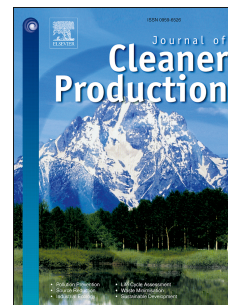


# Journal Pre-proof

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**Author contribution**

**Pradipta Halder:** Conceptualization, Methodology, Formal Analysis, Writing-Original Draft. **Eric N. Hansen:** Conceptualization, Supervision. **Jyrki Kangas:** Conceptualization, Supervision. **Tommi Laukkanen:** Conceptualization, Formal Analysis, Supervision.

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**How national culture and ethics matter in consumers' green consumption values**

Pradipta Halder<sup>a\*</sup>, Eric N. Hansen<sup>b</sup>, Jyrki Kangas<sup>c</sup>, Tommi Laukkanen<sup>a</sup>

<sup>a</sup>Business School, University of Eastern Finland, Joensuu, Finland, pradipta.halder@uef.fi,  
tommi.laukkanen@uef.fi

<sup>b</sup>College of Forestry, Oregon State University, Corvallis, Oregon, USA,  
eric.hansen@oregonstate.edu

<sup>c</sup>School of Forest Sciences, University of Eastern Finland, Joensuu, Finland, jyrki.kangas@uef.fi

\*pradipta.halder@uef.fi, +358 40 74 70711

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## **How national culture and ethics matter in consumers' green consumption values**

### **Abstract**

Going green in consumption is gaining momentum globally, but little is known how national cultural values and consumers' ethical ideologies explain green consumption. With a culturally rich sample of 1929 responses from consumers in Finland, Germany, Portugal, and the United Kingdom, the present study examines how cultural long-term orientation and collectivism predict consumers' green consumption values, and if these relationships are moderated by ethical ideologies. The study finds that cultural collectivism has a significant positive effect on green consumption values, as expected. However, the results show that the two long-term orientation constructs, namely planning and tradition, point in opposite directions when predicting green consumption. We demonstrate that while long-term planning has a significant positive effect on green consumption values, the effect of traditional values is negative. We further show that this negative effect varies across consumers' ethical ideologies so that the effect is the greatest for Exceptionists and Absolutists, that is, those who rely in their actions on universal moral principles rather than particular circumstances. Therefore, our research contributes to the literature by providing new evidence for the cultural and ethical aspects in green consumption values. Furthermore, the study suggests that managers pay special attention to the consumers who have high collectivistic and future-oriented values to promote environmentally friendly consumption.

**Keywords:** Green consumption values; Culture; Ethical ideologies

## 1. Introduction

Sustainable consumption has received increasing research attention from the beginning of this century (Bangsa and Schlegelmilch 2019). The *Living Planet Report 2008* warned us about the danger of over exploitation of Earth's natural resources to meet our ever-increasing demand for goods and services (WWF 2008). According to Druckman and Jackson (2010), "sustainable consumption patterns are necessary for realizing a sustainable society and economy" (p.324). However, we are still far away from adopting sustainable production and consumption behaviors, which is evident from the latest *Living Planet Report 2018* (WWF 2018). Although there is no 'one-size-fits-all' solution to the problem of unsustainable consumption, the role of consumers in sustainable consumption has become central to policy discussions due to the realization that societal changes also require individual level changes (Pollex 2017). Consumers can act as agents of environmental change by adopting social practices that contribute to sustainable development (Barr et al. 2011). Recent trends from international surveys show that interest in sustainable consumption choices among consumers has been growing. A study by Nielson (2015) comprising 30,000 consumers from 60 countries finds that most consumers are willing to pay more for products and services coming from socially and environmentally responsible companies. Another study by Unilever (2017) involving 20,000 consumers from five major developed and developing economies reveals that one-third of consumers often buy products from companies that they feel are committed to having a positive impact on both society and environment.

There is no doubt that we need more sustainable consumption to avoid exceeding the Earth's carrying capacity. Along with sustainable consumption the concept of ethical consumption is also gaining momentum, which generally refers to consumption habits that are motivated by various ethical choices such as fairly traded and environmentally friendly goods (Szmigin et al. 2006). The latest *Ethical Consumer Markets Report 2018* indicates that consumers in general are, indeed, turning towards more ethical options in their consumption behaviors (ECRA 2018). Companies are also increasingly offering products that are environmentally friendly in terms of composition and/or packaging (Haws et al. 2014). At the same time, research into various aspects of ethical business practices is increasing (Chow and Chen 2012), but the extant literature on consumer ethics in the marketplace is notably underrepresented (Moraes et al. 2019; Shabbir et al. 2018). Haws et al. (2014) propose a

concept and measures of “green consumption values” to better understand the differences in the value that consumers place on conserving the environment in consumption settings. We know that not all consumers are willing to buy environmentally friendly products or services for reasons such as existing habits, time or cost (Ertz et al. 2016). However, some consumers voluntarily adopt greener practices such as green consumption and sustainable lifestyles to contribute to society and the environment (Tanner and Kast 2003). Consequently, earlier research clearly indicates that consumers differ in the value they place on conserving the environment in consumption contexts (Haws et al. 2014).

Recent studies report significant country-level differences in households’ sustainable consumption patterns arguing that in more developed countries the household consumption tends to be more sustainable (Bartolj et al. 2018). However, consumer values and ethics are rather shaped by cultural differences than nationality (Tan and Chow 2008). Moreover, we know that culture influences peoples’ values and ethical ideologies (Pekerti and Arli 2017) and that culture plays a role, both directly and indirectly, in influencing consumption behavior of green products (e.g., de Maya et al. 2011; Tseng and Hung 2013; Ritter et al. 2015). As cultural differences influence both perceptions and behaviors of consumers in different counties (Nair and Little 2016), different cultural dimensions are likely to have implications for ethics and green consumption values.

