**Individualism/collectivism and perceived consumer effectiveness: the moderating role of global-local identities in a post-transitional European economy**

**Abstract**

What explains why some consumers believe their individual consumption choices impact the natural environment, social issues, and employee well-being and others do not? This study examines the moderating role of global and local social identities on the relations between cultural values of vertical and horizontal individualism and collectivism, and perceived consumer effectiveness. Data were collected from 432 respondents in Poland. Individuals who report high values of vertical individualism and high vertical collectivism believe their individual purchase decisions impact the natural environment, social and community issues, and employee welfare. It is the acceptance of responsibility for oneself (vertical individualism) and others (vertical collectivism) that explains why some people believe their consumption choices affect wider societal and environmental issues. Global identity strengthens this for vertical individualists, and local identity strengthens this for vertical collectivists. We provide evidence that the conceptual distinction between horizontal and vertical orientations of individualism and collectivism matters when explaining perceived consumer effectiveness. The study confirms that global and local social identities are meaningful variables in the context of perceived consumer effectiveness. The concept of value congruence explains the hypothesised relations only partially. The study contributes to the literature on consumer behaviour in the context of the post-transitional economy of Poland.

**Keywords:** individualism, collectivism, perceived consumer effectiveness, global-local identity

**Introduction**

More than twenty years ago, Wilk (1998) argued that “consumption is a key mediator of the environmental impact of the human population on the planet” (p. 314). Almost thirty years later, in the face of an environmental crisis, researchers and policymakers argue that solving environmental problems is a complex issue that must be viewed in multiple contexts including individual consumption (Wiedmann, Lenzen, Keyßer, & Steinberger, 2020). Efforts to increase consumer awareness about the impact their individual consumption choices have on the natural environment, social issues and employee welfare will remain important to policymakers, researchers, businesses, and consumer activists for years to come (Bolton, 2020; United Nations, 2019). Consequently, research to delineate factors that affect sustainable consumption choices remains as essential today as it was over two decades ago.

While some individuals make thoughtful consumption decisions and believe their individual actions matter, others do not (Chen, 2020; Gao, Zhao, Wang, & Wang, 2020). The belief that one’s consumption choices have an impact on environmental resource problems, social issues, and employee welfare has been conceptualised as perceived consumer effectiveness (PCE) (Ellen, Wiener, & Cobb-Walgren, 1991). Individuals who believe that their consumption behaviour impacts the environment, employee, and social issues are more likely to consider and choose products that are sustainable (Antonetti, & Maklan, 2014).

Some of the factors that influence sustainable consumption behaviour are cultural values and social identities (e.g., Kuanr, Israel, Pradhan, & Roy Chaudhuri, 2020; Sharma, Saha, Sreedharan, & Paul, 2020; Udall, de Groot, de Jong, & Shankar, 2020; ). Whilst research in the area of values, identities, and beliefs in a wide range of consumption contexts, including pro-environmental consumption has a long and rich history, the dynamic nature of sociocultural environment necessitates continued research to monitor changes in consumer behaviour (Ashraf et al., 2020; Perreault, 2012; Thøgersen & Ölander, 2002), especially in contexts that have been relatively underresearched.

Researchers and practitioners try to predict consumer behaviour based on cultural values of the consumers. Often, they argue that consumers who hold certain values should be more likely to behave in a certain way (Shavitt & Cho, 2016). Hence, the current study draws on the value congruence concept to investigate whether individuals who hold specific values and identities are more likely to report beliefs that are congruent with those values and identities. In short, value congruence is the extent to which a person’s values are congruent, or fit, with their behaviours or beliefs (Kristof, 1996; Zhang & Bloemer, 2009). If this is the case, businesses, advertisers, and consumer activists could employ value congruence to segment the market with more certainty that people holding certain values and identities are more likely to hold certain beliefs or exhibit certain behaviours. Specifically, we study how the values of horizontal/vertical individualism and collectivism, and global and social identities are related to PCE.

The construct of horizontal/vertical individualism–collectivism describes the nature of the relationship between individuals and groups that is most influential in a society (Singelis, Triandis, Bhawuk & Gelfand, 1995). Both horizontal and vertical individualism emphasise and individual’s goals over the needs of other individuals or groups: vertical individualism stresses inequality and competition between individuals, while horizontal individualism stresses the uniqueness of individuals. For collectivists, group goals are more important than individual interests, but vertical collectivists recognise hierarchy between individuals within groups where individuals are supposed to be responsible for the well-being of a group. Horizontal collectivists “see themselves as being similar to others (e.g., one person, one vote) and emphasise common goals with others, interdependence, and sociability” (Triandis & Gelfand, 1998, p. 119). We examine values of individualism and collectivism because of the reported upward changes in levels of individualism across the globe which have been linked to socioeconomic development hence suggesting that such values are relevant in the context of economic activity of consumers including individual consumption (Santos, Varnum, & Grossmann, 2017). Further, we employ the horizontal/vertical measures because of suggested nuances in types of individualism and collectivism, and because these measures more explicitly differentiate between the different hierarchies and relationships between indivdiuals and groups. Therefore, these conceptual distinctions may be important for theoretical and practical reasons (Fatehi, Priestley, & Taasoobshirazi, 2020; Shavitt, Torelli, & Riemer, 2011).

Social identities, defined as an individual’s perception that one belongs to certain social groups and derives values from group membership (Tajfel, 1972), have also been found to be significantly influential on a person’s behaviour (Mutum, Ghazali & Wei‐Pin, 2021; Wei, Ang, & Liou, 2020). Different types of social identities exist, including local and global social identities (Tu, Khare, & Zhang, 2012). Local identity is a feeling of belonging to one’s local community, identification with local habits, customs, beliefs and values of life. Global identity is an identification with a lifestyle which is considered global, and a strong feeling of belonging to the entire world (Tu et al., 2012).

Over the years, researchers have documented the role of PCE in sustainable consumption choices (Antonetti & Maklan, 2014); however, research is concentrated on specific markets, leaving scattered understanding on post-transitional markets (Culiberg, 2015; Zralek & Burgiel, 2020). Exploring the interactions between values, identities, and consumer beliefs in a context of a post-transitional economy is important because such economies are very young consumer cultures and not much is reported in academic literature about the behaviour of such consumers in the context of sustainable consumption. Research suggests the cultural settings in which one is raised and socialised may influence one’s consumption behaviour (Buenstorf & Cordes, 2008; Singh, Kwon, & Pereira, 2003).

