and independence (Peng 2021). American families encourage independent decision making by children, support them to break out of the nest more quickly, and cultivate the importance of self-enhancement and achievement. Given that the concept of family values is more central in the Chinese culture and that preservation, continuity, and harmony with nature tend to be particularly important for Chinese families, it is plausible to argue:

> **H_{4b}:** The positive link between family values and environmental sustainability beliefs is weaker for consumers in Western cultures than for consumers in Eastern cultures.

Interdependence

People in different cultures have distinct notions of the self. The construct of self-construal captures these distinct perceptions of selfhood and helps identify predominantly interdependent or independent individuals (Shavitt and Barnes 2019). Individuals' self-construal reflects their beliefs about the self and the extent to which it is connected with others (Cross, Bacon, and Morris 2000; Markus and Kitayama 1991; Singelis 1994). An interdependent self-construal captures a relatively strong connection with others and features "the person not as separate from the social context but more connected and less differentiated from others" (Markus and Kitayama 1991, p. 227), whereas an independent self-construal implies a more self-determining stance that "derives from a belief in the wholeness and uniqueness of each person's configuration of internal attributes" (p. 226).

The way individuals construct and understand themselves in relation to others and the realities around them has important consequences for their motivational processes and behaviors (Cross, Bacon, and Morris 2000). Indeed, research shows that self-construal influences corporate social responsibility engagement (Simpson, Robertson, and White 2020), donation behaviors (Simpson, White, and Laran 2018), prosocial behavior and generosity (Duclos and Barasch 2014), and self-gifting (Pusaksrikit and Kang 2016). Interdependent individuals engage in strong, cohesive, in-group ties among people and prioritize the goals of the in-group and the good of relationships with others over their personal goals (Liu and Segev 2017; Vohs and Heatherton 2001). In addition, they achieve self-enhancement from perceptions and emotions that remind them of their connectedness with others (Arnocky, Stroink, and DeCicco 2007).

The focus on others suggests that interdependent individuals have a stronger motivation to conform to societal expectations with regard to the environment (Cho et al. 2013; Pöhlmann and Hannover 2006). Mancha and Yoder (2015) provide evidence of this and demonstrate that interdependent individuals are more influenced by subjective norms related to environmental behaviors. Moreover, they are less likely to harm the environment (Arnocky, Stroink, and DeCicco 2007). Komatsu, Rappleye, and Silova (2019) corroborate the self-construal–environmentalism link by showing that independent individuals have consistently higher scores in environmental footprint calculations. Thus, we hypothesize:

> **H_{5a}:** Interdependence is positively related to environmental sustainability beliefs.

People in Western cultures tend to have an independent self-construal with an emphasis on maintaining distinctiveness, influencing others, and remaining free from constraints (Hofstede 2001; Shavitt and Barnes 2019). Traditionally, the United States has been considered an individualistic culture, with a society that prioritizes personal goals, individual achievements, and competitiveness (Sivadas, Bruvold, and Nelson 2008). In contrast, people in Eastern cultures tend to be more collectivistic, with a focus on promoting affiliation and a sense of belonging and conformity, adjusting to others' situations, and following traditions and obligations (Cho et al. 2013; Triandis 1996). Because of its Confucian heritage, China has been considered a very collectivistic country (Stojcic, Wei, and Ren 2020). Ascribing responsibility for individual and collective actions seems to be more embedded among people in collectivistic countries like China than in less collectivistic countries, and moral judgment is more evident when making decisions (Hofstede 2001). The latter is of particular relevance, since morality is considered an important dimension of pro-environmentalism (Barbarossa and De Pelsmacker 2016). In addition, avoiding guilt and saving face in such contexts is a stronger motivational factor than egoistic attitudes and pursuits (Cho et al. 2013; Onwezen, Antonides, and Bartels 2013). Thus, highly interdependent individuals in China have more opportunities to exhibit moral beliefs, decisions, and actions within the environmental sustainability

domain, and greater societal pressure to operate according to emerging group norms (such as living in harmony with nature), emphasizing group benefits over individual gains (Chwialkowska, Bhatti, and Glowik 2020). We thus hypothesize the following:

H_{5b}: The positive link between interdependence and environmental sustainability beliefs is weaker for consumers in Western cultures than for consumers in Eastern cultures.

Environmental Sustainability Beliefs, Activism, and Quality of Life

In line with our objective to conceptually link cultural value systems with individual environmental behaviors and to build on prior work modeling beliefs in relation to values (Dietz, Stern, and Guagnano 1998; Kilbourne and Pickett 2008), we focus on environmental sustainability beliefs as the link between values and behaviors (De Groot and Steg 2008). This view is anchored in VBN theory, which shows links from values to general beliefs, specific beliefs, and, eventually, behavioral intentions (Stern et al. 1995, 1999). Individuals with high environmental sustainability beliefs demonstrate a strong awareness and understanding of the general adverse consequences of human actions on environmental conditions and are considered to have pro-environmental views. Prior research in the environmental sustainability domain assesses both general beliefs (e.g., individuals' concerns about the general state of the environment; Dunlap and Van Liere 1978; Dunlap et al. 2000) and specific beliefs (e.g., individuals' beliefs about the existence of environmental problems, such as ozone depletion or recycling; Kilbourne and Pickett 2008; McCarty and Shrum 2001). Our focus is on general beliefs and the views individuals have about the environment and its relationship with human activity.

Consistent with VBN theory, environmental beliefs can influence environmental behaviors. We include environmental sustainability activism as an outcome variable that is focused on a broad set of behaviors aimed at changing or improving the quality of the environment and potentially influencing policy or management decisions (Séguin, Pelletier, and Hunsley 1998). Environmental sustainability activism differs from pro-environmental behavior, which is defined as consciously seeking "to minimize the negative impact of one's actions on the natural and built world" (Kollmuss and Agyemen 2002, p. 240) and usually manifests in consumer purchases (e.g., green products, sharing services), household actions (e.g., recycling, minimizing resource and energy consumption, turning down the thermostat), and transportation choices (e.g., using public transport, biking to work; Steg and Vlek 2009). Environmental sustainability activism is instrumental in improving the environmental situation, most clearly evidenced by the widespread Fridays for Future protests (Wallis and Loy 2021). More specifically, activism subsumes behaviors such as participation in environmentally related events, groups, or protests; provision of financial support to environmental groups; and active support of petitions relating to environmental matters (Dono, Webb, and Richardson 2010; Paço and Rodrigues 2016). Binder and Blankenberg (2016) show that environmental concerns lead to volunteer work, another form of environmental sustainability activism. In line with this literature, we contend that strongly held beliefs about the environment should predispose individuals to engage in environmental sustainability activism. Thus, we hypothesize:

H_{6a}: Environmental sustainability beliefs are positively related to environmental sustainability activism.