While several studies have emerged over the last ten years aiming to explain consumers’ green purchasing behaviors by analyzing different personal, social, and economic factors (e.g., Chan et al. 2008; Paço et al. 2019; Sharma and Foropon 2019), only a few have analyzed consumers’ green consumption behavior from an ethical perspective (e.g., Chan et al. 2008; Zou and Chan 2019). This is unexpected as the previous research argues that the driving factors for green consumption are often ethically motivated. Consequently, incorporating ethical ideologies into the analysis of green consumption values and behaviors would provide robustness to findings (Luchs et al. 2010; Lu et al. 2015; Zou and Chan 2019). Although the connections between consumers’ cultural values, ethical ideologies, and green consumption appear to be evident, the academic research on this topic is practically non-existent. Therefore, this study aims at investigating whether culture predicts consumers’ green consumption values, whether consumers’ ethical ideologies moderate the linkages between consumers’ cultural values and green consumption values, and whether socio-demographic variables have any impacts on consumers’ green consumption values. The

novelty of the present study stems from utilizing a large dataset from four culturally distinct European countries to uncover how consumers' cultural values predict green consumption values, and if ethical ideologies shape these effects. Two of the most important theoretical contributions of this study are, first, it provides an empirical understanding of the role of cultural dimensions in shaping consumers' green consumption values. Second, this study provides insights into the moderating effects of ethical ideologies on the relationships between cultural dimensions and green consumption values.

## **2. Literature review and hypotheses development**

### **2.1. Green consumption values**

Increasing environmental deterioration due to overconsumption and overexploitation of natural resources has become a global concern (e.g., Ivanova et al. 2016; Liobikiene and Bernatoniene 2017). Therefore, a deeper understanding of environmentally friendly consumption behavior has become imperative for both policy makers and marketers interested in motivating consumers towards adopting sustainable consumption behaviors (e.g., Ritter et al. 2015; Bailey et al. 2016; Paço et al. 2019). The concept of environmentally friendly consumption dates to the early theories and notions in the marketing literature such as the *Theory of Responsible Consumption* (Fisk 1974), *Ecological Marketing* (Henion and Kinnear 1976), and *Ecologically Concerned Consumer* (Kardash 1974). The literature uses numerous terms such as “green”, “environmentally concerned”, “ethical”, and “sustainable” to describe ecologically friendly consumption (e.g., Gregory-Smith et al. 2017). Recent studies argue that an individual's green consumption values positively predict this consumption (Haws et al. 2014, Bailey et al. 2016).

The earlier literature conceptualizes the concept “green consumption values” from various perspectives. Haws et al. (2014, p. 337) define green consumption values as “the tendency to express the value of environmental protection through one's purchases and consumption behaviors.” Varshneya et al. (2017, p. 481) regard it as “the reflection of environmental protection by different actions because of values in an individual to save the environment”. The study by Haws et al. (2014) reports that green consumption values are strongly related to careful use of collective, environmental, and personal resources, and consumers with greater green consumption values demonstrate stronger preferences for environmentally friendly

products. Nowadays consumers are becoming more aware and sustainably oriented with a concern that the natural environment is fast deteriorating. Moreover, they are not reluctant to adopt sustainable consumption behaviors by making lifestyle compromises and incurring additional costs (e.g., Marde and Verite-Masserot 2016; Yin et al. 2018; Prendergast and Tsang 2019). Green consumption values may well explain such a change in consumer preferences for environmentally friendly products. However, current research is limited in analyzing the factors that contribute to the development of green consumption values among consumers (Bailey et al. 2016). We expect that consumers' cultural values have a significant relationship with green consumption values and that ethical ideologies moderate the relationship.

## **2.2. Cultural values**

According to Hofstede et al. (2010), "culture is the collective programming of the mind that distinguishes the members of one group or category of people from others" (p.6). Culture plays an important role in influencing individuals' green consumption behaviors (e.g., de Maya et al. 2011; Tseng and Hung 2013; Ritter et al. 2015; Ghazali et al. 2017). Not only this, culture is also one of the most critical factors influencing ethical decision-making (e.g., Hunt and Vitell 1986; Hur et al. 2017) and consumer ethics can vary across cultures (e.g., Vitell et al. 1993; Lu et al. 1999). Indeed, Patterson et al. (2006) argue that using cultural dimensions instead of nationality in a study provides greater explanatory power as cultural dimensions allow us to analyze cultural norms and traits that are beyond country borders. We use cultural dimensions proposed by Hofstede (1983) and Hofstede and Bond (1988), one of the most widely used cultural dimensions (Nakata 2009), to test if culture shapes green consumption values. We predict such effects by two cultural dimensions: long-term orientation and collectivism.

### **2.2.1. Long-term orientation**

Long-term orientation has its origin from Bond's Chinese Value Survey comparing students from 23 countries (Hofstede and Bond 1988) and it was initially known as "Confucian Work Dynamism". Long-term orientation indicates time orientation of a society along a continuum. Societies located on one end of the continuum tend to value perseverance, thrift, order of relationship by status, and a sense of shame (Guo et al. 2018). On the contrary, societies located at the other end of the continuum known as short-term orientation prefer virtues



related to the past and present, particularly respect for tradition, protecting one's face, and fulfilling social obligations (Guo et al. 2018).

Although several studies use long-term orientation, it is not beyond criticism (e.g., Bond 2002; Fang 2003). To address the criticisms related to Hofstede's original measures, Bearden et al. (2006) developed and validated a long-term orientation scale consisting of two sub-dimensions: "Tradition" and "Planning". Tradition refers to a respect for traditions of the past and Planning denotes the value of planning for the future (Nevins et al. 2007). Bearden et al. (2007) define long-term orientation as "the cultural value of viewing time holistically, valuing both the past and the future rather than deeming actions important only for their effects in the here and now or the short term" (p.457). Following this definition, a high score in long-term orientation would suggest that an individual will value planning, hard work for the future, and perseverance. Nevins et al. (2007) measure the impacts of tradition and planning on students' personal ethical values and report that higher levels of tradition and planning lead to higher personal ethical values. They further argue that individuals who place high importance on planning and tradition consider unethical behaviors as dangerous, having negative consequences, and violating the traditional values of honesty and integrity (Nevins et al. 2007). Vermeir and Verbeke (2008) also report that consumers who hold traditional values are more inclined to buy sustainable products. In their study Hassan et al. (2011) found the two sub-dimensions of long-term orientation to be valid in a study involving 10 European countries. They report that planning has a significant positive relationship with attitude in four of those countries, whereas tradition has such an association with attitude only in one country.