Consequently, this study focuses on understanding in which circumstances cultural values of horizontal and vertical individualism and collectivism influence consumer’s perceived consumer effectiveness (PCE) in a selected post-transitional economy. Based on evidence that social identities influence consumer behaviour, we further examine the moderating role of global and local identities (Udall et al., 2020). These two questions address the issue of whether we can rely on the assumption of congruence between values and identities to explain and predict the level of PCE. In order to address the research questions, pen-and-paper questionnaire was used to collect data from Polish consumers.

This study contributes to the literature in the following ways. First, we provide further evidence that conceptual distinction between horizontal and vertical orientations of individualism and collectivism matters when explaining PCE. Second, our study confirms that global and local social identities are impactful variables in the context of PCE. Third, we provide evidence that the concept of value congruence explains the hypothesised relations only partially. Fourth, our study contributes to the literature on consumer behaviour in the understudied context of post-transitional economies, specifically in the context of Poland.

**Conceptual framework and literature review**

***Perceived consumer effectiveness***

Perceived consumer effectiveness (PCE), often referred to as consumer self-efficacy, is a belief that one’s consumption choices have an impact on the natural environment, social issues, and employee welfare (Ellen et al., 1991; Kang, Liu, & Kim, 2013). Consumer self-efficacy has been demonstrated to be an important driver of pro-environmental behaviour i.e., when consumers believe their actions matter, they are more likely to perform the action (e.g., White, Habib & Hardisty, 2019). Studies which examined PCE demonstrate that the construct is positively associated with pro-environmental consumption intentions and behaviours in a wide range of product categories, country markets and consumer groups (see Table 1 for an overview of recent studies which examined PCE). For example, Alzubaidi, Slade and Dwivedi (2020), in the context of Saudi Arabia, found that PCE significantly and positively related to intentions to purchase environmentally friendly products. Yarimoglu and Binboga (2019) demonstrated that PCE was the strongest predictor of environmentally conscious consumer behaviour amongst Turkish consumers. Elsewhere, PCE was a strong predictor of actual consumer behaviours in South Korea (Wesley, Lee, & Kim, 2012), India (Kautish, Paul, & Sharma, 2019), and amongst young consumers in the USA (Heo & Muralidharan, 2019). Taken together, these findings suggest that PCE plays an important role in sustainable consumption, and that individuals who have strong belief that their consumption choices have an impact on natural, social and employee welfare are more likely to engage in sustainable consumption. However, despite the increased recent focus of researchers on this construct, some contexts have been neglected, specifically certain country markets, such as Poland, have not been researched.

**<<Insert Table 1 about here>>**

***Cultural values***

Cultural values are important drivers of consumer behaviour (Sharma & Jha, 2017). A value is “an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence” (Rokeach, 1973, p. 5). Amongst values that may be relevant in examining PCE are values of individualism and collectivism. Individualism and collectivism have been researched in multiple contexts of consumer behaviour, such as consumer ethics (Culiberg, 2015), valuation of objects (Gjersoe, Newman, Chituc, & Hood, 2014), or environmentally motivated consumption reduction (Lasarov et al., 2019), to name a few. However, as values may change over time (Santos et al., 2017), and the social world is dynamic, the need to examine and monitor consumers’ values is important to establish trends and changes (Inglehart, 2020).

The construct of individualism–collectivism focuses on the character of the relationships between individuals and groups that are dominant in a society. Specifically, it distinguishes between two issues: 1) whose interests and needs are more important, those of the individual or those of the collective; and 2) who bears the responsibility for individual success and behaviour (Sivadas, Bruvold, & Nelson, 2008). For individuals who hold individualistic values, personal interests and goals are more important than group interests. Such individuals are driven by personal goals and ambitions rather than group preferences (Oyserman, Coon & Kemmelmeier, 2002). Collectivists prioritise in-group interests and goals over those of the individual (Oyserman et al., 2002; Sivadas et al., 2008). Collectivists are driven by social norms, group expectations and group hierarchy (Sivadas et al., 2008).

The polarity of the dichotomous individualism–collectivism dimension did not account for the multifaceted nature of the different types of individualism and collectivism. Scholars argued that there are many varieties of individualism and collectivism, and the conceptual distinctions between those varieties may have important practical implications (Triandis & Gelfand, 1998). Accordingly, an extended typology including horizontal and vertical dimensions of individualism and collectivism was proposed (Singelis et al., 1995). This typology widened the original conceptual dichotomy by introducing four dimensions: horizontal individualism (HI), vertical individualism (VI), horizontal collectivism (HC), and vertical collectivism (VC) (Triandis & Gelfand, 1998). These categories of individualism–collectivism classify cultures and individuals according to their readiness to recognise and accept social hierarchies (Shavitt & Cho, 2016). Individuals who hold vertical values believe that societies are structurally hierarchical with members of society accepting inequality and acknowledging the importance of social rank. Those who hold horizontal values believe that societies are structurally egalitarian with members recognising interdependence and equal status for all (Nelson & Shavitt, 2002).

This conceptual distinction between horizontal and vertical individualism–collectivism is crucial for uncovering new cultural patterns or explaining phenomena not anticipated by the more general individualism–collectivism dimension (Díaz-Loving, Cruz-Torres, Armenta-Huarte, & Reyes-Ruiz, 2018; Shavitt et al., 2011). The nature of the constructs suggests that they may relate in different ways to the propensity for people to believe that their individual purchasing decisions are a solution to the environmental, employee and social problems.

Past research which focused on examining the relations between values of horoizontal/vertical individualism and collectivism, and social identities is limited to few studies. Specifically, studies that measured the vertical-horizontal types of individualism and collectivism and related them to PCE or similar concepts are limited to Cho et al (2013), and Ali et al (2019). Vertical individualism was positively related to PCE (Cho et al, 2013); and acted as a positive moderator of motivations to purchase green cars (Ali et al., 2019). Horizontal collectivism was also positively associated with PCE (Cho et al., 2013), and moderated motivations for green purchases (Ali et al., 2019). Ali et al (2019) also found that horizontal collectivism was a statistically significant positive moderator of the relationship between PCE and purchase intention. Amongst Chinese individuals, researchers measured perceived intractability of climate change that focuses on one’s belief that one’s actions can have an impact on climate change prevention (Xiang et al., 2019). The authors reported that respondents with a high score on the individualism dimension believed that their individual actions did not have a positive impact on climate change; collectivists however believed that their actions mattered more. However, Xiang et al’s study did not report scores for each distinct dimension of vertical/horizontal individualism (despite claiming to measure those four types), hence there is no evidence which type of individualism was more or less related to low levels of belief in one’s actions’ impact on climate change.