Street protests, volunteer work, and online petitions can be avenues to channel and externalize environmental sustainability beliefs in both Western and Eastern cultures. In the Western context, environmental sustainability activism has a long history. For instance, on April 22, 1970, 20 million people took to the streets across the United States to protest environmental destruction on what was to be the first Earth Day in history (Yeo 2020). Activism and protests are embedded in Western democracies and have a tendency to warn of future political and electoral change. Thus, individuals feel more empowered, enjoy the freedom to express themselves, and are active in civil matters when they think their involvement is needed (Heaney 2020). Environmental sustainability activism is also present in Eastern cultures. For instance, in recent years a vibrant environmental protest movement emerged in China to tackle the worsening environmental situation attributed to the rapid economic development and growth. However, people in high-context countries, such as China, appear to be more socially oriented, less confrontational, and more complacent with existing ways of living (Kim, Pan, and Park 1998). Indeed, Chinese environmentalism has been mostly fragmentary, highly localized, and nonconfrontational (Ho 2008). This can be attributed to the restrictive political environment, lack of liberal democracy, and authoritarian tendencies in the region. Thus, people high in environmental sustainability beliefs in Eastern countries might not be as ready to take to the streets as people from Western cultures and might be looking for different ways to externalize their high environmental sustainability beliefs, such as through individual purchases and household behavior. Given the previous arguments, we propose the following:

H_{6b}: The positive link between environmental sustainability beliefs and environmental sustainability activism is stronger for consumers in Western cultures than for consumers in Eastern cultures.

Quality of life is revealed in the way people experience and judge their overall life (Larsen and Eid 2008; Peterson 2012; Segev, Shoham, and Gavish 2015). Quality of life is an important construct that has attracted researchers from various

disciplines and has been investigated at various levels. On an individual level, prior research looks at the importance of behaviors, such as voluntary simplicity, to increase the perceived quality of life (Kuanr, Pradhan, and Chaudhuri 2020). We adopt the definition of Peterson, Ekici, and Hunt (2010, p. 550), who conceptualize quality of life as "the affective experiences and cognitive judgments about one's life." As a subjective measure, quality of life constitutes "an overall appraisal of life that includes both good and bad experiences" (Peterson 2012, p. 550) and represents an important gauge for policy makers (Hagerty et al. 2001).[2]

Individuals' perceptions of quality of life depend on the decisions they make. Environmental sustainability activism can be instrumental in leading a life consistent with one's ideals, an important component of personal well-being. Using a group of college students and a national sample of activists, Klar and Kasser (2009) demonstrate that activism is related to experiences of intrinsic motivation and satisfaction. This is in line with the basic tenets of self-determination theory (Ryan and Deci 2000), which holds that being proactive and engaged leads to psychological and physical well-being. More specifically, people's ability to pursue goals and values, such as environmental protection, and to act autonomously influences the extent to which they are able to live eudaemonic (happiness-producing) lives (Ryan, Huta, and Deci 2008). In addition, individuals active in environmental sustainability perceive themselves as societal contributors who ensure safe and healthy communities, and as facilitators in the prevention of natural and environmental disasters (Nassani et al. 2013). Dono, Webb, and Richardson (2010) assert that being environmentally active also enhances an individual's social identity and feelings of societal belonging, which are important characteristics of high perceived quality of life. Thus, we hypothesize:

H_{7a}: Environmental sustainability activism is positively related to perceived quality of life.

Although we contend that there is a universal positive link between environmental sustainability activism and quality of life, we argue that this effect will be stronger in Eastern cultures and weaker in Western societies. This is because collective welfare is more highly valued than individual welfare in Eastern cultures, as these are dominated by Confucianism. Quality of life is viewed as collective and not individual (Kim et al. 2020), and thus actions that lead to improving the state of the natural environment can be considered to be an ethical or virtuous activity, which has been linked to happiness (Bockover 2010). In addition, individuals playing an active role in environmental protection see themselves as contributing to society by ensuring a safe and healthy community (Nassani et al. 2013). In societies in which the importance of the common good is emphasized more than it is in Western contexts, such environmental actions will likely elicit stronger perceptions of a high quality of life. Thus, we hypothesize:

H_{7b}: The positive link between environmental sustainability activism and quality of life is weaker for consumers in Western cultures than for consumers in Eastern cultures.

Research Methodology

Empirical Setting

To examine the formulated hypotheses, we used two independent samples. We first collected data from U.S. citizens (n = 541). The United States is a well-developed Western economy, has been the site of sustainability-related discussions, and has been a popular choice in previous research on consumer values (e.g., Kilbourne and Pickett 2008; Urien and Kilbourne 2011). We then collected data from China (n = 305), which is an Eastern economy with a different cultural background than the United States and whose citizens might have different values, priorities, and beliefs. China has swiftly become a global economic power and is one of the most important markets in the world (Zhu, Geng, and Lai 2010). People in China are witnessing changes in social structures and traditional values; are engaging in different consumption patterns, with both materialism and conspicuous consumption on the rise (Podoshen, Li, and Zhang 2011); and are increasingly interested in ecological issues, given the growing regional environmental degradation (Yu 2014).

For the U.S. sample, we prepared an online survey using a participant pool from Amazon Mechanical Turk. Respondents received U.S. $8 per hour for taking part in the survey and needed to be at least 18 years of age and have an IP address in the United States. Most of the respondents were age 26–35 years, and 41% were female. In addition, 2.6% had finished primary school, 29% had a secondary education, 55.6% were university graduates, and 10.2% had a postgraduate degree. Most respondents stated that they were single (51%) and either employed or self-employed (66%). For the sample from China, we used an independent and well-known market research agency with access to reliable and high-quality consumer panels. Budget constraints limited access to the online survey to 305 responses. The sample was well balanced in terms of gender (49.5% female) and diversified in terms of age (50.5% age 26–45 years). In addition, most of the respondents were either employed or self-employed (83.3%), and 80% were either married or in a long-term relationship. Table 1 provides the demographics for the samples.

Construct Measurement

The measures of substantive constructs are based on prior research and were either adopted directly from the source or adapted to the study's context using Likert-type scales (1 = "Strongly disagree," and 7 = "Strongly agree"). Specifically,

[2] The term "quality of life" is often used in the literature interchangeably with other concepts, such as subjective well-being, which is "a person's cognitive and affective evaluations of his or her life" (Diener, Lucas, and Oshi, 2002, p. 63); happiness, which is "the degree to which an individual judges the overall quality of his/her own life as a whole favorably" (Veenhoven 2011 p. 66); and life satisfaction, which is "the experience of a life that is and has been lived well" (Martyr et al. 2018, p. 2131).

Table 1. Sample Demographics.