Studies investigating the role of long-term orientation on consumers' pro-environmental values are not extensive, even though previous research indicates that long-term orientation correlates with environmental responsibility and integrity (Arli and Tjiptono 2014). Indeed, as sustainability research primarily aims to understand the impacts of our short-term actions on long-term consequences, the role of long-term orientation becomes evident. Bearden et al. (2007) suggest that higher levels of the two sub-dimensions of long-term orientation (i.e., tradition and planning) would be associated with higher levels of consumer frugality, lower level of compulsive buying, and higher levels of ethical values. Nevins et al. (2007) also indicate positive relationships between the two sub-dimensions of long-term orientation and personal ethics. Since the outcomes of pro-environmental behaviors are future oriented (Qian

and Yin 2017), consumers with high long-term orientation are expected to adopt environmentally friendly behaviors as they value preserving the environment for future generations (Kim and Choi 2005; Leonidou et al. 2010). Following the earlier literature regarding the positive impacts of the two sub-dimensions of long-term orientation on consumers' ethical values we hypothesize that:

**H1a** Planning has a positive effect on green consumption values.

**H1b** Tradition has a positive effect on green consumption values .

### 2.2.2. Collectivism

In Hofstede's cultural typology, individualism and collectivism represent the opposite ends of a continuum (Hofstede 1980). In individualistic cultures, individuals place greater importance on achieving personal goals rather than maintaining harmonious relationship (e.g., Hofstede 1984). In contrast, individuals in collectivist cultures place importance on a greater good for their extended family or organization and are less goal oriented, and they value reciprocation of favors, a sense of belonging, and respect for traditions (e.g., Triandis 1995; Sivadas et al. 2008; Hofstede, 2011). Husted and Allen (2008) suggest that collectivism should affect the relationship between moral reasoning and moral behavior as people in the collectivist cultures will behave in accordance with the group/social norms and place greater emphasis on the roles they fulfil in relation to others. Earlier research also suggests a positive effect of collectivism on pro-environmental behaviors, including willingness to pay for green products (e.g., McCarty and Shrum 2001; Kim and Choi 2005; Gregory-Smith et al. 2017). Collectivist persons are more likely to develop pro-environmental attitudes (Kim and Choi 2005) and protect the environment so that the whole society, including themselves, can enjoy prosperity (McCarty and Shrum 2001). Based on the previous research we hypothesize that:

**H2** Collectivism has a positive effect on green consumption values.

### 2.3. Consumers' ethical ideologies

Muncy and Vitell (1992) conceptualized consumer ethics as "the moral principles and standards that guide behavior of individuals or groups as they obtain, use and dispose of goods and services" (p. 298). According to modern business ethics theories, different individuals when faced with decision situations that have ethical content, will apply ethical guidelines based on the philosophical principles of *deontology* (obligations or rules) and

*teleology* (guided by the consequences of actions) (Murphy and Laczniak 1981; Hunt and Vitell 1986; Ferrell et al. 1989). Forsyth (1980, 1992) introduced the concepts of “Idealism” and “Relativism” to describe individual differences in moral philosophy. He argues that idealism is “the degree to which the individuals assume that desirable consequences can, with the ‘right’ action, always be obtained”, whereas relativism is “the degree to which an individual rejects universal moral rules when making ethical judgements” (Forsyth 1980, p. 175–176). Earlier studies suggest that the effect of idealism on consumers’ ethical judgments and behavior is positive, whereas the effect of relativism is negative, but often weak (e.g., Barnett et al. 1996; Davis et al. 2001; Palihawadana et al. 2016; Zou and Chan 2019). More specifically, idealistic consumers tend to reject unethical behaviors, whereas relativistic consumers tend to accept such behaviors (e.g., Erffmeyer et al. 1999; Steenhaut and van Kenhove 2006; Singh et al. 2007; Vitell and Patwardhan 2008).

At an individual level, Ndubisi et al. (2016) argue that individuals’ ethical standards can be raised by long-term orientation as the individual is less likely to perceive unethical behavior favorably because it violates the traditional values of integrity and honesty. However, the relationship between ethical decision-making and long-term orientation is still not sufficiently understood (e.g., Christie et al. 2003; Nevins et al. 2007; Arli and Tjiptono 2014). Regarding the relationship between ethical ideologies and collectivism, previous research suggests that collectivistic consumers perceive unethical problems as more unacceptable and severe than their individualistic counterparts (Tavakoli et al. 2003; Bernardi and Long 2004). In addition to suggesting the ethical ideologies, Forsyth (1980) also argues that an individual’s ethical judgements are based on the adoption of one of four distinct approaches such as situationism (high idealism, high relativism), absolutism (high idealism, low relativism), subjectivism (low idealism, high relativism), and exceptionism (low idealism, low relativism) (Table 1). He further suggests that “an individual’s inclusion into one of these groups would determine whether the individual espouses idealistic or non-idealistic values and believes moral rules are universal or relative” (Forsyth 1980, p. 176).

Table 1. Taxonomy of ethical ideologies (Source: Forsyth 1980)

Idealism	Relativism	
	High	Low
High	<b>Situationist:</b> Individuals should act to secure the best possible consequences for all concerned even if doing so will violate traditional rules about ethics.	<b>Absolutist:</b> Individuals should act in ways that are consistent with moral rules, for doing so will in most cases yield the best consequences for all concerned
Low	<b>Subjectivist:</b> Individuals' personal values and perspectives should guide their moral choices, rather than universal ethical principles or desire to achieve positive consequences.	<b>Exceptionist:</b> Individuals should act in ways that are consistent with moral rules, but one should remain pragmatically open to exceptions to these rules

Among a few studies that have investigated the variations in the ethical ideologies sub-groups across countries or cultures, Forsyth et al. (2008) reported that an exceptionist ethic is more common in Western countries, subjectivism and situationism in Eastern countries, and absolutism and situationism in Middle Eastern countries. More recently Ko et al. (2019) have investigated the moderating role of ethical ideologies on the effect of ethical leadership on purchasing agents' unethical behavior. Their study indicates that when the purchasing agents are situationist (high idealism; high relativism), the effect of ethical leadership on their unethical purchasing practice will be the strongest (Ko et al. 2019). However, we are unable to uncover any research exploring how the effects of consumers' cultural dimensions on their green consumption values vary across these four ethical ideologies sub-groups. Although it appears evident that individuals' ethical ideologies influence the role cultural values play in their pro-environmental behavior, prior research has not sufficiently suggested the direction of effects of the ethical ideologies sub-groups on the relation between cultural dimensions and green consumption values. Therefore, we base our hypothesis on more general theoretical analysis of how the effects of cultural dimensions on green consumption values vary across the four ethical ideologies sub-groups at the model level (Figure 1). Following this, we hypothesize that:

**H3** The relationships between cultural values and green consumption values vary across the four ethical ideologies sub-groups.