Given the argued importance of the more nuanced constructs of vertical and horizontal individualism and collectivism, and the limited number and scope of studies that linked these cultural dimensions to PCE, we therefore measure these constructs with a view to explore if such distinctions will lead to different outcomes in a post-transitional economy of Poland.

***Global-local identities***

Social identity is a person’s perception of belonging to a social category or group (Stets & Burke, 2000). Social identity theory posits that the groups which individuals feel they belong to are an important source of social norms, values and knowledge about acceptable behaviours (Tajfel, 1978). Social identities are important predictors of behaviour in numerous contexts, including sustainable or environmentally-concious consumer behaviour (Bonaiuto, Breakwell, & Cano, 1996; Milfont, Osborne, Yogeeswaran, & Sibley, 2020). For example, social identity was relevant for promoting health behaviour (Stevens et al., 2017); sustainable consumption behaviour (Bartels & Reinders, 2016; Udall et al., 2020; White et al., 2019), and for increasing effectiveness of communication (Guan & So, 2016) to name a few.

Tu et al (2012), drawing on social identity theory research, proposed that individuals have global and local identities. That is, they identify to different extent with global or local communities. Global identity is a feeling of belonging to the global community and identification with a global lifestyle. Local identity means that individuals feel they belong to their local community and identify with local habits, customs, and beliefs (Tu et al., 2012). Zhang and Khare (2009) found that identifying consumers’ identity as primarily global or local was an important factor in understanding consumers’ attitudes toward global versus local products. Expanding on this, we propose that global and local identities may also be relevant in understanding a consumer’s PCE in the context of sustainable consumption because environmental and social challanges affect both local and global environments (Fielding & Hornsey, 2016).

***Congruence between values, identities and consumption beliefs***

Researchers remain interested in the effects of similarity as a construct to explain and predict various outcomes (Zhang & Bloemer, 2008). The concept of congruency or fit belongs to a broader category of cognitive‐consistency theories (Simon & Holyoak, 2002; Zajonc, 1960). These theories suggest that individuals strive for consistency between their values, beliefs and behaviours because inconsistency provokes states of discomfort and tension. Broadly speaking, congruency (or fit) is “the degree to which the needs, demands, goals, objectives and/or structure of one component are consistent with the needs, demands, goals, objectives and/or structure of another component” (Nadler & Tushman,1980, p. 40). Amongst the different types of congruence (e.g., perceptual, cultural, conceptual), we draw on the construct of conceptual congruence to explain the relations between values, identities and PCE. Conceptual congruence is a “relatedness of conceptual attributes” (Kuo & Rice, 2015, p. 78). The components that Nadler and Tushman (1980) mention may relate to a number of variables, including values, identities and beliefs. This study draws on conceptual congruence, arguing that values which are conceptually more congruent with selected beliefs are more likely to be positively associated with those beliefs. The concept of congruence in the context of values, identities and beliefs about one’s behaviour suggest that certain values should lead to certain beliefs about one’s behaviours because those values are conceptually congruent with the said beliefs.

The concept of congruency has been explored in a number of contexts: person-organisation fit (Edwards & Cable, 2009), values-service brands congruence (Zhang & Bloemer, 2008), congruence in communications (Hong & Zinkhan, 1995), or branding (Torelli, Özsomer, Carvalho, Keh, & Maehle, 2012; Martin & Stewart, 2001). For example, the conceptual congruency between different aspects of public service announcements led to more favourable attitude towards an advertisement (Wang, Fu, & Wu, 2020). Congruence between consumer’s values and brand symbolism led to more favourable taste perceptions of food brands (Paasovaara, Luomala, Pohjanheimo & Sandell; 2012). Namely, consumers who held hedonic values as primary ones, evaluated a brand with hedonistic symbolism more favourably than a brand with conventional/traditional symbolism.

***Hypotheses***

People who hold individualistic values prioritise individual interests over the interests of their groups. Vertical individualists believe in their own individual responsibility: success is attributed to the individual self (Shavitt & Cho, 2016; Triandis & Gelfand, 1998). Such individuals will be therefore more likely to agree that their individual choices have consequences for the natural environment, society and employees, because values of vertical individualism are conceptually congruent with PCE.

Drawing on the value congruence concept, we propose that individuals who hold VI values believe that they are responsible for their own success (Singelis et al., 1995), and therefore should believe in the importance and impact of their own individual consumption actions:

**H1A:** Vertical individualism (VI) is positively associated with PCE.

Horizontal individualists value expressing one’s uniqueness and establishing one’s capability to be successfully self-reliant, but this is not linked to competition, social comparison, and achievement (Shavitt et al., 2011). Horizontal individualists “do their own thing” because they see themselves as different and independent from others. They value personal interests and goals over those of groups, and they believe in their uniqueness. Values of horizontal individualism are also conceptually more congruent with PCE because for such individuals, focus is on individual actions (Singelis et al., 1995). Such individuals may also be more likely to believe that their individual consumption choices matter, and hence:

**H1B:** Horizontal individualism (HI) is positively associated with PCE.

Vertical collectivists believe that their individual goals and interests are less important than group goals and interests, but they believe in hierarchy. For such individuals, carrying out their duties and obligations towards the group takes precedence over fulfilling individual goals. This preference for group interests suggests that such individuals value conformity; hence they willingly submit to the authority of other people in their groups (Singelis et al., 1995). Such beliefs may lead to a dispersion of individual responsibility, or even giving it up and delegating it to those higher in the hierarchy, hence:

**H2A:** Vertical collectivism is negatively associated with PCE.

Whilst horizontal collectivists also believe that their individual goals and interests are less important than group goals and interests, they perceive themselves as similar to others and do not believe in hierarchy between indivdiuals and groups. They emphasise benevolence, egalitarianism, common goals and shared social responsibility ([Shavitt et al., 2011](#_ENREF_56)). Such values of collective purpose and responsibility may subdue the freedom of individual expression and responsibility among horizontal collectivists. This consequently may lead to a situation where individual responsibility is dispersed amongst group members ([Shavitt et al., 2011](#_ENREF_56)), hence:

**H2B:** Horizontal collectivism (HC) is negatively associated with PCE.

Individualism and collectivism are values that describe a person’s or group’s relationship to others (Singelis et al., 1995). Social identities are constructs which also describe how a person views their relationship with the outside world. Social identities are important constructs in explaining and predicting pro-environmental behaviours (Fritsche et al., 2018). Brieger (2019) proposed that a person’s perception of being a member of a group influences the preference for a healthy and pleasant environment for the members of the respective group i.e., the greater the person’s identification with their community, nation, and world is, the more willing they are to make economic sacrifices for environmental protection.