Characteristics	Pooled Sample (n = 846)	U.S. Sample (n = 541)	China Sample (n = 305)
Gender			
Female	375 (44.3%)	224 (41.4%)	151 (49.5%)
Male	571 (55.7%)	317 (58.6%)	154 (50.5%)
Age in years			
18–25	208 (24.6%)	178 (32.9%)	30 (9.8%)
26–35	291 (34.4%)	225 (41.6%)	66 (21.6%)
36–45	163 (19.3%)	75 (13.9%)	88 (28.9%)
46–55	90 (10.6%)	27 (5.0%)	63 (20.7%)
56–65	79 (9.3%)	28 (5.2%)	51 (16.7%)
Older than 65	15 (1.8%)	8 (1.5%)	7 (2.3%)
Occupation			
Student	107 (12.6%)	88 (16.3%)	19 (6.2%)
Housework	26 (3.1%)	24 (4.4%)	2 (.7%)
Employed	522 (61.7%)	289 (53.4%)	233 (76.4%)
Unemployed	49 (5.8%)	48 (8.9%)	1 (.3%)
Self-employed	89 (10.5%)	68 (12.6%)	21 (6.9%)
Retired	45 (5.3%)	16 (3.0%)	29 (9.5%)
Other	8 (.9%)	8 (1.5%)	—
Education			
Primary	14 (1.7%)	14 (2.6%)	—
Secondary	189 (22.3%)	157 (29.0%)	32 (10.5%)
Undergraduate degree	539 (63.7%)	301 (55.6%)	238 (78.0%)
Postgraduate degree	87 (10.3%)	55 (10.2%)	32 (10.5%)
Other	17 (2.0%)	14 (2.6%)	3 (1.0%)
Religion			
Buddhist	48 (5.7%)	12 (2.2%)	36 (11.8%)
Christian	218 (25.8%)	211 (39.0%)	7 (2.3%)
Jewish	15 (1.8%)	15 (2.8%)	—
Muslim	5 (.6%)	2 (.4%)	3 (1.0%)
Hindu	2 (.2%)	2 (.4%)	—
Other	58 (6.8%)	34 (6.3%)	24 (7.9%)
No religion	500 (59.1%)	265 (49.0%)	235 (77.0%)
Marital status			
Single	329 (38.9%)	276 (51.0%)	53 (17.4%)
Divorced/separated	36 (4.3%)	31 (5.7%)	5 (1.6%)
Widowed	5 (.6%)	2 (.4%)	3 (1.0%)
Married/long-term relationship	473 (55.9%)	229 (42.3%)	244 (80.0%)
Other	3 (.4%)	3 (.3%)	—
Number of children			
No children	439 (51.9%)	372 (68.8%)	67 (22.0%)
One child	276 (32.6%)	70 (12.9%)	206 (67.5%)
Two children	84 (9.9%)	58 (10.7%)	26 (8.5%)
Three or more children	47 (5.6%)	41 (7.6%)	6 (2.0%)

items for generativity came from McAdams and De St. Aubin (1992) and Keyes and Ryff (1998), whereas we employed the higher-order three-dimensional scale (i.e., success, happiness, and centrality) of Richins (2004) to measure materialism. We operationalized religiosity and family values using six- and seven-item scales, respectively, as employed by Burroughs and Rindfleisch (2002, p. 357). The religiosity measure was originally based on Putney and Middleton's (1961) Religious Importance Scale, and the family values measure was originally based on work by Glezer (1984) and Faver (1981). To capture interdependence, we adapted the six-item scale from Sharma (2010). Environmental sustainability beliefs were based on the abbreviated scale used by Kazeminia, Hultman, and Mostaghel (2016), which was derived from the New Ecological Paradigm scale originally developed by Dunlap et al. (2000). The New Ecological Paradigm scale is considered a reliable measure of environmental world view or paradigm, and it is designed to measure the environmental beliefs of groups of people about nature and humankind's relationship to it (Kim, Borges, and Chon 2006). We used four items from Dono, Webb, and Richardson (2010) to capture environmental sustainability activism, and we measured quality of

Table 2. Confirmatory Factor Analyses.

Measures	Standardized Loadings		
	Pooled Sample (n = 846)	**U.S. Sample (n = 541)**	**China Sample (n = 305)**
Generativity (Keyes and Ryff 1998; McAdams and De St. Aubin 1992)			
1. Others would say that you have made unique contributions to society. (D)	—	—	—
2. You have important skills you can pass along to others.	.68	.65	.76
3. Many people come to you for advice.	.73	.69	.80
4. You feel that other people need you.	.79	.77	.85
5. You have had a good influence on the lives of many people.	.84	.85	.84
6. You like to teach things to people.	.70	.67	.79
Materialism (Richins 2004)			
Success	.97	.95	.98
1. I admire people who own expensive luxury goods (e.g., homes, cars, and clothes).	.72	.81	.55
2. The things I own say a lot about how well I'm doing in life.	.79	.78	.72
3. I like to own things that impress people.	.84	.83	.68
Centrality	.98	.99	.99
1. I try to keep my life simple, as far as possessions are concerned. (R)	.81	.79	.72
2. Buying things gives me a lot of pleasure.	.72	.73	.69
3. I like a lot of luxury in my life.	.71	.81	.65
Happiness	.72	.74	.88
1. My life would be better if I owned certain things I don't have.	.85	.85	.84
2. I'd be happier if I could afford to buy more things.	.88	.88	.85
3. It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like.	.68	.75	.54
Religiosity (Burroughs and Rindfleisch 2002)			
1. My religion is one of the most important parts of my philosophy of life.	.91	.91	.88
2. Religion is a subject in which I am not particularly interested. (R)	.88	.89	.86
3. My ideas on religion have a big influence on my views in other areas.	.90	.88	.95
4. My religion forms an important basis for the kind of person I want to be.	.94	.94	.96
5. Were I to think about religion differently, my whole life would be very different.	.70	.65	.85
6. I often think about religious matters.	.85	.87	.81
Family Values (Burroughs and Rindfleisch 2002)			
1. I can't imagine having a fully satisfying life without my family.	.62	.67	.55
2. It is possible for me to be happy without being married. (R) (D)	—	—	—
3. I would not work longer hours if it would interfere with family activities. (D)	—	—	—
4. The rewards of raising a family are more important to me than anything else.	.78	.75	.82
5. The needs of other family members are more important than my own needs.	.78	.74	.87
6. My really important relationships are at home.	.80	.82	.83
	.65	.63	.69

(continued)

Table 2. (continued)

Measures	Standardized Loadings		
	Pooled Sample (n = 846)	**U.S. Sample (n = 541)**	**China Sample (n = 305)**
7. The family evening meal is one of the most important activities of my day.			
Interdependence (adapted from Sharma [2010])			
1. The well-being of my friends is important for me.	.69	.65	.83
2. I feel good when I cooperate with my friends.	.73	.69	.83
3. It is my duty to take care of my friends, whatever it takes.	.76	.73	.82
4. Colleagues should stick together, even if they do not agree.	.72	.70	.85
5. The well-being of my colleagues is important for me.	.79	.79	.81
6. I feel good when I cooperate with my colleagues.	.78	.75	.82
Environmental Sustainability Beliefs (adapted from Dunlap et al. [2000] and Kazeminia, Hultman, and Mostaghel [2016])			
1. When humans interfere with nature, it often produces disastrous consequences.	.73	.74	.72
2. Humans are severely abusing the environment.	.81	.84	.75
3. Plants and animals have as much right as humans to exist.	.62	.59	.71
4. The balance of nature is very delicate and easily upset.	.67	.69	.60
5. If things continue on their present course, we will soon experience a major ecological catastrophe.	.76	.75	.74
Environmental Sustainability Activism (Dono, Webb, and Richardson 2010)			
1. I participate in events organized by environmental groups.	.87	.87	.85
2. I give financial support to environmental groups.	.79	.77	.82
3. I circulate petitions demanding environmental improvement.	.83	.81	.81
4. I participate in protests against current environmental conditions.	.80	.77	.76
Quality of Life (Ekici and Peterson 2009)			
1. My life is close to my ideal.	.88	.88	.87
2. Conditions of my life are excellent.	.87	.87	.88
3. I am satisfied with my life.	.89	.89	.86
4. I have gotten the important things I want in life.	.77	.79	.71
5. If I could live my life over, I would change almost nothing.	.65	.66	.64
Trust in Government (Ekici and Peterson 2009)			
1. I trust the government to retain its integrity when lobbied by firms.	.85	.81	.84
2. I trust the government to protect consumers.	.96	.95	.94
3. I trust the government to appropriately regulate firms.	.94	.93	.89
4. I trust the government to do research that will ensure public safety.	.89	.87	.87
Model fit indices	$\chi^2(1,088) = 3,484.76$, $p < .001$; CFI = .92; IFI = .92; RMSEA = .051; SRMR = .053	$\chi^2(1,088) = 2,545.57$, $p < .001$; CFI = .92; IFI = .92; RMSEA = .050; SRMR = .052	$\chi^2(1,088) = 2,158.47$, $p < .001$; CFI = .90; IFI = .90; RMSEA = .057; SRMR = .066