#### 2.4. Controlling for socio-demographic influence

Previous studies have reported that gender and age tend to have significant effects on consumers' sustainable consumption behaviors (e.g., Roberts 1996; Elango et al. 2010; Luchs

and Mooradin 2011). In addition, some studies have also reported consumers' incomes having significant effect on their pro-environmental attitudes and behaviors (Scott and Willits 1994; Clark et al. 2003; Welsch and Kühling 2009). Therefore, to test if these socioeconomic variables influence our results, we include gender, age and income as controls (Figure 1).

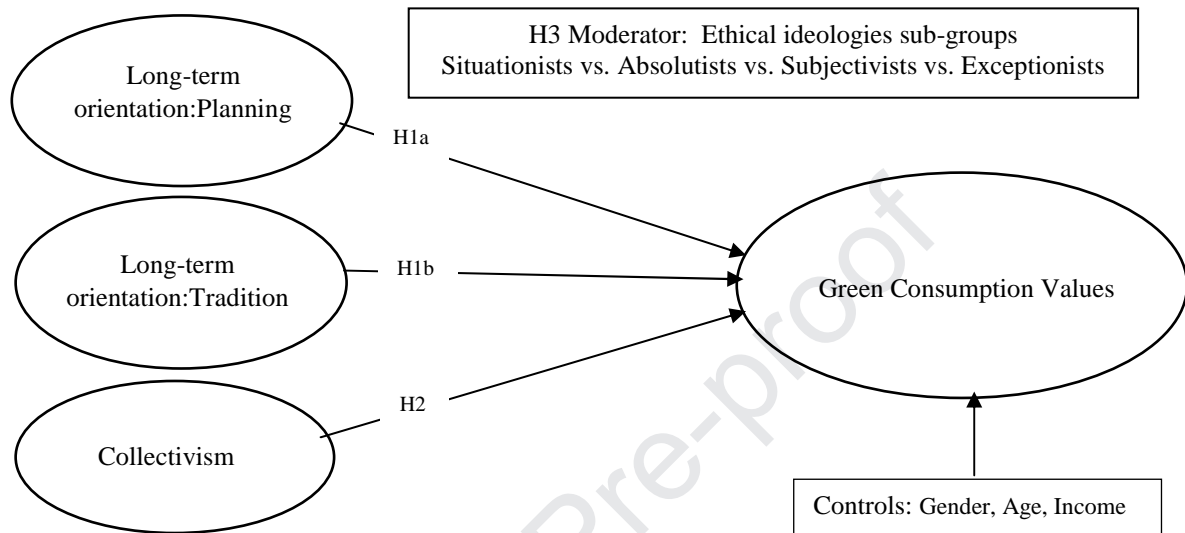


Figure 1. Conceptual model and hypotheses.

### 3. Materials and methods

#### 3.1. Measurement scales

As for our dependent variable, green consumption values, we rely on Haws et al. (2014) who suggest a six-item GREEN scale to capture “individual’s tendency to express the value of environmental protection through one’s purchases and consumption behaviors” (p. 337).

Regarding cultural factors, we measure long-term orientation based on Bearden et al. (2006) who suggest two dimensions, tradition and planning, with four items each. With regard to collectivism, we rely on Yoo et al. (2011) who validated a six-item construct in a cross-national study.

Forsyth (1980) created the original Ethics Position Questionnaire (EPQ); however, the two-factor model with idealism and relativism has often failed to obtain acceptable model fit (e.g.,

Davis et al. 2001). Therefore, we use a modified version of the EPQ proposed by Cui et al. (2005) consisting of a total of twelve items, six items per scale.

We measure all items on a five-point Likert scale (1 = 'strongly disagree' to 5 = 'strongly agree') and present them in the Appendix. With regard to the control variables, we measured gender as a categorical variable (male =1 and female =2) and age as a continuous variable. In order to control for the variations in incomes across the four countries, we recoded the income variable into low and high categories based on national average income levels of Finland, Germany, Portugal and the UK provided by Eurostat (2019). The income bands for Finland, Germany and Portugal start from <EUR 4,999, EUR 5,000-EUR 9,999, and spread up to > EUR80,000; whereas Euro equivalent income bands for the UK are <£ 4, 410, £ 4,411-£ 8,825, and extend up to £70, 629.

### 3.2. Data collection

We concentrate on European Union countries because the European Commission provides general guidelines and environmental standards for its member countries. Therefore, we believe that the general consumption environment is relatively similar across the countries in the European Union compared to countries across different continents. However, individuals in Northern, Central, and Southern-Europe significantly differ in their cultural values. Consequently, to get a culturally diverse representative dataset across Europe, we used a market research company to collect data from Finland, Germany, Portugal and the United Kingdom (UK). These countries represent distinct European societies not only in cultural dimensions but also in terms of language, history and ethnicity.

We first designed the questionnaire in English and translated it into Finnish, German, and Portuguese via a professional language office providing translation services. Each version of the questionnaire was further tested by a group of native speakers of these languages. We asked the market research company to provide us with representative consumer panel data consisting of 500 responses per country. The final data contains 1929 usable responses (Finland: 485, Germany: 487, Portugal: 480, and the UK: 477). The pooled data showed nearly an equal percentage of male and female respondents with an average age of 44 years (SD = 16.2). The data splits nearly evenly into low and high income categories in each country.