Drawing on social identity theory and value congruence, we argue that social identity will influence the relationship between values of vertical/horizontal individualism and collectivism and PCE. Global identity is more relevant to and congruent with individualistic consumers who may be more likely to identify with outgroups rather than collectivistic consumers who are in-group oriented. For example, Wei, Ang and Liou (2020) examined the effectiveness of global versus local scope of cause-related marketing in the context of individualism and PCE. The authors found that PCE differed between the global versus local condition, and depended on the level of individualism and collectivism. Specifically, PCE was overall higher for those who held individualistic values, than those who held collectivistic values, and this was the case for both global and local scope. However, local scope yielded higher scores of PCE than global scope, for collectivistic consumers. This suggests that local-scope communication is more effective for collectivistic consumers, whilst for individualistic consumers, both scopes lead to high PCE. Ng and Basu (2019) found that global identity was related to increased pro-environmental behaviours and was driven by a sense of strong personal responsibility. Individualists do not feel strongly connected to their groups such as families, relations or geographic district (Capozza, Voci, & Licciardello, 2000), and may be more likely to identify with outgroups; hence, global identification will strengthen the association between values of individualism and PCE:

**H3**: Global identity positively moderates the relationship between vertical individualism and PCE **(H3A)**; and horizontal individualism and PCE **(H3B)**.

As mentioned, local identity is conceptually more congruent with collectivistic values because collectivists perceive themselves in terms of the groups they belong to, such as family or local community (Capozza, Voci, & Licciardello, 2000). Local identity is the strength of one’s connection to local community, traditions, groups and events (Tu et al., 2021) and therefore it is more congruent with collectivistic values of belonging to one’s group and community. Strong local identity will weaken the negative link between collectivism and PCE. Hence, collectivistic consumers with strong local identity will have higher PCE than collectivistic consumers with low local identity because the strength of local identity will increase their belief that their consumption choices will impact environment, employee welfare and community because they may relate it more to their local community, hence:

**H4**: Local identity weakens the negative relationship between vertical collectivism and PCE **(H4A)**; and horizontal collectivism and PCE **(H4B)**.

***Control variables***

﻿ For model estimations, the conceptual framework controlled for consumer’s age and income–two important consumer segmentation bases. The selection of the control variables was grounded in past research, which demonstrated that values and global and local social identities vary by consumers’ age and may also be affected by income (Czarnecka & Schivinski, 2019; Gao, Mittal, & Zhang, 2020; Park & Lin, 2020; Schwartz & Rubel, 2005; Gaines et al., 1997). The conceptual model is presented in Figure 1.

**<<Insert Figure 1 about here>>**

**Methodology**

***Country justification***

Poland is a unique economy in the sense that it has become a developed economy as of September 2018. Previously, Poland had been rated as an emerging economy, one that has been developing at a fast pace (WBJ, 2018). Poland is the first Central and Eastern European economy to be upgraded to a developed economy status (Radu, 2018). The Polish economy has been growing steadily and the role of consumption has been increasing. Polish consumers have shown a great rate of acceptance of Western/global shopping habits. For example, in the 1990s, shopping malls/centres were a rarity, as opposed to the 2010s when the number of shopping centres increased from 295 in 2008, to 351 in 2012 (Knap, 2013), to 430 in 2017 (Savills, 2017). Yet, consumer research has not kept up with the pace of changes and considering the size of the population of Poland (about 38 million), it is important to examine the antecedents of important Polish consumer beliefs. Poland offers a suitable context to examine how cultural values of individualism and collectivism relate to PCE, and how this relation is affected by global-local identities because it is a society open to global influences but has a relatively young consumer culture (Kramarczyk & Alemany Oliver, 2020) with strong national/local orientation. Moreover, it is an understudied country despite its significance and contribution to the EU and global economy, and size of the population (Export.gov, 2019).

***Measures and survey***

Individualism-collectivism valueswere assessed with a scale of 14 items measuring four dimensions of individualism/collectivism at the individual level: horizontal collectivism (4 items), vertical collectivism (4 items), horizontal individualism (3 items), and vertical individualism (3 items) ([Sivadas et al., 2008](#_ENREF_58)).The itemswere rated on a seven-point Likert scale ranging from 1 (never) to 7 (always). Perceived consumer effectivenesswas measured with four items adapted from Roberts (1996) and Kang et al. (2013) on a seven-point scale from 1 (strongly disagree) to 7 (strongly agree). Global and local identities were measured with a scale proposed by Tu et al (2012). Global identity and local identity were measured by four items each, rated on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). The survey captured the consumers’ age, income, gender, level of education, employment status, and place/location of residence.

﻿ To ensure correct translation of the items a back-translation from English to Polish process was employed (Brislin, 1970). Two experts in the field checked both English and Polish surveys and reported on the accuracy of the translations. The survey was tested with 20 students in Poland. Minor changes to the order and wording of items were made after the pre-test to ensure grammatical accuracy.

***Multi-step sampling***

We employed a stratified sampling procedure to produce variation on three key factors i.e., age, income, and location. Data were collected via mall intercept in 18 randomly selected locations in Poland. We used an official government register with a list of all places in Poland (KNMIOF, 2015). To ensure heterogeneity of the data, the list was used to randomly select 2 large cities, 2 towns, and 2 villages. Before visiting these locations, Internet search to identify if these places had a local shop or hosted a local market or had other locations where individuals could be publicly approached (GP surgery, school, local authority office) was conducted. These 6 locations were then visited, and the mall intercept survey conducted. Two trained interviewees travelled to these locations together and approached potential respondents and invited them to complete the pen-and-paper survey. This procedure was repeated three times; hence 18 locations were visited in order to achieve satisfactory sample size. This sampling approach generated 432 completed questionnaires.