Notes: Results are based on a seven-point Likert scale (1 = "Strongly disagree," and 7 = "Strongly agree"). (R) = reversed item; (D) = the item was dropped as a result of scale purification.

life with five items from Ekici and Peterson (2009). Table 2 provides a list of the measures.

For control purposes, we included measures of personal values using the ten short verbal portraits from Schwartz's (2006) individual human values scale (e.g., power, achievement, tradition). Respondents were asked to rate each value listed as a guiding principle in their life on a nine-point rating scale (−1 = "Opposed to my values," 0 = "Not important," 3 = "Important," and 7 = "Of supreme importance"; Geuens, Weijters, and De Wulf 2009). We subsequently added items to obtain a mean score for each of the four main dimensions: conservation, self-transcendence, openness to change, and self-enhancement (Vecchione et al. 2016).[3] In addition, we included a scale from Ekici and Peterson (2009) to measure trust in government, which can explain activism behaviors and quality-of-life perceptions in this context.

We prepared the first draft of the questionnaire, and then three academics with experience in sustainability and international marketing research assessed the face and content validity of the measures. To maximize clarity and ensure linguistic equivalency, the questionnaire was carefully translated into Mandarin and independently back-translated into English for the China sample. We then compared the translations with the original English text for consistency of meaning; some minor discrepancies were discussed with the translator and adjustments were made. Accordingly, an independent bilingual native speaker reviewed the entire survey to check for translation accuracy. Next, we pretested the questionnaire with 21 U.S. postgraduate students and with 17 Chinese consumers to ensure questionnaire appropriateness and accuracy. No particular issues with the flow and content of the questionnaire were revealed.

Measurement invariance. Given the cross-cultural design of the study, we conducted tests for measurement invariance. We used multigroup analysis and followed Steenkamp and Baumgartner's (1998) guidelines. Configural invariance was present in our data set because the fit of the two-group model was acceptable ($\chi^2(2,176) = 4{,}704.71$, $p < .001$; comparative fit index [CFI] = .91; incremental fit index [IFI] = .90; root mean square error of approximation [RMSEA] = .037; standardized root mean square residual [SRMR] = .052). We subsequently assessed metric invariance across the two samples with satisfactory fit statistics ($\chi^2(2,214) = 4{,}739.06$, $p < .001$; CFI = .91; IFI = .90; RMSEA = .053). The chi-square difference tests showed nonsignificant results ($\Delta\chi^2(38) = 34.35$, $p > .10$); thus, metric invariance was established. These results provide support for configural and full metric invariance across the two samples, allowing reliable comparisons.

Measure validation. To assess the unidimensionality, reliability, and validity of the measures, we used confirmatory factor analysis with IBM SPSS Amos 26. After dropping three items with loadings below .40, we obtained a satisfactory fit to the data ($\chi^2(1,088) = 3{,}484.76$, $p < .001$; CFI = .92; IFI = .92; RMSEA = .051; SRMR = .053) for the pooled data set (see Table 2). Specifically, the RMSEA (.05) indicated a good fit to the data. In addition, the CFI and IFI were all within acceptable limits (≥.90), and the SRMR was below the threshold of .10. The indicators loaded significantly on their respective latent variables, evidencing convergent validity. We repeated the process for each sample and obtained similar results.

Following Richins (2004), we conceptualized materialism as a multidimensional, higher-order construct comprising three factors: success, centrality, and happiness. We tested the null hypothesis that the first-order factors converge to a single higher-order construct, revealing a good fit to the data observed (as indicated previously) and high and significant loadings, supporting our conceptualization that materialism is a linear combination of its three dimensions. We also compared this null model with a model that treats the three dimensions independently and found that the higher-order model fits the data better ($\Delta\chi^2(16) = 91.1$, $p < .01$).

The scales used also exhibited high internal reliability, as all Cronbach's alpha and composite reliability scores for the constructs were satisfactory, ranging from .73 to .95. In addition, the average variance extracted (AVE) for every construct exceeded .50, while the square root of each variable's AVE was always higher than any of its correlations with other latent variables, indicating discriminant validity (Fornell and Larcker 1981). Table 3 presents the summary statistics and reliability estimates along with bivariate construct correlations.

To minimize the potential of common method variance (CMV), we guaranteed respondent anonymity and confidentiality and explicitly communicated that the questions had no right or wrong answers. We also carefully developed the questions for conciseness and to avoid ambiguous and unfamiliar terms. In addition, we grouped constructs under general themes rather than by construct and used different response formats (i.e., semantic differential and Likert-type scales). We employed the Lindell and Whitney (2001) marker variable approach using the smallest (r_{M1}) and second-smallest (r_{M2}) correlations among the study variables (Malhotra, Kim, and Patil 2006). In this study, the lowest bivariate positive correlation was between environmental sustainability beliefs and quality of life ($r_{M1} = .014$) and the second-lowest was between religiosity and environmental sustainability beliefs ($r_{M2} = .053$). We subsequently computed the CMV-adjusted correlations among the study variables and compared these with the original correlations. The differences were small, and the significance of the resulting correlation coefficients did not materially change ($p < .05$). These empirical results suggest that CMV is unlikely to be a problem in this study.

Results

Direct Effects

To test our hypotheses, we conducted structural equation modeling analysis for the pooled data set, again using IBM SPSS Amos 26 (see Table 4). To ensure that our results were free of omitted variable bias, we controlled for gender, age, marital status,

[3] We dropped the value of hedonism because it is common in both openness-to-change and self-enhancement dimensions.

Table 3. Measurement Properties and Correlation Matrices.