### 3.3. Measurement validity

#### 3.3.1. Confirmatory factor model and discriminant validity

At first, we used confirmatory factor analysis to validate the theory-driven latent constructs measured with the original 32 items and total sample of 1929 responses. The model did not show a good fit, as  $\chi^2/df$  value was above 5 (Hu and Bentler 1999). Modification indices showed that the model fit could be improved by allowing measurement items 2-3 and 14-15 to correlate (e.g. Byrne 2004). After this procedure, the measurement model showed a good fit with  $\chi^2/df = 4.31$ , GFI = 0.94, CFI = 0.95, SRMR = 0.05 and RMSEA = 0.04. All the standardized regression estimates exceeded 0.55 and loaded significantly ( $p < 0.01$ ) on their respective constructs. Cronbach's alpha ( $\alpha$ ) values ranging from 0.68 to 0.90 indicated sufficient internal consistency of the constructs. Although Cronbach's  $\alpha$  for the construct 'Planning' was lower than the acceptable threshold of 0.7 (Nunnally 1978), it can still be acceptable following Aron and Aron (1999) and Hair et al. (2006) who suggest that for exploratory and social sciences studies Cronbach's  $\alpha$  marginally lower than 0.7 is adequate. Following Fornell and Larcker (1981), we tested discriminant validity by comparing the square root of average variance extracted (AVE) with cross-construct correlations. The results supported discriminant validity, as the square root of each AVE exceeded the cross-construct correlations (Table 2).

#### 3.3.2. Multi-group invariance analysis

To test the equivalence of the measurement model across the four countries (Finland, Germany, the Netherlands and the UK) and across the four moderating groups of ethical ideologies (situationists, absolutists, subjectivists and exceptionists), we tested both configural and metric invariances. Configural invariance is the least stringent step in the measurement invariance ladder and it tests whether the constructs have the same pattern of free and fixed loadings across groups. With regard to the country, the invariance analysis supported configural invariance, as the four-group unconstrained model showed an adequate fit ( $\chi^2/df = 2.01$ , GFI = 0.89, CFI = 0.93, SRMR = 0.05, RMSEA = 0.02) and all the factor loadings were highly significant ( $p < 0.001$ ) across the countries. Regarding the ethical ideologies sub-groups, we followed the earlier literature (e.g., Barnett et al. 1994; Dubinsky et al. 2005; VanMeter et al. 2013) in establishing Forsyth's (1980) classification of ethical

Table 2. Discriminant validity and correlation tests of the full measurement model

Constructs	Green Consumption Values	Collectivism	Tradition	Planning	Idealism	Relativism
Green Consumption Values	<b>0.78</b>					
Collectivism	0.32***	<b>0.75</b>				
Tradition	0.19***	0.24***	<b>0.71</b>			
Planning	0.39***	0.29***	0.55***	<b>0.60</b>		
Idealism	0.50***	0.22***	0.23***	0.29***	<b>0.75</b>	
Relativism	0.12***	0.19***	0.15***	0.26***	0.13***	<b>0.67</b>

Note: The bold diagonal values represent the square root of each AVE. \*\*\*  $p < 0.001$

ideologies and used a median split to divide idealism and relativism dimensions into low and high groups. These low and high groups were further divided into four sub-groups – situationists (ca. 23%), absolutists (ca. 20%), subjectivists (ca. 25%), and exceptionists (ca. 31%). We also achieved configural invariance, as the four-group unconstrained model showed an adequate fit ( $\chi^2/df = 2.03$ , GFI = 0.94, CFI = 0.96, SRMR = 0.05, RMSEA = 0.02) and all the factor loadings were highly significant ( $p < 0.001$ ) across the ethical ideologies sub-groups.

A metric invariance test, as the second step, determines the cross-group validity of the model beyond the basic factor structure (Hair et al. 2010). If a measurement item satisfies metric invariance, different scores on the item can be meaningfully compared across groups (Steenkamp and Baumgartner 1998). We tested metric invariance by constraining factor loadings to be equivalent across the four countries and the four ethical ideologies. If constraining factor loadings does not significantly decrease a model fit (i.e.,  $p > 0.05$ ), then the constrained model can be accepted over the unconstrained model (Hair et al. 2010).

At first, we tested the metric invariance of the measurement model across the countries and the result was not satisfactory, as the fully constrained model was significantly poorer than the fit of the configural invariance model ( $\Delta\chi^2_{\Delta df} = 210.17_{(78)}, p < 0.001$ ). A path-by-path examination (Byrne 2004) revealed that this was due to three items in the idealism scale, four items in the relativism scale, two items each in the planning, collectivism and green



consumption values scales, and one item in the tradition scale being non-invariant across the four countries. Therefore, the equality constraints on these parameters were relaxed and, consequently, the resulting model supported partial metric invariance (Table 3), as the model was not significantly poorer than the fit of the configural invariance model ( $\Delta\chi^2_{\Delta df} = 50.61_{(36)}, p > 0.05$ ). Similarly with regard to the four ethical ideologies sub-groups, at first we did not achieve metric invariance, as the fully constrained model was significantly poorer than the fit of the configural invariance model ( $\Delta\chi^2_{\Delta df} = 101.38_{(152)}, p < 0.001$ ). However, after relaxing the equality constraints of one item each in the planning and tradition scales, two items each in the collectivism and green consumption values scale, the resulting model supported partial metric invariance (Table 3), as the model was not significantly poorer than the fit of the configural invariance model ( $\Delta\chi^2_{\Delta df} = 40.69_{(30)}, p > 0.05$ ).

Table 3. Results of the multigroup invariance tests regarding country and ethical ideologies

	Model fit			Model differences				
	$\chi^2$	df	$\chi^2/df$	CFI	RMSEA	$\Delta\chi^2$	$\Delta df$	Chi-square difference test
<b>Country</b>								
Configural invariance (comparative model)	3731.53	1788	2.09	0.93	0.02			
Full metric invariance	3941.70	1866	2.11	0.93	0.02	210.17	78	$p < 0.001$
Final partial metric invariance	3782.13	1824	2.07	0.93	0.02	50.61	36	$p > 0.05$
<b>Ethical ideologies</b>								
Configural invariance (comparative model)	1320.68	652	2.03	0.96	0.02			
Full metric invariance	1422.06	700	2.03	0.95	0.02	101.38	152	$p < 0.001$
Final partial metric invariance	1361.37	682	1.99	0.96	0.02	40.69	30	$p > 0.05$

Note:  $p > 0.05$  (invariance supported)

### 3.3.3. Common method bias assessment

The study followed the procedures proposed by Podsakoff et al. (2003) to control for common method bias. At first, we assured the respondents that their responses would remain anonymous, that there were no right or wrong answers, and that they should answer as honestly as possible. Podsakoff et al. (2003) suggest that these procedures reduce respondents' evaluation apprehension and make them less likely to edit their responses to be more socially desirable, lenient and acquiescent. Next, we used two statistical controls: Harman's single factor test (Andersson and Bateman 1997; Aulakh and Gencturk 2000) and the 'marker variable' technique, where the marker variable was designed to be conceptually

totally unrelated to both the predictors and the criterion variable. In the Harman's single factor test, we examined an unrotated exploratory factor solution with a single factor solution, and it explained about 22 percent of the variance in the data set. This indicates that common method bias should not be an issue as the maximum variance explained by a single factor did not exceed the 50 percent threshold. However, this method suffers from some limitations as it does not statistically control for method effects and it is more of a diagnostic technique for assessing the extent to which common method variance can be a major problem (Podsakoff et al. 2003).