Females represented 55.09% (*n* = 238) of the sample, the observed mean age was 31.71 (SD = 10.17), the median education level was university degree (59.3%; *n* = 256), and 308 (71.3%) respondents declared to be employed (full or part time). There was an even spread of respondents from rural areas, small towns, and large cities across the sample. The characteristics of the final sample closely match the typical consumer demographics in Poland (GUS Central Statistical Office, 2016).

***Data analysis***

﻿ Data analysis included procedures to ensure the robustness of the estimations. First, the dataset was verified for possible rejection of invalid and incomplete questionnaires. For rejecting invalid entries, we calculated the standard deviation of all items included in the survey to i) detect whether consumers rated all the questions with only one anchor (e.g., by choosing the same scale-point throughout the whole survey; such endorsing behaviour yields a SD.items = 0; and ii) detect very low engagement into the task through an indication of SD.items ranging from 0.1 to 0.3 (Schivinski, Muntinga, Pontes, & Lukasik, 2021). Incomplete questionnaires were also rejected to avoid the imputation of data.

Second, to check for univariate normality of the data, none of the questionnaire items had absolute values of skewness >3.0 and kurtosis >8.0 (Hair, Black, Babin, & Anderson, 2010). The final sample resulted in 432 (92.9%) valid surveys eligible for analyses. All the reported computations were executed using R system for statistical computing Version 3.6.2 “Dark and Stormy Night” using the packages psych (Procedures for Psychological, Psychometric, and Personality Research Version 1.9.12) (Revelle, 2015), and lavaan (Latent Variable Analysis Version 0.6-5) (Rosseel, 2012).

﻿**Results**

***Construct validity and dimensionality***

The following model fit indices were used to examine the goodness of fit of the structural models, hence, root mean square error of approximation (RMSEA) [≤ 0.08], RMSEA 90% confidence interval (CI) with the lower limit close to 0 and the upper limit less than or equal to 0.08; Comparative Fit Index (CFI); and Tucker-Lewis Fit Index (TLI) [ ≥ 0.90] (Hair et al., 2010).

Prior to the validity and dimensionality tests, the data were verified against systematic response patterns i.e., common method bias (CMB). CMB was tested by implementing the common latent factor method using the confirmatory factor analysis (CFA) approach and the maximum likelihood estimation method (ML) (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). To implement the common latent factor method, the items of all latent variables (factors) were stipulated to freely load into a single factor solution (i.e., unconstrained same-source model). The unconstrained same-source model yielded the following results: MLunconstrainedχ2(299) = 6086.15; CFI = 0.19; TLI = 0.12; RMSEA = 0.21 [90% CI: 0.20–0.21]. The unconstrained model was subsequently contratasted to a constrained model where the factor loadings were restricted to zero (MLconstrainedχ2(325) = 5667.37; CFI = 0.21; TLI = 0.14; RMSEA = 0.18 [90% CI: 0.18–0.19]). The model fit of the unconstrained same-source model was worse than the constrained model. Therefore the results indicated no issues regarding CMB in the data (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Construct validity and dimensionality of the conceptual model were examined by computing a CFA using the robust maximum likelihood estimation method (MLR). The CFA yielded the following results: MLRχ2(278) = 749.17; CFI = 0.94; TLI = 0.93; RMSEA = 0.06 [90% CI: 0.06–0.07]. These results evidence the excellent fit of the conceptual model to the data.

All the standardised loadings estimates were statistically significant and greater than λ = 0.59. There was no evidence of cross-loading across the items (the full description of descriptive statistics can be found at Appendix A). The tests evidence convergent validity (Hair et al., 2010).

In terms of discriminant validity, the average variance extracted (AVE) was calculated for each latent variable. They ranged from 0.50 to 0.79 and were equal or above the acceptable threshold of 0.50 (Bagozzi & Yi, 1988). Finally, the square roots of the AVE scores were higher than the correlations across the factors. The abovementioned tests support discriminant validity (Hair et al., 2010).

***Reliability analysis***

The scales’ internal consistency was evaluated using Cronbach’s alpha and composite reliability (CR). The alpha and CR values were well above the recommended 0.70 threshold (Hair et al., 2010) ranging from 0.80 to 0.94, therefore evidencing the internal consistency of all the scales used in the study. Appendix B summarises the reliability, validity, and CFA tests.

***Hypothesis testing***

﻿ To test the hypotheses, we implemented path and moderation analysis with structural equation modeling (SEM). The estimator method was MLR. The goodness of fit GOF values for the directional model MLR χ2(383) = 3177.22, CFI = 0.91, TLI = 0.90, RMSEA = 0.06 [90% C.I. 0.06–0.08]. In terms of control variables, age and income were regressed on PCE. The calculations indicated that consumer age was found to positively influence PCE (*β* = 0.11; *t*-value = 2.40; *p*-value = 0.01). No effect was identified for the influence of income on PCE (*p*-value = 0.83).

 The first set of directional hypotheses posited that vertical individualism positively influences PCE **(H1A)**. The calculations supported the directional relationship (*β* = 0.17; *t*-value = 2.86; *p*-value = 0.01). **H1B** anticipated that horizontal individualism is positively associated with PCE. The calculations did not support the relationship (*p*-value = 0.55). The second set of directional hypotheses posited a negative association between vertical collectivism and PCE **(H2A)**. This relationship was not supported based on the analysis (*β* = 0.32, t-value=4.66; *p*-value > 0.001) as the association was positive. Finally, **H2B** anticipated horizontal collectivism to be negatively associated with PCE. The results did not support this hypothesis (*p*-value = 0.28).

In terms of moderation analysis, the interaction terms were computed as composite scoring combining the items from the respective underlying latent variables (Rosseel, 2012). The calculations were based on 5000 bootstrapping samples.

The first interaction **(H3A)** anticipated that global identity should positively moderate the relationship between vertical individualism and PCE. Hypothesis H3A was supported (*β* = 0.07; *t*-value = 1.65; *p*-value = 0.09), as indeed changes in the levels of global identity enhanced the positive influence of vertical individualism on PCE (see Figure 1). Lastly, **H4A** postulated that local identity would weaken the relationship between vertical collectivism and PCE. Whilst local identity moderates the relationship between vertical collectivism and PCE (see Figure 2), it does not do so in the hypothesized direction, leading to the rejection of H4A (*β* = 0.23; *t*-value = 4.76; *p*-value > 0.001). Table 2 summarises the hypothesis tests and provides additional statistics.