Pooled Sample (n = 846)[a]									
Correlation Matrix									
Construct	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1. Generativity	*.75*	—	—	—	—	—	—	—	—
2. Materialism	.06	*.92*	—	—	—	—	—	—	—
3. Religiosity	.24	.08	*.87*	—	—	—	—	—	—
4. Family values	.39	.14	.28	*.73*	—	—	—	—	—
5. Interdependence	.48	.12	.19	.44	*.75*	—	—	—	—
6. Environmental sustainability beliefs	.22	.05	−.05	.21	.34	*.72*	—	—	—
7. Environmental sustainability activism	.14	.23	.23	.13	.13	.19	*.82*	—	—
8. Quality of life	.38	−.11	.18	.29	.18	−.01	.18	*.82*	—
9. Trust in government	.15	.34	.15	.25	.18	.06	.40	.13	*.91*
M	4.86	4.08	3.48	4.94	5.14	5.31	2.95	4.19	3.64
SD	1.09	1.29	1.81	1.25	.98	1.08	1.55	1.42	1.70
Cronbach's alpha	.86	.86	.95	.84	.88	.84	.89	.90	.95
Composite reliability	.77	.90	.82	.69	.83	.74	.73	.77	.85
AVE	.56	.85	.75	.53	.56	.52	.68	.67	.82
U.S. Sample (n = 541)[b]									
Correlation Matrix									
Construct	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1. Generativity	*.73*	—	—	—	—	—	—	—	—
2. Materialism	−.05	*.90*	—	—	—	—	—	—	—
3. Religiosity	.19	.03	*.86*	—	—	—	—	—	—
4. Family values	.38	−.01	.34	*.72*	—	—	—	—	—
5. Interdependence	.43	.02	.19	.34	*.71*	—	—	—	—
6. Environmental sustainability beliefs	.19	−.07	−.08	.07	.22	*.73*	—	—	—
7. Environmental sustainability activism	.14	.15	.17	.10	.13	.21	*.81*	—	—
8. Quality of life	.36	−.16	.19	.37	.17	.00	.15	*.83*	—
9. Trust in government	.12	.22	.16	.16	.12	−.01	.32	.14	*.80*
M	4.92	3.77	3.41	4.78	5.14	5.22	2.55	4.37	4.61
SD	1.13	1.35	1.93	1.35	.97	1.15	1.46	1.45	1.36
Cronbach's alpha	.85	.86	.94	.84	.86	.84	.88	.91	.94
Composite reliability	.80	.86	.90	.79	.82	.79	.81	.86	.88
AVE	.53	.81	.74	.52	.51	.53	.65	.68	.64
China Sample (n = 305)[c]									
Correlation Matrix									
Construct	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1. Generativity	*.81*	—	—	—	—	—	—	—	—
2. Materialism	.45	*.96*	—	—	—	—	—	—	—
3. Religiosity	.36	.19	*.89*	—	—	—	—	—	—
4. Family values	.49	.47	.08	.77	—	—	—	—	—
5. Interdependence	.59	.39	.18	.73	*.83*	—	—	—	—
6. Environmental sustainability beliefs	.34	.30	.00	.59	.60	*.71*	—	—	—
7. Environmental sustainability activism	.25	.11	.36	.04	.14	.05	*.81*	—	—
8. Quality of life	.41	.22	.21	.20	.20	.02	.48	*.80*	—
9. Trust in government	.40	.32	.08	.32	.36	.08	.23	.43	*.88*
M	4.75	4.62	3.60	5.20	5.15	5.47	3.67	3.87	3.09
SD	1.02	.96	1.57	.98	1.01	.93	1.44	1.30	1.61
Cronbach's alpha	.90	.87	.96	.86	.93	.83	.88	.89	.93
Composite reliability	.85	.94	.91	.82	.88	.78	.81	.84	.87
AVE	.65	.92	.79	.58	.69	.50	.65	.64	.78

[a]Correlations greater than |±.09| are significant at the .01 level (two-tailed). Correlations greater than |±.07| are significant at the .05 level (two-tailed).
[b]Correlations greater than |±.11| are significant at the .01 level (two-tailed). Correlations greater than |±.09| are significant at the .05 level (two-tailed).
[c]Correlations greater than |±.15| are significant at the .01 level (two-tailed). Correlations greater than |±.12| are significant at the .05 level (two-tailed).
Notes: Correlations greater than |±.15| are significant at the .01 level (two-tailed). Correlations greater than |±.12| are significant at the .05 level (two-tailed). Italicized values on the diagonal of the correlation matrix are the square root of AVE.

Table 4. Structural Equation Model Results.

Paths	Pooled Sample (n = 846)		U.S. Sample (n = 541)		China Sample (n = 305)		Multigroup Comparison (U.S. vs. China)	
	β	t-Value	β	t-Value	β	t-Value	$\Delta\chi^2$	Δdf
Generativity → Environmental sustainability beliefs	.06	1.17	.14	2.26*	−.08	−.94	4.79*	1
Materialism → Environmental sustainability beliefs	.07	1.50	.04	.72	−.01	−.13	.19	1
Religiosity → Environmental sustainability beliefs	−.15	−3.42**	−.15	−2.48*	−.12	−2.04*	.31	1
Family values → Environmental sustainability beliefs	.08	1.41	−.04	−.60	.40	3.48**	11.18**	1
Interdependence → Environmental sustainability beliefs	.23	4.62**	.12	2.03*	.44	3.86**	3.87*	1
Environmental sustainability beliefs → Environmental sustainability activism	.18	4.75**	.27	5.50**	.01	.20	8.82**	1
Environmental sustainability activism → Quality of life	.16	3.92**	.11	2.17*	.43	7.60**	19.63**	1
Covariates								
Gender (female) → Environmental sustainability beliefs	.06	4.49**	.16	3.49**	.12	2.35*	—	—
Age (<36 years) → Environmental sustainability beliefs	−.04	−1.10	−.01	−.08	−.05	−.87	—	—
Marital status (married) → Environmental sustainability beliefs	.05	1.10	.04	.82	.01	.10	—	—
Children → Environmental sustainability beliefs	.02	.47	.03	.62	−.07	−.93	—	—
Religion (Christianity) → Environmental sustainability beliefs	−.09	−2.09*	−.04	−.73	.02	.46	—	—
Religion (Buddhism) → Environmental sustainability beliefs	.03	1.02	−.01	−.22	.07	1.35	—	—
Conservation → Environmental sustainability beliefs	−.11	−2.39*	−.07	−1.27	−.10	−1.21	—	—
Self-transcendence → Environmental sustainability beliefs	.32	7.92**	.36	7.21**	.08	.94	—	—
Openness to change → Environmental sustainability beliefs	.08	2.00*	.09	1.89	.08	1.21	—	—
Self-enhancement → Environmental sustainability beliefs	−.11	−2.35*	−.14	−2.40*	−.03	−.54	—	—
Gender (female) → Environmental sustainability activism	.01	.30	−.01	−.19	−.02	−.36	—	—
Age (<36 years) → Environmental sustainability activism	.07	1.74	−.06	1.26	.21	3.00**	—	—
Marital status (married) → Environmental sustainability activism	.08	1.88	.07	1.48	.07	.76	—	—
Children → Environmental sustainability activism	.02	.33	−.03	−.56	−.07	−.71	—	—
Religion (Christianity) → Environmental sustainability activism	−.03	−.93	.06	1.27	.12	1.97*	—	—
Religion (Buddhism) → Environmental sustainability activism	.06	1.75	.04	.96	.05	.83	—	—
Trust in government → Environmental sustainability activism	.41	11.36**	.35	7.53**	.23	3.69**	—	—
Gender (female) → Quality of life	.01	.13	−.07	−1.68	.12	2.54**	—	—
Age (<36 years) → Quality of life	.14	3.40**	−.01	−.25	.13	2.29*	—	—
Marital status (married) → Quality of life	.15	3.42**	.17	3.55**	.21	2.84**	—	—
Children → Quality of life	.02	.39	.09	1.71	.07	1.00	—	—
Religion (Christianity) → Quality of life	.24	7.04**	.15	3.24**	.00	−.01	—	—
Religion (Buddhism) → Quality of life	−.08	−2.39*	−.05	−1.20	−.01	−1.89	—	—
Trust in government → Quality of life	.05	1.35	.07	1.53	.34	6.60**	—	—
Fit statistics	$\chi^2(1,508) = 4{,}524.87$, $p < .001$; CFI = .91; IFI = .91; RMSEA = .049; SRMR = .061		$\chi^2(1,508) = 3{,}291.67$, $p < .001$; CFI = .91; IFI = .90; RMSEA = .047; SRMR = .060		$\chi^2(1,508) = 2{,}801.86$, $p < .001$; CFI = .90; IFI = .90; RMSEA = .053; SRMR = .069		—	