Due to the limitations of the Harman's single factor test we used 'blue attitude' developed by Miller and Chiodo (2008) as a marker. This marker consists of four items 'I prefer blue to other colors', 'I like the color blue', 'I like blue clothes', and 'I hope my next car is blue'. We included all four items in the questionnaire and measured them on the same 5-point Likert scale as the other constructs in the model. However, the fourth item 'I hope my next car is blue' was removed from the analysis to improve the reliability of the marker variable ( $\alpha = 0.81$ ). Simmering et al. (2014) followed a similar approach in their study although they suggested that the "theoretical unrelatedness of blue attitude cannot be universally assumed" (p.16). At this stage, we conducted two tests to detect common method bias. First, we tested the correlation among the marker variable and the latent variables. Lindell and Whitney (2001) suggest that common method bias will be an issue if the correlation between any of the latent variable and marker is greater than 0.3 ( $r > 0.3$ ). In our case, the correlations between the main constructs and the marker variable were between -0.02 and 0.15 (i.e.,  $r < 0.3$ ). Second, we performed a confirmatory factor analysis with the marker variable following Gaskin and Lim (2017), and the resultant chi-square test for the zero-constrained model appeared to be insignificant ( $\Delta\chi^2_{\Delta df} = 38.89_{(32)}, p > 0.05$ ). These analyses indicate that common method bias should not be an issue in our study.

## **4. Empirical results**

### **4.1. Structural model testing**

To test hypotheses H1a, H1b and H2, we built a structural model with planning, tradition and collectivism as the independent variables and green consumption values as the dependent variable. The results show that planning has a significant positive effect on green consumption values ( $\beta = 0.45, p < 0.001$ ). This supports hypothesis H1a. Leaning on the

findings of the earlier literature, we hypothesized that the effect of tradition (H1b) would be positive. However, the results indicate that the effect of tradition on green consumption values is negative ( $\beta = -0.14, p < 0.05$ ). This finding rejects H1b. We further hypothesized that collectivism would have a positive effect on green consumption values (H2). Our results support H2 as the effect of collectivism on green consumption values is positive and significant ( $\beta = 0.25, p < 0.001$ ). Among our control variables, the effects of age ( $\beta = 0.23, p < 0.001$ ) and gender ( $\beta = 0.13, p < 0.001$ ) on green consumption values were significant and positive, indicating that older consumers and females have greater green consumption values than their counterparts. However, the effect of income on green consumption values was nonsignificant ( $\beta = 0.001, p > 0.05$ ).

#### 4.2. Multi-group moderation analysis

In testing whether the relationships between cultural values and green consumption values differ across the four ethical ideologies sub-groups, we first compared a fully constrained model in which the paths were constrained equal across the four subgroups to an unconstrained model in which the paths could vary freely. The result of the  $\chi^2$  difference test show that the four ethical ideologies sub-groups vary at the model level ( $\Delta\chi^2_{(66)} = 143.97, p < 0.001$ ). This indicates that differences in path relationships among the ethical ideologies subgroups exist, and supports H3. We further estimated which path could vary among the ethical ideologies sub-groups and which would not by calculating statistical differences path by path.

The results indicate a significant difference across the ethical ideologies sub-groups at the 99% confidence level in relation to the effect of tradition on green consumption values ( $\Delta\chi^2_{(3)} = 11.34, p < 0.01$ ). No other significant differences have appeared across the ethical ideologies sub-groups regarding the effects of planning and collectivism on green consumption values (Table 4). It seems that the effect of planning on green consumption values is significant and positive across all the ethical ideologies sub-groups (highest among the exceptionists followed by the situationists). Similarly, the effect of collectivism is significant and positive across all the ethical ideologies sub-groups and such effect is the greatest among the subjectivists. The effect of tradition on green consumption values is also significant though negative across the ethical ideologies sub-groups except for the subjectivists. Moreover, it appears that the effect is

highly significant ( $p < 0.001$ ) among the absolutists and exceptionists, while only moderate ( $p < 0.05$ ) among the situationists.

Table 4: Results of the multigroup analysis by ethical taxonomy

Path Direct effects	Ethics positions sub-groups				Model differences		
	Situationists ( $\beta$ )	Absolutists ( $\beta$ )	Subjectivists ( $\beta$ )	Exceptionists ( $\beta$ )	$\Delta\chi^2$	$\Delta df$	$p$
Planning → GCV	0.44 <sup>***</sup>	0.23 <sup>***</sup>	0.29 <sup>***</sup>	0.52 <sup>***</sup>	0.81	3	$p > 0.05$
Tradition → GCV	-0.15 <sup>*</sup>	-0.22 <sup>***</sup>	0.06 <sup>ns</sup>	-0.29 <sup>***</sup>	11.34	3	$p < 0.01$
Collectivism → GCV	0.22 <sup>***</sup>	0.15 <sup>***</sup>	0.33 <sup>***</sup>	0.23 <sup>***</sup>	5.78	3	$p > 0.05$

Notes: <sup>\*\*\*</sup>  $p < 0.001$ ; <sup>\*\*</sup>  $p < 0.01$ ; <sup>\*</sup>  $p < 0.05$ ; ns = non-significant; GCV = green consumption values;  $\beta$  = standardized regression weights

## 5. Discussion and implications

### 5.1. Theoretical implications

Studies paying attention to the role of culture and ethics in consumer purchasing behavior are not only underrepresented (Moraes et al. 2019), they are notably fewer in the case of environmentally friendly consumption. Values, ethics and culture are significant determinants of sustainable consumption behavior (Yin et al. 2018). In this regard, Haws et al. (2014) claim that consumers with greater green consumption values would demonstrate stronger preferences for green consumption behavior. However, no study has so far explored how consumers' cultural values shape their green consumption values and how they vary across consumers' ethical positions. In response to this research gap, this study draws on Hofstede's (1983) cultural dimension framework and Forsyth's (1980) ethics position theory to examine how consumers' cultural values (long-term orientation and collectivism) are related with their green consumption values, and how such relationships differ across consumers' ethical ideologies (i.e., situationism, absolutism, subjectivism and exceptionism). The study uses a large dataset collected from Finland, Germany, Portugal and the UK to have a representation of consumers from culturally distinct European societies, which adds to the analysis of green consumption values.