**>>Insert Table 2 here<<**

**>>Insert Figure 2 here<<**

**>>Insert Figure 3 here<<**

**Discussion**

Building on the concept of value congruence we examined the assumption that the conceptual congruence between individual cultural values of vertical/horizontal individualism and collectivism and PCE belief leads to higher levels of that belief. In addition, we tested the moderating effect of global and local social identities to examine if congruence between values and identities influences the basic relationships.

The findings demonstrated that vertical individualists (those who believe in their own individual responsibility, and competition) are more likely to believe that their purchases matter for the environment, community, and employee welfare. This relationship was strengthened by the higher level of global identity. In this case, the proposed congruence was supported. Similarly, vertical collectivists also believe that their purchases matter, and this is even stronger when local identity increases, but these findings were in opposition to the postulated hypotheses. The findings suggest that vertical individualists and vertical collectivists both believe their purchases matter, but they may hold these beliefs for different reasons. Vertical individualists may think it is important to make considered purchases because they believe in the power of their own individual actions, and vertical collectivists may hold these beliefs because of the impact their individual purchases have on their groups. However, this interpretation requires further examination, by for example exploring motives behind those beliefs.

Even though the results provide limited support for the proposition that value congruence explains the relationship between values, social identities, and beliefs, the findings are not at odds with previous research. Studies that examined the relations between vertical/horizontal individualism and collectivism and PCE, or broader sustainable consumption behaviour, produced inconclusive findings. Cho et al., (2013) found that vertical individualism was positively related to PCE amongst consumers in the USA and South Korea, but contrary to the current findings, Cho et al. (2013) found it was horizontal collectivism not vertical collectivism that was positively associated with PCE. Ali et al. (2019) found that vertical individualism and vertical collectivism play a positive moderating role in motivations for purchasing green cars amongst Chinese and German consumers. However, the authors found that horizontal collectivism too is important. These inconclusive findings suggest that both dimensions of individualism and collectivism are positively related to PCE but both individualists and collectivists hold such beliefs for different reasons.

Moreover, the study’s findings confirm that social identity can act as an amplifier, hence provides support to assertions that social identities are important in explaining, predicting and possibly influencing sustainable consumer behaviours and intentions (White et al., 2019). The positive relationship between individuals’ level of vertical individualism and PCE is positively moderated by global identity, and the positive relationship between vertical collectivism and PCE is positively moderated by local identity. This suggests that the stronger the global or local identity is, the stronger the effect of values on PCE is, confirming the significance of social identity and its impact on beliefs of consumer self-efficacy.

***Theoretical contributions***

Theoretically, this study offers the following contributions. First, it provides context-specific evidence from an understudied market that supports the notion that the conceptual distinction between vertical and horizontal values of the individualism-collectivism dimension matters in explaining consumer behavior (Fatehi, Priestley & Taasoobshirazi, 2020; Czarnecka, Schivinski & Keles, 2020; Cho et al., 2013; Shavitt & Cho, 2016). The current study suggests that it is the vertical versus horizontal distinction that plays a role in explaining consumers’ level of PCE in the studied sample. The level of PCE is related to a person’s preference for social hierarchies between individuals amongst other individuals, and between individuals within groups. Those individuals who believe that success is an individual achievement (attributed only to the individual), and those who believe they must sacrifice their own interests for the benefit of the group (hence, their own individual action is important for the benefit of the group) are more likely to believe their individual actions matter in the context of consumption’s impact on the environment, employee welfare and social issues. It also suggests that both individualists and collectivists exhibit PCE but they may hold these beliefs for different reasons – vertical individualism because of personal gain, and vertical collectivism because of benefit for the group. Moreover, the study confirms the importance of social identities as a factor that influences PCE.

Second, the results of the study suggest that the conceptual value congruence proposition only partially explains the relationships between variables. Specifically, vertical individualism and global identity lead to increase of PCE, and local identity increases PCE for vertical collectivists. Perhaps, the congruency here should be defined by responsibility rather than orientation between individualism-collectivism. The finding of the importance of vertical orientation for the higher level of PCE suggests that consumers who accept inequality and social hierarchies between individuals, or hierarchies between individuals in groups perceive themselves as more responsible. They believe their actions matter. As horizontal individualists and collectivists prefer more egalitarian relations amongst people, they may not necessarily perceive their individual actions being important and rather may think their actions may matter only if others perform those actions too.

However, when findings of this study are taken into consideration in the wider context of past studies which examined the association between the specified variables, the lack of repeatable and conclusive patterns across the discussed studies is an important finding itself (Laws, 2016; Maxwell, Lau, & Howard, 2015). It suggests that such relationships exist for some individuals only, but not for others regardless of the level of individualism and collectivism and their types, or may depend on the methodology applied (for example, the way questionnaire questions are presented, or sample size).

***Practical implications***

The current study may be of use to both commercial marketers who promote green products, and to social marketers and consumer organisations who work to raise awareness about sustainable consumer behaviour. The findings suggest that companies offering green products or sustainable products should consider the cultural values of horizontal and vertical individualism and collectivism and global-local identities of consumers when creating marketing strategies. Because PCE is higher for consumers who hold vertical individualistic and vertical collectivistic values, companies should focus primarily on this group as such consumers should respond the most favourably to products and brands that are positioned as environmentally and socially responsible. Considering the current study in the context of results of past studies, practitioners can be confident that especially vertical individualists who have global identity will be more likely to believe that their individual consumption matters for environmental, social, and employee welfare. Although our study also showed that vertical collectivists with local identity believe their consumption actions matter, this is not widely confirmed by previous studies, and may be only specific to the context we studied. As no positive association was found between horizontal individualism and horizontal collectivism tendencies and PCE, further research could focus on how to increase PCE of such consumers.

Some researchers advocate for social identity-based motivation strategies to influence behaviour (Nurra & Oyserman, 2018), and hence the current research findings are potentially useful to those practitioners who wish to employ an identity-based motivation approach in their segmentation, targeting and communication strategies (Costa-Pinto, Herter, Rossi & Borgers, 2014). The results suggests that employing global and local identity strategies may be effective in strengthening PCE in Polish consumers. However, this proposition requires further investigation into the effectiveness of such identity-based efforts.