*p<.05.
**p<.01.

children, and religion. We also included the four general dimensions of values as exogenous variables linked with environmental sustainability beliefs (Schwartz 2006) and utilized trust in government as a control for environmental sustainability activism and quality of life. The analysis revealed a good model fit to the data, as the fit indices were better than the recommended thresholds. For example, RMSEA was below .05, SRMR was below .08, and CFI and IFI were above .90.

Our results lend partial support to the hypotheses relating to personal values, while the controls and the independent variables explain 34% of environmental sustainability beliefs. In particular, the results reveal that generativity is not significantly related to environmental sustainability beliefs (β = .06, t = 1.17, $p > .05$). providing no support for H_{1a}. Similarly, materialism was not found to be linked with environmental sustainability beliefs (β = .07, t = 1.50, $p > .05$), in contrast to H_{2a}. In accordance with H_{3a}, the strong negative relationship between religiosity and environmental sustainability beliefs was confirmed (β = −.15, t = −3.42, $p < .01$). With regard to family values, the findings show a lack of support for H_{4a}, since the link was not significant (β = .08, t = 1.41, $p > .05$). In contrast, interdependence was found to be positively linked with environmental

Table 5. Summary of Hypotheses and Results.

Hypothesis	Results	Verdict
H_{1a}: Generativity is positively related to environmental sustainability beliefs.	Generativity is not related to environmental sustainability beliefs.	Not supported
H_{1b}: The positive link between generativity and environmental sustainability beliefs is weaker for consumers in Western cultures than for consumers in Eastern cultures.	The positive link between generativity and environmental sustainability beliefs is stronger for consumers in Western cultures than for consumers in Eastern cultures.	Not supported
H_{2a}: Materialism is negatively related to environmental sustainability beliefs.	Materialism is not related to environmental sustainability beliefs.	Not supported
H_{2b}: The negative link between materialism and environmental sustainability beliefs is stronger for consumers in Western cultures than for consumers in Eastern cultures.	The link between materialism and environmental sustainability beliefs is not statistically significant and is not significantly different between consumers in Western cultures and consumers in Eastern cultures.	Not supported
H_{3a}: Religiosity is negatively related to environmental sustainability beliefs.	Religiosity is negatively related to environmental sustainability beliefs.	Supported
H_{3b}: The negative link between religiosity and environmental sustainability beliefs is stronger for consumers in Western cultures than for consumers in Eastern cultures.	The negative link between religiosity and environmental sustainability beliefs is statistically significant but not significantly different between consumers in Western cultures and consumers in Eastern cultures.	Not supported
H_{4a}: Family values are positively related to environmental sustainability beliefs.	Family values are not related to environmental sustainability beliefs.	Not supported
H_{4b}: The positive link between family values and environmental sustainability beliefs is weaker for consumers in Western cultures than for consumers in Eastern cultures.	The positive link between family values and environmental sustainability beliefs is not significant for consumers in Western cultures but statistically significant for consumers in Eastern cultures.	Supported
H_{5a}: Interdependence is positively related to environmental sustainability beliefs.	Interdependence is positively related to environmental sustainability beliefs.	Supported
H_{5b}: The positive link between interdependence and environmental sustainability beliefs is weaker for consumers in Western cultures than for consumers in Eastern cultures.	The positive link between interdependence and environmental sustainability beliefs is significant but weaker for consumers in Western cultures than for consumers in Eastern cultures.	Supported
H_{6a}: Environmental sustainability beliefs are positively related to environmental sustainability activism.	Environmental sustainability beliefs is positively related to environmental sustainability activism.	Supported
H_{6b}: The positive link between environmental sustainability beliefs and environmental sustainability activism is stronger for consumers in Western cultures than for consumers in Eastern cultures.	The positive link between environmental sustainability beliefs and environmental sustainability activism is statistically significant for consumers in Western cultures but not statistically significant for consumers in Eastern cultures.	Supported
H_{7a}: Environmental sustainability activism is positively related to perceived quality of life.	Environmental sustainability activism is positively related to perceived quality of life.	Supported
H_{7b}: The positive link between environmental sustainability activism and quality of life is weaker for consumers in Western cultures than for consumers in Eastern cultures.	The positive link between environmental sustainability activism and quality of life is weaker for consumers in Western cultures than for consumers in Eastern cultures.	Supported

sustainability beliefs, lending support to H_{5a}. The results also provide evidence that high environmental sustainability beliefs are conducive to greater levels of environmental sustainability activism ($\beta = .18$, $t = 4.75$, $p < .01$), in support of H_{6a}. It is also clear that higher levels of environmental sustainability activism are associated with higher perceptions of quality of life, confirming H_{7a} ($\beta = .16$, $t = 3.92$, $p < .01$).

Moderating Effects

To establish whether there are cross-cultural differences in the relationships depicted in the conceptual model across the Western culture (e.g., U.S.) and Eastern culture (e.g., China) samples, we conducted multigroup analysis with IBM SPSS Amos 26. The results show culture to influence the relationship of generativity and environmental sustainability beliefs ($\Delta\chi^2(1) = 4.79$, $p < .05$), since the link is significant in the Western culture (U.S.) sample ($\beta = .14$, $t = 2.26$, $p < .05$), but not in the Eastern culture (China) sample ($\beta = -.08$, $t = -.94$, $p > .05$). Although this is a significant finding, this contradicts our original hypothesis (H_{1b}), which argued for a stronger effect among consumers in Eastern cultures. We find no statistically significant differences for materialism ($\Delta\chi^2(1) = .19$, $p > .05$) and religiosity ($\Delta\chi^2(1) = .31$, $p > .05$), indicating that culture does not moderate their relationships with environmental sustainability beliefs, thus leading us to reject H_{2b} and H_{3b}, respectively. In contrast, culture seems to moderate the links of family values ($\Delta\chi^2(1) = 11.18$, $p < .01$) and interdependence ($\Delta\chi^2(1) = 3.87$, $p < .05$) with environmental sustainability beliefs. In contrast, the results for family values and interdependence show a stronger effect for Eastern cultures (e.g., China) in support of H_{4b} and H_{5b}, respectively.