The study finds a significant positive effect of planning on green consumption values; however, the effect of tradition on green consumption values is negative. In this regard, our results somewhat contradict previous research, which suggests that both the sub-dimensions of long-term orientation would have positive effects on consumers' ethical values (Nevins et al. 2007). Besides planning, collectivism also appears to have a significant positive relationship with green consumption values. It indicates that consumers who believe in collectivist value would demonstrate greater green consumption values than consumers who believe in individualistic value. In this regard, our results correspond with previous findings suggesting that collectivism has a positive effect on pro-environmental behavior including willingness to pay for green products (e.g., McCarty and Shrum 2001; Kim and Choi 2005; Gregory-Smith et al. 2017). Our finding that collectivist and long-term oriented consumers have higher green consumption values than individualistic and short-term oriented consumers resembles the Greendex (2014) findings where consumers in highly collectivist and long-term oriented cultures (e.g., China and South Korea) demonstrated greater environmentally sustainable consumption behavior than consumers in highly individualistic and short-term oriented cultures (e.g., USA and Canada).

Our study also provides new insights, as it explores how the relationships between consumers' cultural values and green consumption values vary across consumers' ethical positions. The findings suggest that only the relationship between tradition and green consumption values differs across consumers' four ethical positions sub-groups while the other relationships (e.g., planning → green consumption values and collectivism → green consumption values) are invariant across those four sub-groups. Furthermore, it appears that the positive effects of planning and collectivism on green consumption values would be the greatest among the exceptionists and the subjectivists, respectively. However, the effect of tradition on green consumption values is only positive among the subjectivists though nonsignificant and negative among all other sub-groups.

The significant negative effect of tradition on green consumption values may be attributed to consumers' psychological barrier to adopt new types of consumption behaviors that are environmentally friendly. Innovation diffusion research argues that when an innovation changes a user's existing habits and comes into conflict with the user's traditional and learned behavior, the user tends to resist adopting that innovation (Ram and Sheth 1989). This is

especially the case among those consumers who have traditional values and whose point of reference is in the past (Rogers 2003). The earlier literature shows that innovation resistance attitude has a negative effect on a consumer's intention to buy products, for example, from online marketplaces (Laukkanen et al. 2007; Lian and Yen 2013). Green consumption values are expected to influence consumers, especially those who pay high attention to the environmental and social impacts of products and services before buying them. However, consumers who mostly buy conventional products or services may find it challenging to embrace environmental and social considerations in their purchasing habits. Therefore, this could probably be a reason that consumers' traditional values have a negative effect on their green consumption values in our study, and thus it contradicts our hypothesis that tradition will have a positive effect on consumers' green consumption values. On the other hand, the positive effect of planning on green consumption values is in the expected direction since consumers who pay high attention to planning for the future would like to adopt environmentally and socially sustainable purchasing behaviors. However, it should be noted that several studies have reported inconsistent effects of long-term orientation on ethical values, ethical decision-making, and green consumerism (e.g., Christie et al. 2003; Fok et al. 2016; Hubner 2019). The two sub-dimensions of long-term orientation have also shown contradictory effects on consumer ethical beliefs such as recycling (e.g., Arli and Tjiptono (2014). Long-term orientation serves as a temporal reference point and we still do not know much about the role of temporal dimensions on individuals' values and behaviors (Lin et al. 2018). Therefore, our study provides a new perspective on how consumers' long-term orientation affects their green consumption values in a cross-cultural context. Overall, our findings regarding opposite effects of the two long-term orientation constructs suggested by Bearden et al. (2006), verifies the multidimensional nature of the long-term orientation construct.

Our results further suggest that the relationships between cultural dimensions and green consumption values vary across the four ethical ideologies suggested by Forsyth (1980). In this regard, our study corresponds with the study by Ko et al. (2019) although they analyzed the moderating role of the ethical ideologies sub-groups in a different context. We find that this variation is mostly due to the relationship between tradition and green consumption values. The effect of tradition on green consumption values is the most negative among the exceptionists (low idealism; low relativism). This indicates that when consumers are exceptionists and pay high significance to traditions, their resistance to adopting green

consumption values in their purchase behavior would be the highest. This result corresponds with the characteristics of the exceptionists who tend to balance the positive consequences of an action against the negative consequences of that action due to their low idealistic values, relatively orthodox beliefs, and preferences for uncertainty avoidance (Forsyth 1980). Planning also has the greatest effect on green consumption values among the exceptionists, and this is in contrast with the effect of tradition on green consumption values among the exceptionsists. This perhaps indicates that the consumers who pay high attention to the planning for future will have strong pro-environmental values even though they may have low idealistic and low relativistic ethical ideologies. Similarly, collectivism has the greatest effect on green consumption values among the subjectivists (low idealism; high relativism) suggesting that in a collectivistic society consumers who take decisions based on personal values and perspectives rather than universal ethical principles would be favorable towards embracing green consumption values. Furthermore, the effects of both planning and collectivism on green consumption values appear to be positive and significant across the four ethical ideologies sub-groups. It could suggest that consumers who pay high attention to the planning for future and believe in collectivist values will adopt pro-environmental consumption values irrespective of their level of idealistic or relativistic ethical ideologies. Since previous research has not sufficiently explored the complex moderating role of ethical ideologies sub-groups on the relationships between culture and green consumption values, our findings contribute to the understanding of these relationships from a cross-cultural perspective.