***Limitations and future research***

Although this study adds to the current literature on PCE by providing new insights regarding antecedents and moderators, the findings must be considered within certain limitations. The cross-sectional design of this study limits the strength of causal inferences that can be drawn from the data. Cross-sectional surveys measure individuals’ perceptions of variables rather than the actual causal processes that occur between them (Woodside, 2011). The sampling approach focused on reaching respondents who represent variance in the level of the studied variables, and although systematic process was followed to ensure a wide range of individuals were surveyed, the study did not employ simple random sampling strategy which would allow for generalisations.

Future research could follow several directions. First, we propose that this study should be replicated in other national contexts to establish whether these patterns can be found elsewhere and further examine the reasons behind such variations between studies regarding the associations of horizontal/vertical values and PCE. Second, examining the differences in PCE levels between the different types of individualism and collectivism would shed light on which values are associated with higher levels of PCE beyond marely stating positive or negative associations between those variables. Third, it is important to monitor PCE longitudinally since its intensity may change over the consumer’s life cycle. Forth, future studies could examine other possible value antecedents of PCE. Fifth, it would be worthwhile to examine how PCE relates to product categories. Do consumers consider the environmental and societal consequences of their purchases when they buy certain products but ignore it when they buy others? Moreover, experimental studies to test how consumers would respond to marketing communications featuring environmentally friendly products and emphasising vertical individualism values or vertical collectivism values (versus horizontal) and global or local identity would establish if such manipulations result in differences in effectiveness depending on the consumer’s values (e.g., Lee & Haley, 2020). Lastly, we recommend that a meta-analysis of studies which focused on individualism and collectivism (including vertical and horizontal individualism-collectivism) and PCE would clarify controversies arising from apparently conflicting studies.

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**TABLES**

**Table 1.** Recent literature (published since 2020) examining the role of PCE in a variety of consumption contexts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Study** | **Research context** | **Method** | **Sample size** | **Country** | **Key findings** |
| Al-Swidi & Saleh (2021) | Determinants of green purchasing behaviour  | Online survey, convenience sampling, student sample  | 251  | Qatar | PCE is positively associated with self-reported green purchasing behavior. |
| Alzubaidi, Slade, & Dwivedi (2021) | Factors affecting pro-environmental behaviours  | Online survey, convenience and snowballing  | 611  | Saudi Arabia | PCE was positively associated with behavioural intentions, but the association was weak.  |
| Asadi et al. (2021)  | Intentions to use electric vehicles  | Online survey, purposive and convenience sampling  | 177 | Malaysia | PCE is a strong antecedent to personal norms.  |
| Burhanudin, Ronny, & Sihotang(2021) | Banking services  | Survey experiment, mall intercept survey  | 313  | Indonesia  | Guilt about bank’s activities is associated with higher PCE.PCE is positively associated with attitude towards green banking.PCE is associated with increased negative word of mouth about banking projects that disregard natural environment. PCE is not directly related to intention to use green banking services, but it does affect the intetion via negative word of mouth.  |
| Ettinger, Grabner-Kräuter, Okazaki, & Terlutter (2021) | Effectivenees of corporate social responsibility communications  | Online survey experiment  | 601  | Germany, Austria, Switzerland | PCE mediates the relationship between type of CSR communication and attitudes toward hotels’ CSR communication.  |
| Taufique & Islam (2021) | Antecedents of green consumer behavior  | Online survey, convenience sampling, student sample  | 206  | Bangladesh  | PCE has a direct positive influence on self-reported green consumer behavior.  |
| Alsaad, Saif-Alyousfi, & Elrehail (2020) | Religiosity and ethical purchase intentions  | E-mail survey, student sample | 149  | Saudi Arabia  | Religiosity and idealism are positively associated with PCE.PCE mediates the effect of religiosity and moral obligation on ethical purchase intention.  |
| Arias & Trujillo (2020)  | Self-reported recycling behaviour  | Face-to-face survey  | 1286  | Colombia | PCE is positively associated with the use of resuable shopping bags. PCE does not directly affect recycling behaviour but indirectly via the reported use of reusable bags.  |
| Brusselaers, Verbeke, Mettepenningen, & Buysse (2020) | Drivers of eco-certified wood consumption  | Survey, student sample  | 274  | Belgium  | PCE does not drive eco-certified wood consumption. |
| Escario, Rodriguez-Sanchez, & Casaló (2020) | Recycling and reusing behaviour  | Face-to-face survey  | 2487  | Spain  | PCE is positively associated with self-reported recycling, reusing and refusing behaviours.  |
| Gautam (2020)  | Sustainable tourism and development  | Face-to-face survey, mall intercept  | 227  | India (Tourists in India)  | PCE was the most important determinant of purchase intentions. |
| Garg & Pandey (2020) | Sustainable tourism  | Survey, convenience sample  | 275  | India  | PCE is positively associated with intentions to adopt sustainable tourism practices.  |
| Hosta & Zabkar (2020) | Environmentally / socially responsible consumer behavior | Online survey, web-based national panel study | 426  | developed Central European country | PCE has a positive influence on willingness to behave in environmentally and socially responsible way.  |
| Nguyen & Pervan (2020) | Perceptions of corporate social responsibility (CSR) and trust  | Pen-and-paper survey; mall-intercept  | 407  | China | PCE mediated the relationship between perceived retailer’s CSR and consumer trust.  |
| Palacios-González & Chamorro-Mera (2020) | Market segmentation study  | Face-to-face and online survey, convenience sampling  | 415  | Spain  | Consumers differ in their level of PCE.  |
| Park & Lin (2020)  | Antecedents of purchase of recycled an upcycled fashion  | Survey  | 2017 | Korea  | PCE positively associated with intention to purchase consumer recycled and upcycled products.  |
| Si et al. (2020)  | Dockless bike sharing  | Online survey, purposive sampling  | 633  | China  | PCE positively associated with willingness to participate in bike-sharing scheme.  |
| Wang, Ali, Akbar, & Rasool (2020) | Biogas technology adoption  | Survey, purposive sampling  | 191  | Pakistan  | PCE is positively related with consumers’ personal norms. |
| Waris & Hameed (2020 | Intentions to purchase environmentally friendly household appliances  | Face-to-face survey, mall intercept convenience quota sample  | 440  | Pakistan  | PCE was found to be an important antecedent of consumers’ purchase intention. |

**Table 2**. Standardised structural coefficients of the conceptual model

|  |  |  |  |
| --- | --- | --- | --- |
| PATH STRUCTURE  | *β* | *t-value* | *p-value* |
| *Direct effects* |  |  |  |
| *H1A*. Vertical individualism → Perceived consumer effectiveness | 0.17 | 2.86 | 0.01 |
| *H1B*. Horizontal individualism → Perceived consumer effectiveness  | -0.03 | -0.58 | 0.55 |
| *H2A*. Vertical collectivism → Perceived consumer effectiveness | 0.32 | 4.66 | 0.001 |
| *H2B*. Horizontal collectivism → Perceived consumer effectiveness | 0.07 | 1.06 | 0.28 |
| *Control variables* |  |  |  |
| Age → Perceived consumer effectiveness | 0.11 | 2.40 | 0.01 |
| Income → Perceived consumer effectiveness | 0.01 | 0.20 | 0.83 |
| *Moderation analysis* |  |  |  |
| *H3A* Vertical individualism → Perceived consumer effectiveness | Global identity | 0.07 | 1.65 | 0.09 |
| *H4A* Vertical collectivism → Perceived consumer effectiveness | Local identity | 0.23 | 4.76 | 0.001 |
| *Direct effects derived from the moderation analysis* |  |  |  |
| Global identity → Perceived consumer effectiveness | 0.16 | 3.17 | 0.001 |
| Local identity → Perceived consumer effectiveness | 0.04 | 0.87 | 0.38 |

Note: MLR χ2(383) = 3177.22, CFI = 0.91, TLI = 0.90, RMSEA = 0.06 [90% C.I. 0.06–0.08]; n = 432.

**APPENDICES**

**Appendix A.** Descriptive statistics, factor loadings (completely standardised lambda X), explained variance on each item (*R*2).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| MEASUREMENTS | (λx)b | *R*2 | Mean (SD) | Author |
| *Vertical individualism*† |  |  |  | ([Sivadas et al., 2008](#_ENREF_4)) |
| I enjoy working in situations involving competition with others.Competition is the law of nature.Without competition it is not possible to have a good society. | 0.830.900.92 | 0.690.810.84 | 4.63 (1.84)4.24 (1.70)4.31 (1.64) |
| *Horizontal individualism*† |  |  |  | ([Sivadas et al., 2008](#_ENREF_4)) |
| I enjoy being unique and different from others in many ways.I often “do my own thing".I am a unique individual. | 0.830.870.86 | 0.680.750.74 | 4.34 (1.64)4.24 (1.75)4.36 (1.72) |
| *Vertical collectivism*† |  |  |  | ([Sivadas et al., 2008](#_ENREF_4)) |
| I would do what would please my family, even if I detested that activity.I usually sacrifice my self-interest for the benefit of my group.Children should feel honored if their parents receive a distinguished award.I would sacrifice an activity that I enjoy very much If my family did not approve of it. | 0.880.820.600.59 | 0.770.680.370.35 | 5.00 (1.62)4.91 (1.52)4.83 (1.55)4.71 (1.59) |
| *Horizontal collectivism*† |  |  |  | ([Sivadas et al., 2008](#_ENREF_4)) |
| My happiness depends very much on the happiness of those around me.The well-being of my co-workers is important to me.If a co-worker gets a prize, I would feel proud.I feel good when I cooperate with others. | 0.670.800.730.63 | 0.450.650.530.40 | 5.21 (1.42)4.93 (1.46)5.01 (1.42)5.18 (1.48) |
| *Global identity*† |  |  |  | *(Tu et al., 2012)* |
| My heart mostly belongs to the whole world.I believe people should be made more aware of how connected we are to the rest of the world.I identify that I am a global citizen.I care about knowing global events. | 0.910.900.890.82 | 0.830.810.790.69 | 3.47 (1.77)3.46 (1.66)3.45 (1.57)3.27 (1.65) |
| *Local identity*† |  |  |  | (Tu et al., 2012) |
| My heart mostly belongs to my local communityI respect my local traditions.I identify that I am a local citizenI care about knowing local events. | 0.860.870.930.91 | 0.740.750.870.83 | 4.29 (1.58)4.08 (1.62)4.48 (1.56)3.95 (1.72) |
| *Perceived consumer effectiveness*‡ |  |  |  | (Kang et al., 2013)  |
| What I purchase as a consumer has an effect on the nation's environmental problems. Each consumer's behavior can have an effect on howcompanies treat their employees.Since one consumer cannot have any effect on howcompanies behave toward the community, it does not make any difference what I do.\*Each consumer can have a positive effect on society by purchasing products sold by socially responsible companies. | 0.770.860.860.87 | 0.600.740.750.77 | 5.55 (1.72)5.06 (1.59)5.34 (1.43)5.34 (1.34) |

Note: \* Item was reverse scored; † item anchored from 1 = *strongly disagree* to 5 = *strongly agree*; ‡

 item anchored from 1 = *strongly disagree* to 7 = *strongly agree*.

**Appendix B.** Correlation matrix of the effects of the multifactorial CFA models

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CONSTRUCT | α | CR | AVE | *1* | *2* | *3* | *4* | *5* | *6* | *7* |
| *1.* Vertical individualism | 0.91 | 0.91 | 0.78 | *0.88* |  |  |  |  |  |  |
| 2. Horizontal individualism  | 0.89 | 0.88 | 0.72 | 0.24 | 0.85 |  |  |  |  |  |
| *3.* Vertical collectivism | 0.82 | 0.81 | 0.53 | 0.22 | 0.19 | *0.73* |  |  |  |  |
| *4.* Horizontal collectivism | 0.81 | 0.80 | 0.50 | 0.28 | 0.42 | 0.35 | *0.71* |  |  |  |
| *5.* Global identity | 0.89 | 0.93 | 0.77 | 0.24 | 0.13 | 0.22 | 0.21 | *0.88* |  |  |
| *6.* Local identity | 0.94 | 0.94 | 0.79 | 0.03 | 0.15 | 0.17 | 0.09 | -0.16 | *0.89* |  |
| *7.* Perceived consumer effectiveness | 0.91 | 0.90 | 0.70 | 0.23 | 0.09 | 0.25 | 0.19 | 0.21 | 0.07 | *0.84* |

Note: The square root of the average variance extracted values appears in italics. α = Cronbach’s alpha, CR = composite reliability (Jöreskog's Rhô), AVE = average variance extracted (Rhô vc); MLR χ2(278) = 749.17, CFI = 0.94, TLI = 0.93, RMSEA = 0.06 [90% C.I. 0.06–0.07]; n = 432.