To test H_{6b} and H_{7b}, we examined whether there are cross-cultural differences in the links between environmental sustainability beliefs and environmental sustainability activism and between activism and quality of life. Although the

results show strong positive relationships for the pooled sample, differences between the samples are evident. For example, although we find a strong link between environmental sustainability beliefs and activism in the Western culture (U.S.) sample, ($\beta = .27$, $t = 5.50$, $p < .01$), this is not the case in the Eastern culture (China) sample ($\beta = .01$, $t = .20$, $p > .05$), a statistically significant difference ($\Delta\chi^2_{(1)} = 8.82$, $p < .01$). Although environmental sustainability activism is consistently linked to quality of life in both samples, the link is stronger in the Eastern culture (China) sample ($\Delta\chi^2_{(1)} = 19.63$, $p < .01$). These results provide strong support for H_{6b} and H_{7b} relating to the moderating role of culture in influencing the strength and significance of the link of environmental sustainability beliefs with environmental sustainability activism and quality of life. Table 5 provides an overview of the analytical outcomes related to all hypothesized relationships.

Additional Analyses

To explore the possibility that environmental sustainability activism has a mediating role between environmental sustainability beliefs and quality of life, we conducted mediation analysis in IBM SPSS Amos 26 using bootstrapping with 5,000 samples. The indirect effect of environmental sustainability beliefs on quality of life is significant ($M_{indirect\_activism} = .04$, $p = .004$, 95% confidence interval = [.032, .102]). In addition, the direct link of environmental sustainability beliefs with quality of life ($\beta = -.07$, $t = -1.71$, $p > .05$) in the presence of environmental sustainability activism as a mediator ($\beta = .19$, $t = 4.89$, $p < .01$) was found to be nonsignificant. Thus, environmental sustainability activism fully mediates the link between environmental sustainability beliefs and quality of life. Web Appendix B provides the results of this analysis.

As a further check of model robustness, we also estimated alternative models by controlling for the effects of values on perceptions of quality of life (see Web Appendix C). The inclusion of the paths from values to quality of life does not change the significance or nature of our hypothesized relationships within the model nor the significance of the moderation effects. In addition, the model fit of all three alternative models is significantly improved as a result of adding these paths. This analysis shows some interesting results as it seems that higher levels of generativity ($\beta = .40$, $t = 8.39$, $p < .01$) and family values ($\beta = .12$, $t = 2.27$, $p < .05$) are conducive to higher quality-of-life perceptions, whereas higher levels of materialism ($\beta = -.15$, $t = -3.97$, $p < .01$) and interdependence ($\beta = -.12$, $t = -2.57$, $p < .05$) seem to be associated with lower quality-of-life perceptions. Religiosity seems to be unrelated with quality of life.

Discussion

Theoretical and Empirical Contributions

Our study provides a number of theoretical and empirical contributions to the international marketing and sustainability literature streams. From a theoretical standpoint, we advance VBN theory within the international marketing domain by looking into the relevance of culture in helping to understand the linkages between values, beliefs, and norms in cross-cultural contexts. Our analysis demonstrates that although there are similarities, there are indeed some significant differences between Western and Eastern cultures with regard to the various hypothesized relationships within the VBN model. These findings indicate that such relationships are not homogeneous and can differ depending on the cultural background of people. We also demonstrate the importance of environmental sustainability for consumers' perceptions of quality of life, demonstrating the power of activism in helping individuals enhance their well-being.

From an empirical standpoint, although the results of our analysis show that religiosity exhibits a consistent negative relationship in both samples, the findings in the literature with respect to religiosity and environmentally related dependent variables (e.g., beliefs, attitudes) are equivocal and inconsistent. For example, Minton, Kahle, and Kim (2015) find a negative relationship, Felix et al. (2018) find a positive relationship, and Felix and Braunsberger (2016) reveal no significant results. Our study provides evidence that religiosity can be an impediment to environmental sustainability. We can only speculate about the underlying mechanism, yet it might relate to the importance that different religions attach to nature. For example, when looking at Christianity, which is dominant in the United States, it might be that religious citizens have an anthropocentric perception of society in which God has given humanity authority and dominance over nature (White 1967). As for China, a possible reason is that the Analects of Confucius contain few references to nature (UNEP 2022).

Our study also found evidence of a consistent positive link between interdependence and environmental sustainability beliefs. This finding is in accord with the findings of Liu and Segev (2017), but also in line with studies examining the important role of collectivism in fostering environmental and recycling beliefs and attitudes (e.g., Cho et al. 2013). This evidence shows that individuals with strong, cohesive in-group ties are more likely to care for the common good and develop pro-environmental beliefs as a way to protect the group. In contrast, no evidence to support a link between family values and environmental sustainability beliefs was found. Although this result is surprising, it might be attributed to the different priorities and struggles faced by people high in family values. It might also be that the result is context-specific since traditional family structures are typically found in Latin America, Africa, and Asia, which happen to be the parts of the world where people express the most concern for climate change and desire for solutions (Plant with Purpose 2020). The fact that the relationship is significant in the Eastern culture sample but not in the Western culture sample provides some evidence to support this assertion.

The positive association of generativity with environmental sustainability beliefs in the U.S. sample provides evidence of the need to examine environmentalism from a future-oriented and long-term perspective, particularly in developed countries

such as the United States. This finding is also consistent with a growing number of studies that demonstrate the important motivating role of generativity in influencing environmental sustainability beliefs, attitudes, and concern (e.g., Do Paço et al. 2013; Urien and Kilbourne 2011; Wells et al. 2016). However, the relationship was not significant in our China sample. It suggests that priorities regarding the well-being of future generations are unrelated to discussions and beliefs relating to the natural environment. Confucianism might have some role to play here since the concepts of afterlife and eternal life are not explicitly discussed by Confucius; more emphasis is placed on moral awareness and autonomy during an individual's life. Another possible explanation for these results could stem from the importance of family in the Chinese culture, which is supported in our analysis. The Chinese culture puts particular emphasis on relationships with family members, such as parents, siblings, and spouses. Therefore, protecting family members from future problems might be a stronger motivating factor than just caring for future generations, as indicated by our results.

Drawing on insights from the literature (e.g., Kilbourne and Pickett 2008; Strizhakova and Coulter 2013), we hypothesized that materialism would have a negative relationship to environmental sustainability beliefs; however, in both samples, we found no significant link. We argue that, on the one hand, nonmaterialistic individuals are preoccupied with economic struggles for survival and pursue objectives that are unrelated to environmental issues. On the other hand, highly materialistic people put strong emphasis on material possessions, feeding their constant hunger for ownership at the expense of the natural environment. Between these extreme points are individuals with postmaterialistic or sustainable materialism objectives, who focus on collaborative and collective institutions and material flows (Schlosberg 2019).

Our study lends support to the notion that environmental sustainability beliefs are conducive for environmental sustainability activism to emerge and that beliefs can and do motivate environmental action, such as signing petitions, attending environmental events, and providing financial support to environmental groups. One notable finding is the absence of a significant direct link between environmental sustainability beliefs and activism in the China sample. Perhaps this is due to the Chinese government's effort to ensure that activism and green movements stay under its close control (Standaert 2017). It is also evident that engaging in environmental sustainability activism may not be inconsequential with respect to quality-of-life perceptions. The results are in line with self-determination arguments (Ryan and Deci 2000) and consistent in both study samples. Our findings are also in accord with studies conducted in psychology that show that, in general, activists exhibit greater hedonic, eudaemonic, and social well-being (e.g., Klar and Kasser 2009). Interestingly, the critical insight we glean from our empirical results is that there is an indirect link of environmental sustainability beliefs through environmental sustainability activism. In other words, beliefs only translate to enhanced quality of life when individuals engage in environmental sustainability activism.

Although the study identifies a number of significant and nonsignificant hypothesized relationships, it is interesting to see the effects of covariates on dependent variables in the model as well. For instance, the Schwartz's generic values included in the analysis are all significantly related to environmental sustainability beliefs in the pooled sample, with self-transcendence and openness to change linked positively and conservation and self-enhancement associated negatively with environmental sustainability beliefs. From a cross-cultural perspective, however, the links are not as consistent since the findings seem to change in the individual country samples. In addition, it seems that trust in government can help explain changes in quality of life and environmental sustainability activism. This association seems to be evident in all samples and is consistent with previous findings confirming the positive link of environmental sustainability activism with political trust and pro-social behavior (Caferra, Colasante, and Morone 2021; Marquart-Pyatt 2018).

Implications for Managers and Policy Makers

This study has several managerial implications. First, we show that understanding values and how these are linked with the formation of beliefs is critical, not only for elevating levels of environmental concern but also for managing quality-of-life perceptions among the population. For example, communication messages from companies and/or public organizations can focus on particular values (e.g., generational and family consequences of sustainability problems) and associated aspects (e.g., education, housing, social welfare) to enhance the effectiveness of environmental protection campaigns, improve support for environmental causes, and increase collaboration and well-being within the society. In addition, public policy makers should intensify efforts to communicate the importance of environmental beliefs for collective and individual well-being. Second, practitioners should pay attention to the negative relationship between religiosity and environmental sustainability beliefs. For example, integrating religious norms and faith-related elements within sustainability-related advertising messages or even internal company policies might not be the best way to persuade individuals of the importance of environmental sustainability.

Third, the findings suggest that international marketing managers should account for the unique customer characteristics of each country instead of implementing standardized approaches. This is particularly true for promoting and positioning sustainable products and services as well as public policy campaigns that require consumer engagement to be effective. Fourth, if the government and local authorities in China would like to encourage environmental sustainability activism, it will be a good idea to look into the factors inhibiting environmentally conscious individuals from engaging actively with environmental issues within the society. Finally, our findings stress the important role of environmental activism in creating benefits for both individuals (e.g., greater life satisfaction) and society at large (e.g., improved standards of living). Public policy

makers and nonprofit organizations should encourage activism for greater sustainability and societal well-being.

Limitations and Future Research Directions

The limitations inherent in our study give rise to several future research directions. First, we employed a cross-sectional research design, which essentially provides a snapshot of the nature of the relationships between the constructs at a particular point in time. It would be beneficial to assess how values and their influence on sustainability beliefs and behaviors evolve over time, particularly because countries are increasingly adopting climate-friendly strategies and policies (Schill, Godefroit-Winkel, and Hughes 2021).

Second, whereas we applied correlational techniques to examine the links between values and environmental sustainability beliefs, future research could analyze net-effect estimations, apply experimental approaches to establish cause and effect, and investigate asymmetrical/nonlinear relationships between various value systems and environmental sustainability beliefs. For example, rather than measuring chronic interdependence as we did, self-construal could be experimentally manipulated. In doing so, Simpson, Robertson, and White (2020) find a significant effect of interdependent (but not independent) self-construal on employees' engagement in corporate social responsibility. Similarly, materialism could be experimentally manipulated to isolate effects on certain environmental sustainability beliefs and actions. Informed by the results of our analyses, we encourage future research to investigate more directly the correlation between human values and quality-of-life perceptions. Our additional analysis revealed significant effects of values on quality-of-life perceptions, a finding that on its own is rather interesting and needs better theorization and understanding. It would be also important to understand better the interplay and combined effects of these values in influencing key dependent variables from our study.

Third, the structural heterogeneity of the two samples is different in terms of size, age, and religion, although some of the effects pertaining to the influence of values on environmental sustainability beliefs could have been larger. Despite the fact that we accounted for demographics in our analysis, caution should be exercised in overgeneralizing our results, and future studies should look to get larger and more homogeneous country samples for testing purposes. Fourth, the study focused on the United States as an example of a Western culture and on China as an example of an Eastern culture. We encourage replications of this study in other country settings, with varied economic, sociocultural, and political-legal conditions. It will also be helpful to include different dimensions (e.g., indulgence, masculinity) and levels (e.g., country, firm, consumer) of culture and explore their links to environmental beliefs and behavior.

Fifth, our research uses VBN as the enabling theory for explaining the model. Future research could use alternative complementary or competing theories to explore the combinatory effect in explaining and determining behavior (e.g., Skarmeas et al. 2020). Zhang et al. (2020) find that, whereas VBN is better at predicting altruistic behaviors related to climate change mitigation, the Theory of Planned Behavior is more successful at explaining self-interest behaviors, such as climate change adaptation. Our model incorporates activism, which is more closely related to mitigation. Future research examining behaviors more closely related to adaptation, such as home insulation or reforestation, might find the Theory of Planned Behavior more appropriate. In addition, the predictive power of different models might also interact with more independent versus interdependent cultures. Furthermore, prior research on sustainable behaviors demonstrates the importance of reference groups (Welsch and Kühling 2009), yet the extent to which reference groups influence behavior is further influenced by whether individuals are independent or interdependent (Escalas and Bettman 2005).

Sixth, our findings related to materialism show the need for additional research. Materialism remains a pervasive value in contemporary societies, and further research could shed more light on its facets and consequences. To this end, Burroughs et al. (2013) suggest that materialism is similarly prevalent across cultures but for different reasons: in individualist cultures the quest for status and differentiation might drive materialism, whereas in collectivist cultures it could help establish in- and out-groups. Providing a more nuanced picture of culturally distinct antecedents of materialism and suggesting viable strategies to effectively manage it is thus important.

Finally, in this study, we used an established and widely used subjective measure to capture perceptions of quality of life (i.e., Ekici and Peterson 2009). Objective measures of quality of life at national and individual levels can also be considered in future studies, for example when looking at material conditions of life, such as education, cost of living, and/or life expectancy. Future research could also explore quality-of-work and nonwork life satisfaction and feelings of self-worth (e.g., Erdogan et al. 2012) as outcomes of environmental sustainability activism or other forms of activism, such as political or civic engagement (e.g., Skarmeas et al. 2020).

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