## **5.2. Managerial implications**

The study provides significant implications for both marketers and policy makers. First, our findings provide inputs for designing persuasive marketing communications for green products in different cultural contexts. The appeals of persuasive advertising vary across cultures (McCarty and Shrum 2001) and appeals that highlight group benefits appear to be more appropriate in collectivistic societies than individualistic societies (Han and Shavitt 1994). Since this study reveals that both collectivism and planning have significant effects on green consumption values, marketers should emphasize group benefits as well as the future good associated with the consumption of green products while formulating persuasive marketing strategies for consumers who are highly collectivist as well as forward looking. Second, the study has an implication for improving targeted marketing strategies for ethical

consumption. Ko et al. (2019) suggest that ethical leadership is most effective among individuals who are situationists (high idealism; high relativism). Our study reveals that both planning and collectivism have similar effects on green consumption values among all four ethical ideologies sub-groups. Therefore, marketers should target forward looking and collectivist consumers to promote environmentally friendly consumption by making it synonymous with ethical consumption. In other words, marketers should take a more audience-centered approach to formulate culturally associated marketing strategies for green products and services. Third, the study finds that females and older people appear to demonstrate greater green consumption values than their male and younger counterparts, respectively. Therefore, marketers should consider selective marketing strategies for green products targeting the female and older consumers, especially the over-50s by meeting their expectations on social and environmental qualities of green products.

### **5.3. Limitations and areas for future research**

The study has a few limitations that readers should consider when drawing conclusions from the results, and these limitations could indicate directions for future research. Although the study has a large sample of consumers drawn from four culturally distinct European countries, the sample represents a small subset of the global population. The scope of the study is also narrow, as it focuses on only a limited number of antecedents to green consumption values. Therefore, future studies could test other antecedents of sustainable consumption values such as knowledge, attitude, personal norms, etc. It would also be helpful if future studies expanded consumers' green consumption values specific to a product or service across countries to derive insights applicable to specific industries, as such insights would have wider implications for business managers. The study has used two cultural values, long-term orientation and collectivism to predict green consumption values. Besides long-term orientation and collectivism, "uncertainty avoidance" (Hofstede 1980) could also be helpful to understand consumers' green consumption values across cultures. Despite these limitations, the study contributes significantly to the understanding of green consumption values by advancing the previous work on this topic by Haws et al. (2014) and Bailey et al. (2016). The study incorporates consumers' ethical ideologies and national cultures to the analysis of green consumption values. Thus, its findings are expected to provide theoretically rich inputs for future studies on green consumption values. Therefore, the present study was a first attempt to analyze green consumption values from a cross-cultural perspective and much



research still needs to be done to uncover green consumption values and their antecedents in different market environments.

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**Appendix . Description of constructs with their corresponding items and descriptive statistics**

Main Constructs and Items	Mean (SD)		Cronbach's alpha
	Item	Scale	
<b>Idealism (Cui et al. 2005)</b>		24.68 (3.99)	0.89
1. A person should make certain that their actions never intentionally harm another even to a small degree	4.09 (0.81)		
2. Risks to another should never be tolerated, irrespective of how small the risks might be	3.86 (0.88)		
3. The existence of potential harm to others is always wrong, irrespective of the benefits to be gained	3.87 (0.87)		
4. One should never psychologically or physically harm another	4.39 (0.78)		
5. One should not perform an action which might in any way threaten the dignity and welfare of another person	4.26 (0.80)		
6. If an action could harm an innocent other, then it should not be done	4.22 (0.80)		
<b>Relativism (Cui et al. (2005)</b>		20.37 (4.10)	0.82
7. Moral standards should be seen as being individualistic; what one person considers to be moral may be judged to be immoral by another person	3.51 (0.95)		
8. Different types of moralities cannot be compared as to "rightness"	3.56 (0.83)		
9. Questions of what is ethical for everyone can never be resolved since what is moral or immoral is up to the individual	3.38 (1.00)		
10. Moral standards are simply personal rules which indicate how a person should behave, and are not to be applied in making judgments of others	3.34 (0.99)		
11. Ethical considerations in interpersonal relations are so complex that individuals should be allowed to formulate their own individual codes	3.26 (0.91)		
12. Rigidly codifying an ethical position that prevents certain types of action stands in the way of better human relations and adjustment	3.32 (0.89)		
<b>Long-term Orientation-Tradition (Bearden et al. (2006)</b>		14.36 (3.09)	0.81
13. Respect for tradition is important for me	3.67 (0.95)		
14. Family heritage is important for me	3.62 (0.99)		
15. I value a strong link to my past	3.44 (0.96)		
16. Traditional values are important to me	3.62 (0.95)		
<b>Long-term Orientation-Planning (Bearden et al. (2006)</b>		14.36 (2.60)	0.68
17. I plan for long term	3.51 (0.95)		
18. I work hard for success in the future	3.64 (0.91)		
19. I don't mind giving up today's fun for success in the future	3.30 (0.98)		
20. Persistence is important to me	3.91 (0.76)		
<b>Collectivism (Yoo et al. 2011)</b>		19.62 (4.30)	0.88
21. Individuals should sacrifice self-interest for the group	3.18 (0.87)		
22. Individuals should stick with the group even through difficulties	3.34 (0.89)		
23. Group welfare is more important than individual reward	3.35 (0.90)		
24. Group success is more important than individual success	3.28 (0.90)		
25. Individuals should only pursue their goals after considering the welfare of the group	3.26 (0.89)		
26. Group loyalty should be encouraged even if individual goals suffer	3.22 (0.92)		
<b>Green Consumption Values (Haws et al. 2014)</b>		22.34 (4.34)	0.90
27. It is important to me that the products I use do not harm the environment	3.89 (0.82)		
28. I consider the potential environmental impact of my actions when making many of my decisions	3.66 (0.88)		
29. My purchase habits are affected by my concern for our environment	3.50 (0.93)		
30. I am concerned about wasting the resources of our planet	3.99 (0.87)		
31. I would describe myself as environmentally responsible	3.64 (0.87)		
32. I am willing to be inconvenienced in order to take actions that are more environmentally friendly	3.67 (0.88)		

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Journal Pre-proof

## Highlights

- Article examines the effects of national culture and moderating role of ethics on consumers' green consumption values.
- Cultural collectivism predicts consumers' green consumption values.
- Cultural long-term orientation shows mixed effects of planning and tradition.
- Effects of planning and collectivism on green consumption values is the greatest among both the exceptionists and the subjectivists.

**Declaration of interests**

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: